

GRAPH DRAWING CONTEST

2023 Report



CONTEST COMMITTEE

Philipp Kindermann
University of Trier

Fabian Klute
Polytechnic University of Catalonia

Tamara Mchedlidze
Utrecht University

Wouter Meulemans (chair)
TU Eindhoven

Debajyoti Mondal
University of Saskatchewan

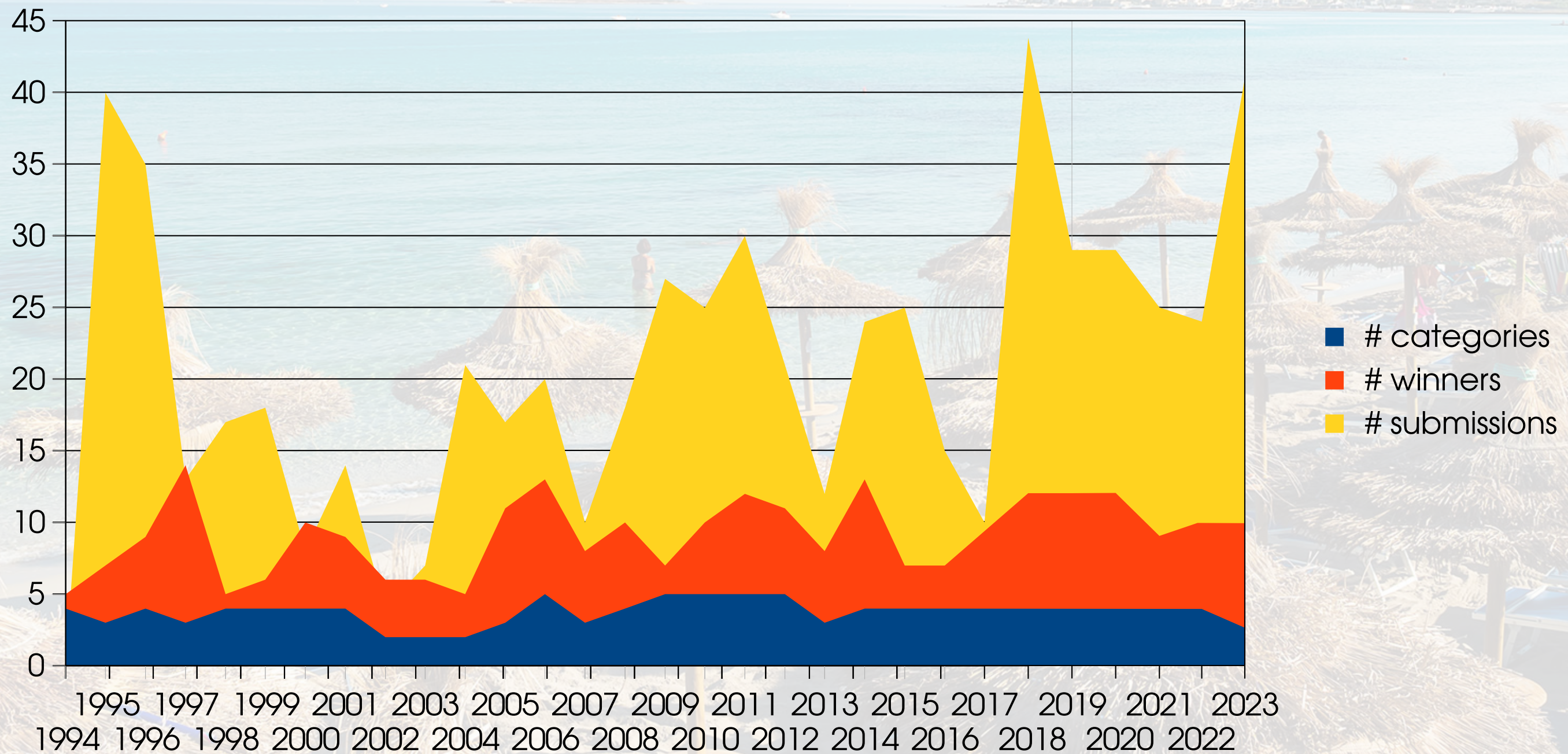
GRAPH DRAWING CONTEST

Historic Perspective



GRAPH DRAWING CONTEST

Historic Perspective



GRAPH DRAWING CONTEST

Historic Perspective



1994 Uwe Wuerker • Stefan Hougardy • Petra Mutzel & Thomas Odenthal • Georg Sander

1995 Falk Schreiber & Carsten Friedrich • Vladimir Batagelj & Andrej Mrvar • Paulis Kikusts & Peteris Rucevskis • Georg Sander

1996 Ulrich Föbmeier & Michael Kaufmann • Vladimir Batagelj & Andrej Mrvar • Falk Schreiber & Carsten Friedrich • Thomas Kamps, Jörg Kleinz & Thomas Reichenberger

1997 B. Bascary, B. Cattan, A. Cohen-Solal, M. Phillip & H. Szigeti • Vladimir Batagelj & Andrej Mrvar • Michael Kaufmann & Gunnar Klau • Thomas Ziegler & Petra Mutzel • Cristian Ghezzi • Falk Schreiber & Carsten Friedrich

1998 Vladimir Batagelj & Andrej Mrvar • Petrus Abri Santoso & Andi Surjanto • Roland Wiese

1999 Vladimir Batagelj & Andrej Mrvar • Ulrik Brandes • Karlis Freivalds & Paulis Kikusts • Rowena Mankelov

2000 Nikola S. Nikolov • Vladimir Batagelj & Andrej Mrvar • Jan Adamec • C. Duncan, P. Gajer, M. Goodrich & S. Kobourov • Robby Schönfeld & Nikola S. Nikolov

2001 Ulrik Brandes & Marco Gärtler • C. Gutwenger, K. Klein, J. Kupke & S. Leipert • Roland Wiese • Carsten Friedrich • Merijam Percan

2002 Daniel Gmach • Paul Holleis & Thomas Zimmermann • Nikola S. Nikolov & Patrick Healey • Christoph Vogt

2003 Daniel Gmach, Paul Holleis & Thomas Zimmermann • Christian Kuklas, Dirk Koschützki & Falk Schreiber

2004 Andrei Greco & Gunnar Klau • Ulrik Brandes, Daniel Fleischer & Thomas Puppe

2005 Markus Chimani, Carsten Gutwenger & Karsten Klein • V. Batagelj, A. Mrvar, A. Ahmed, X. Fu, S. Hong & D. Merrick • Marco Gärtler & Markus Krug

2006 Michael McGuffin • Adel Admed, Seok-Hee Hong, Quan Nguyen & Donald Taylor • Adel Admed, Xiaoyan Fu, Seok-Hee Hong, Quan Nguyen & Kai Xu • Fabrizio Frati & Markus Geyer • Andreas Gerasch & team

2007 Wolfgang Brunner & Jens Schmidt • Robert Theron, Rodrigo Santamaria, Juan Garcia, Diego Gomez & Vadim Paz-Madrid • Felix Heinen

2008 Yifan Hu & Emden Gansner • Melanie Badent & Pietro Palladino • Melanie Badent, Martin Mader & Christian Piech • Hoi-Ming Wong, Markus Chimani & Karsten Klein

2009 Hui Liu • Nicholas Jefferson • Melanie Badent & Michael Baur • Hoi-Ming Wong & Karsten Klein • Joe Fowler

2010 Quan Nguyen • Sergey Pupyrev • M. Baur, M. Siebenhaller, R. Wiese & Thomas Wurst • Petra Mutzel & Hoi-Ming Wong • Maarten Löffler & Martin Nöllenburg

2011 Hanley Weng • M. Löffler, D. Eppstein, M. Goodrich & S. Kobourov • R. Zelina, S. Bota, S. Houtman & R. Ban • Sergey Pupyrev • Maarten Löffler & Martin Nöllenburg

2012 Roman Prutkin • Sergey Pupyrev • Remus Zelina, S. Bota, S. Houtman & R. Balaban • Tobias Brinkjost • A. Bauer, I. Rutter, J. Vordermeier & M. Kaufmann

2013 Jos de Jong & Giovanni Paziienza • Remus Zelina, Sebastian Bota, Siebren Houtman & Radu Balaban • Thomas Bläsius & Ignaz Rutter

2014 Martin Nöllenburg • Remus Zelina, Sebastian Bota, Siebren Houtman & Radu Balaban • Tamara Mchedlidze, Martin Nöllenburg, Alexander Khomenko, Igor Karlinsky & Denis Knöpfle • Philipp Kindermann, Fabian Lipp & Wadim Reimche

2015 Tamara Mchedlidze • Jennifer Hood & Pat Morin • Boris Klemz, Ulf Rüegg & Fabian Lipp • Josef Cibulka

2016 Fabian Klute • Jonathan Klawitter & Tamara Mchedlidze • Michael Bekos, Thanasis Lianas & Chrysanthi Raftopoulou • Johan de Ruiter

2017 Steven Shangzhou Wang • Fabian Klute & Irene Parada • Theresa Fröschl, Jonathan Klawitter & Darren Strash • Almut Demel, Dominik Dürschnabel, Tamara Mchedlidze, Marcel Radermacher & Lasse Wulf

2018 Evmorfia Argyriou, Michael Baur, Anne Eberle & Armin Gufler • Florian Grötschla, Tamar Mirbach, Christian Ortlieb, Tamara Mchedlidze & Marcel Radermacher • Myroslav Kryven & Johannes Zink • Amadäus Spallek, Christian Geckeler, Henry Förster & Michael Bekos

2019 Evmorfia Argyriou, Christian Brunnermeier, Anne Eberle & Johannes Rössel • Guangping Li, Soeren Nickel, Martin Nöllenburg, Ivan Viola & Hsiang-Yun Wu • Evmorfia Argyriou, Henry Förster & Martin Gronemann • Solveig Klepper, Axel Kuckuk, Paul Palomero Bernardo, Maximilian Pfister, Patrizio Angelini, Michalis Bekos & Michael Kaufmann

2020 Tamara Drucks, Moritz Leidinger & Giulio Pace • Rupert Etrich, Julian Haumer & Samantha Fuchs • Jonathan Klawitter & Johannes Zink • Solveig Klepper, Axel Kuckuk, Paul Palomero Bernardo, Maximilian Pfister, Patrizio Angelini, Michalis Bekos, Henry Förster, & Michael Kaufmann

2021 Simon Pointner, David Ammer & Thorsten Korpitsch • Jonathan Klawitter & Felix Klesen • Moritz Greiner, Axel Kuckuk, Michael Bekos & Maximilian Pfister

2022 Thomas Depian, Michael Huber & Wilhelm Wanecek • Axel Kuckuk, Henry Förster & Sarah Gester • Foulis Argyriou & Henry Förster • Laurent Moalic, Dominique Schmitt & Julien Bianchetti

2023 ?



2023 CONTEST *Overview*



2023 CONTEST *Overview*



CREATIVE TOPIC

LIVE CHALLENGE



2023 CONTEST *Overview*



CREATIVE TOPIC

LIVE CHALLENGE

Boardgame Recommendations

Draw a graph that represent the top 40
to 100 boardgames on
boardgamegeek.com.

2023 CONTEST *Overview*



CREATIVE TOPIC

Boardgame Recommendations

Draw a graph that represent the top 40 to 100 boardgames on boardgamegeek.com.

LIVE CHALLENGE

Draw a graph on a given pointset and minimize the crossings. The points are not necessarily in general position.

2023 CONTEST *Overview*



CREATIVE TOPIC

Boardgame Recommendations

Draw a graph that represent the top 40 to 100 boardgames on boardgamegeek.com.

LIVE CHALLENGE

Draw a graph on a given pointset and minimize the crossings. The points are not necessarily in general position.

manual category

automatic category

2023 CONTEST *Overview*



CREATIVE TOPIC

Boardgame Recommendations

Draw a graph that represent the top 40
to 100 boardgames on
boardgamegeek.com.

15 submissions

LIVE CHALLENGE

Draw a graph on a given pointset and
minimize the crossings. The points are
not necessarily in general position.

manual category

automatic category

2023 CONTEST *Overview*



CREATIVE TOPIC

Boardgame Recommendations

Draw a graph that represent the top 40
to 100 boardgames on
boardgamegeek.com.

15 submissions

LIVE CHALLENGE

Draw a graph on a given pointset and
minimize the crossings. The points are
not necessarily in general position.

manual category

19 submissions

automatic category

2023 CONTEST *Overview*



CREATIVE TOPIC

Boardgame Recommendations

Draw a graph that represent the top 40
to 100 boardgames on
boardgamegeek.com.

15 submissions

LIVE CHALLENGE

Draw a graph on a given pointset and
minimize the crossings. The points are
not necessarily in general position.

manual category

19 submissions

automatic category

7 submissions

2023 CONTEST *Overview*



CREATIVE TOPIC

Boardgame Recommendations

Draw a graph that represent the top 40
to 100 boardgames on
boardgamegeek.com.

15 submissions



LIVE CHALLENGE

Draw a graph on a given pointset and
minimize the crossings. The points are
not necessarily in general position.

manual category

19 submissions

automatic category

7 submissions

2023 CONTEST *Overview*



Participating individuals per country



2023 CONTEST

Overview



Participating individuals per country

Germany

Austria

France

Canada

Czechia

Luxembourg

USA

Greece

New Zealand

The Netherlands

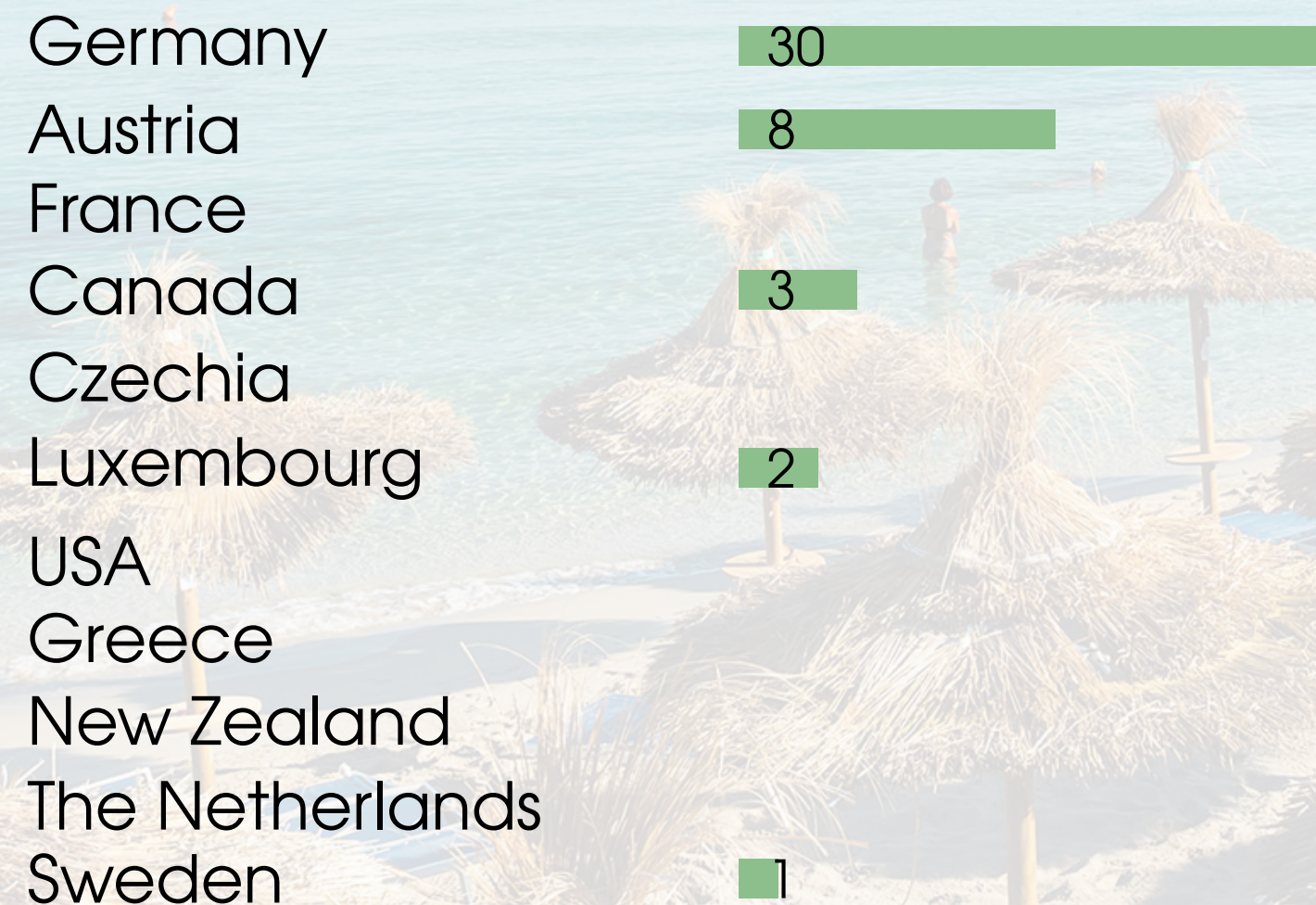
Sweden

2023 CONTEST *Overview*



Participating individuals per country

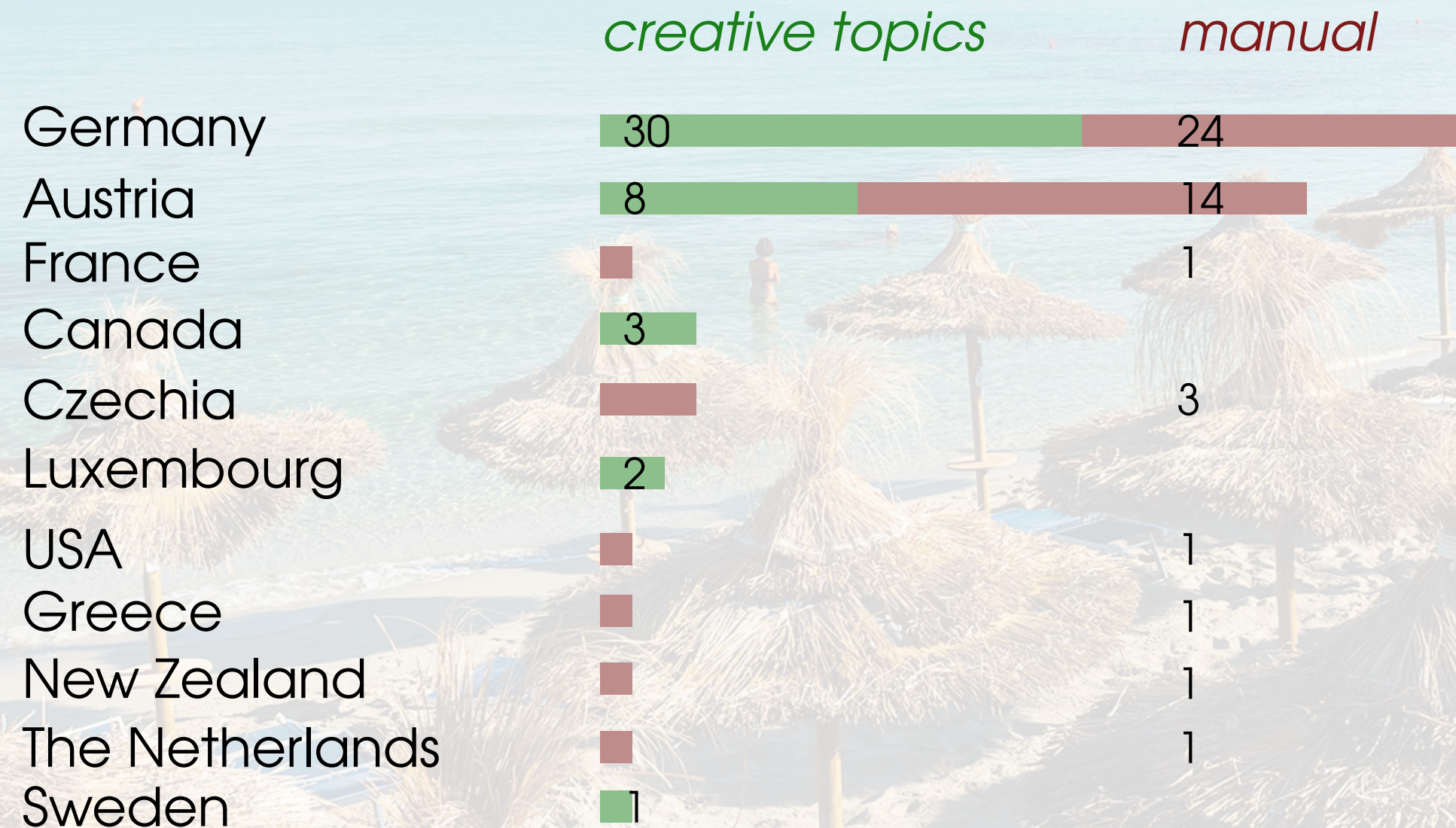
creative topics



2023 CONTEST Overview



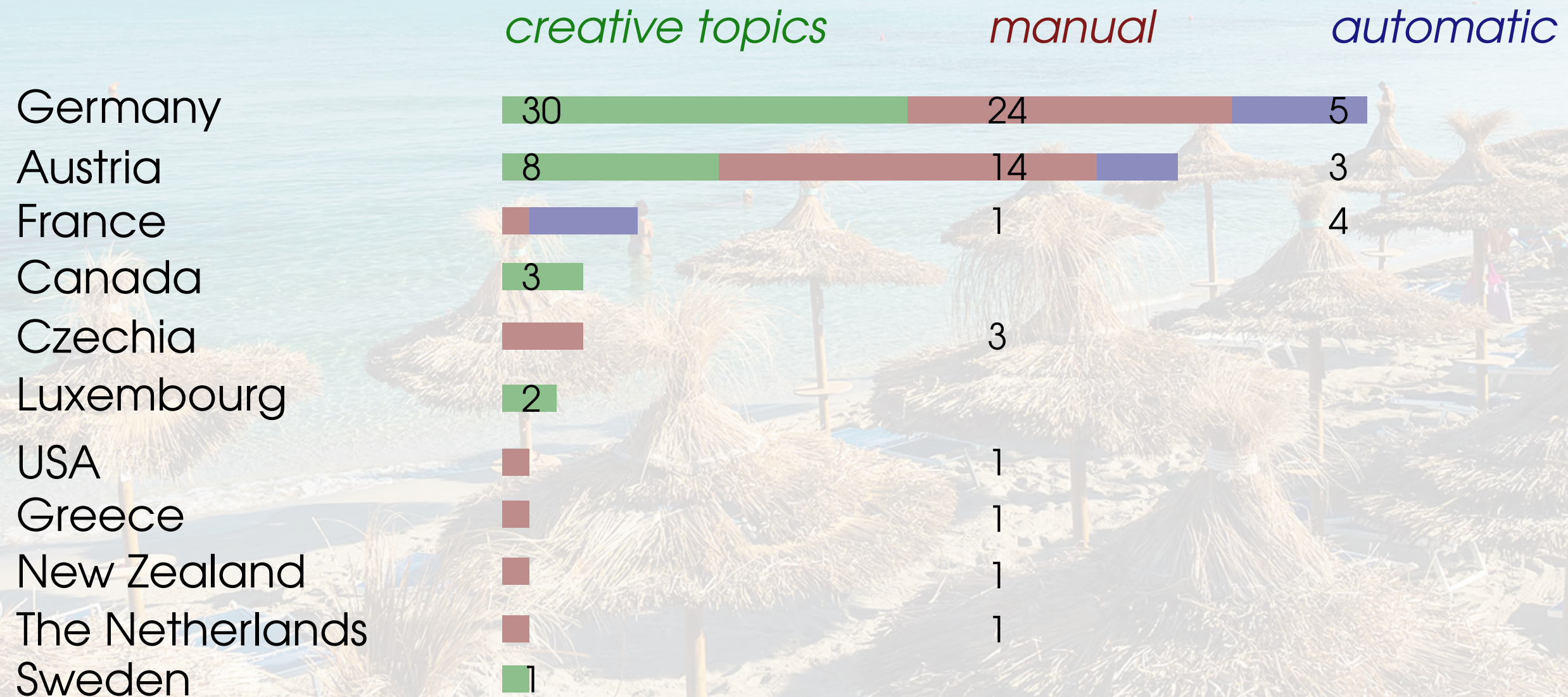
Participating individuals per country



2023 CONTEST Overview



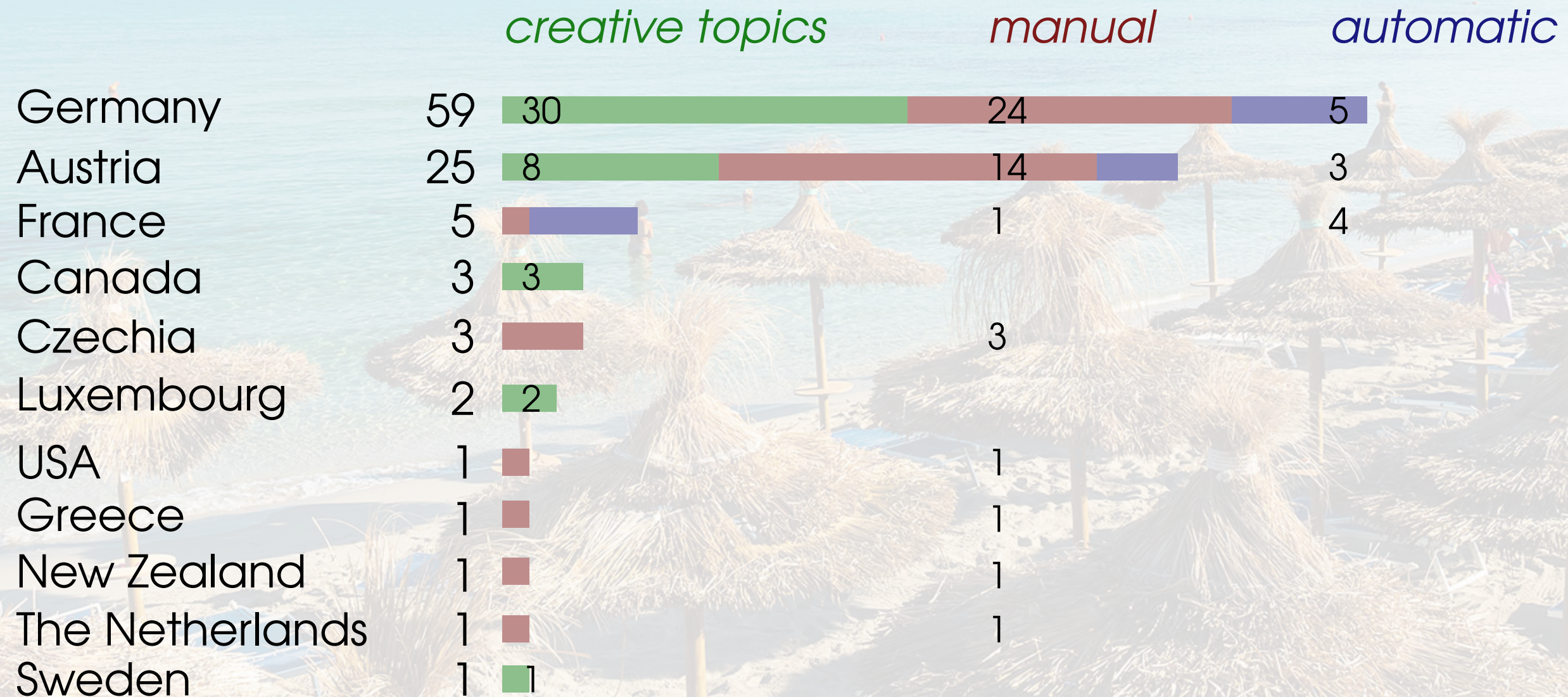
Participating individuals per country



2023 CONTEST Overview



Participating individuals per country



CREATIVE TOPICS

Boardgame Recommendations



CREATIVE TOPICS

Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.



CREATIVE TOPICS

Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.
- There are 40 (100) games, consisting of
 - recommendations by players of this game



CREATIVE TOPICS

Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.
- There are 40 (100) games, consisting of
 - recommendations by players of this game
 - game title

CREATIVE TOPICS

Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.
- There are 40 (100) games, consisting of
 - recommendations by players of this game
 - game title
 - publishing year

CREATIVE TOPICS

Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.
- There are 40 (100) games, consisting of
 - recommendations by players of this game
 - game title
 - publishing year
 - rank and rating on boardgamegeek.com

CREATIVE TOPICS

Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.
- There are 40 (100) games, consisting of
 - recommendations by players of this game
 - game title
 - publishing year
 - rank and rating on boardgamegeek.com
 - min/max-players and -playtime

CREATIVE TOPICS

Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.
- There are 40 (100) games, consisting of
 - recommendations by players of this game
 - game title
 - publishing year
 - rank and rating on boardgamegeek.com
 - min/max-players and -playtime
 - mechanics and categories

CREATIVE TOPICS

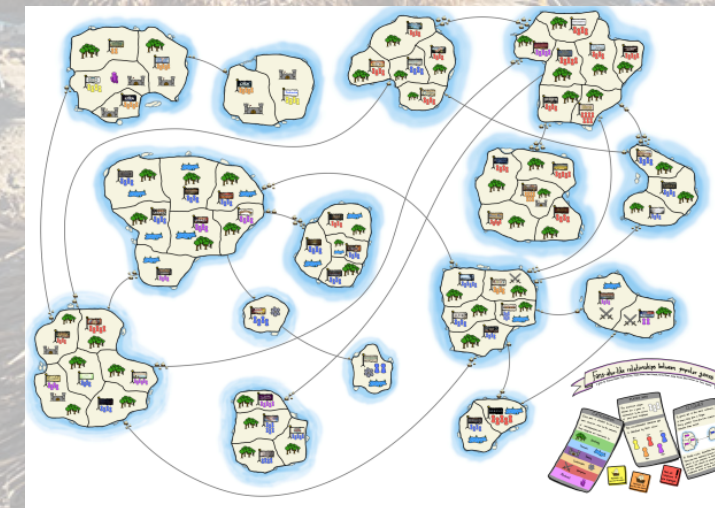
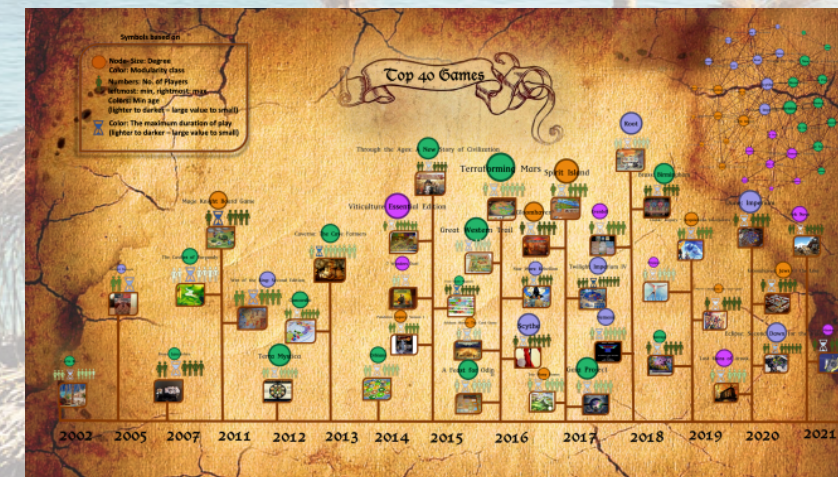
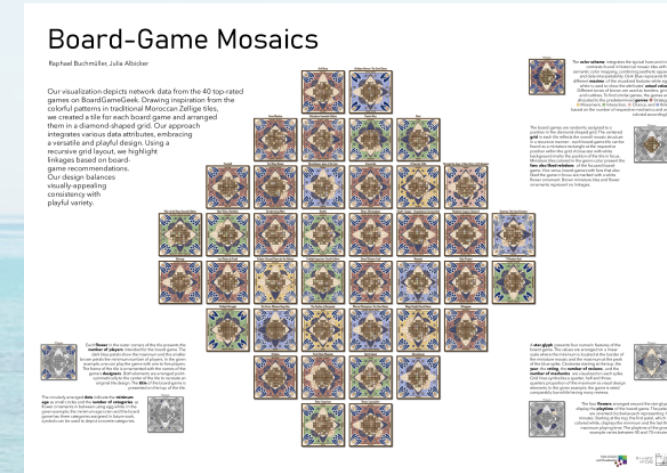
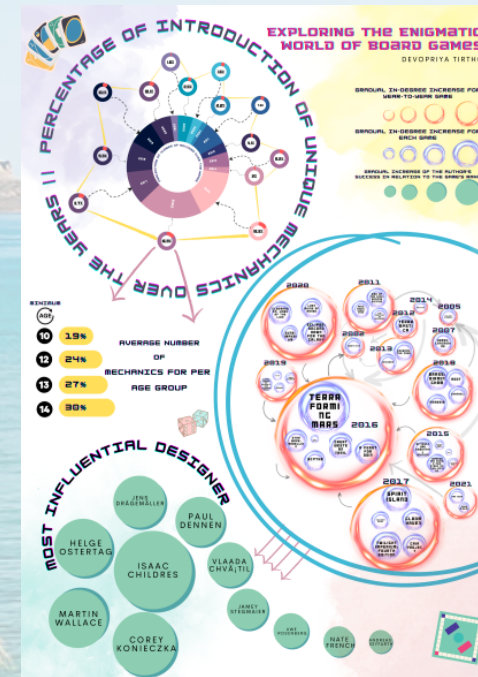
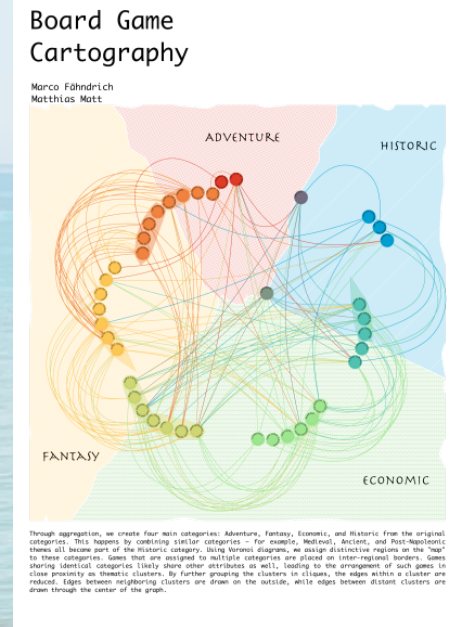
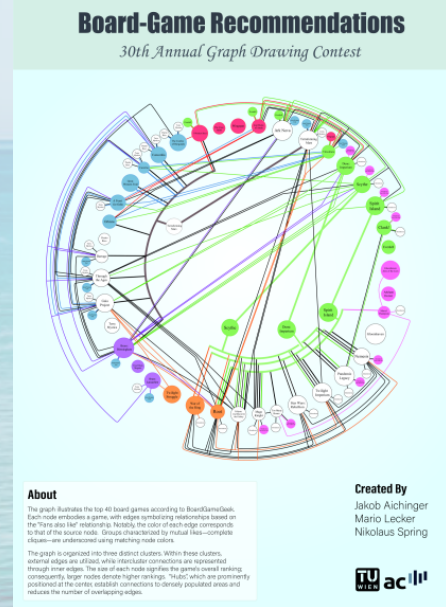
Boardgame Recommendations



- The data represents the top 40 (100) boardgames on boardgamegeek.com and the recommendations among players of them.
- There are 40 (100) games, consisting of
 - recommendations by players of this game
 - game title
 - publishing year
 - rank and rating on boardgamegeek.com
 - min/max-players and -playtime
 - mechanics and categories
 - designer

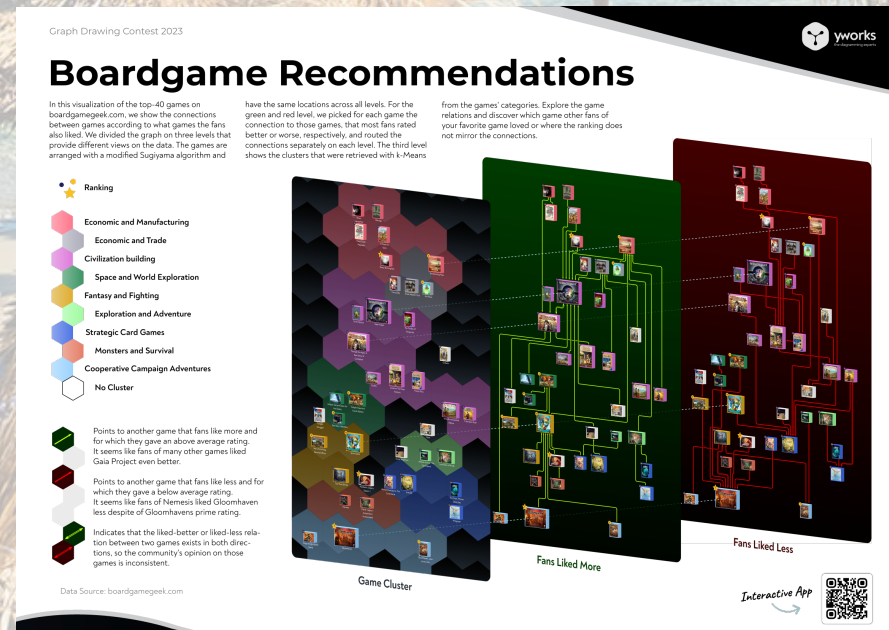
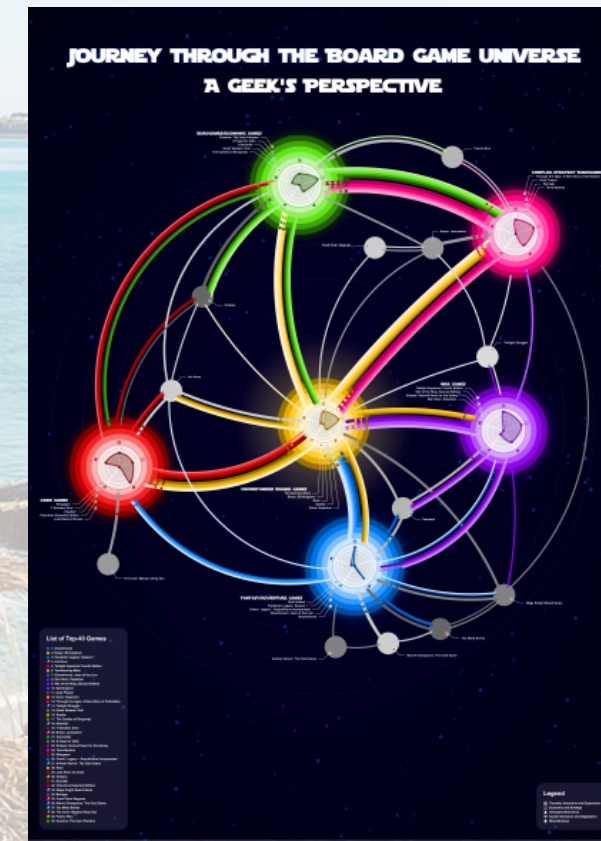
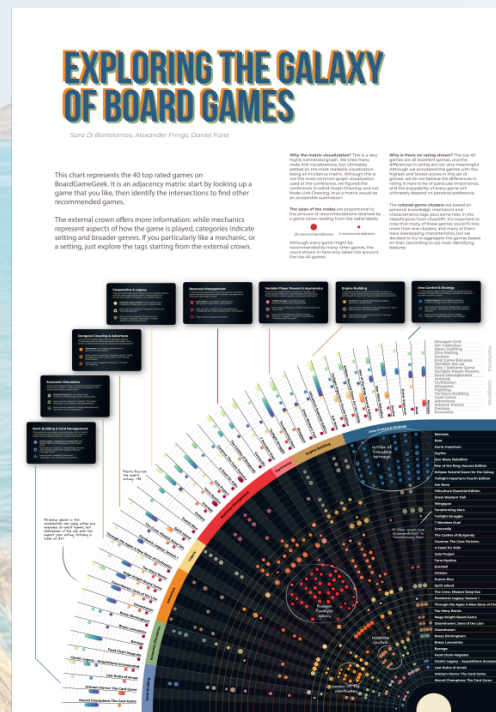
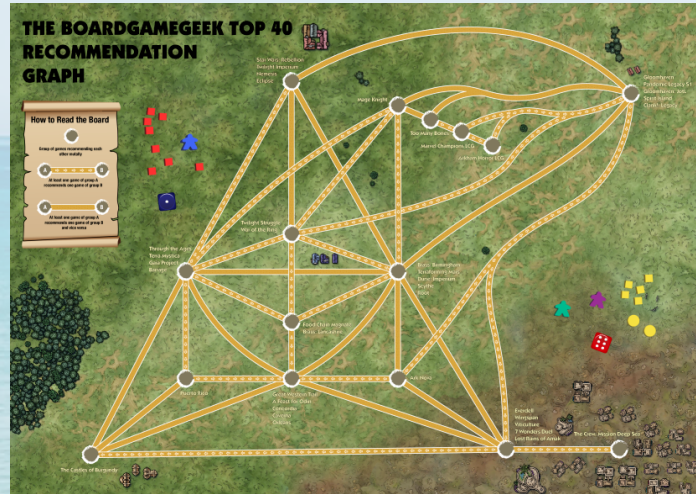
CREATIVE TOPICS

Boardgame Recommendations



CREATIVE TOPICS

Boardgame Recommendations



CREATIVE TOPICS

Boardgame Recommendations

4th Place



EXPLORING THE GALAXY OF BOARD GAMES

Sara Di Bartolomeo, Alexander Frings, Daniel Fürst

This chart represents the 40 top rated games on BoardGameGeek. It is an adjacency matrix: start by looking up a game that you like, then identify the intersections to find other recommended games.

The external crown offers more information: while mechanics represent aspects of how the game is played, categories indicate setting and broader genres. If you particularly like a mechanic, or a setting, just explore the tags starting from the external crown.

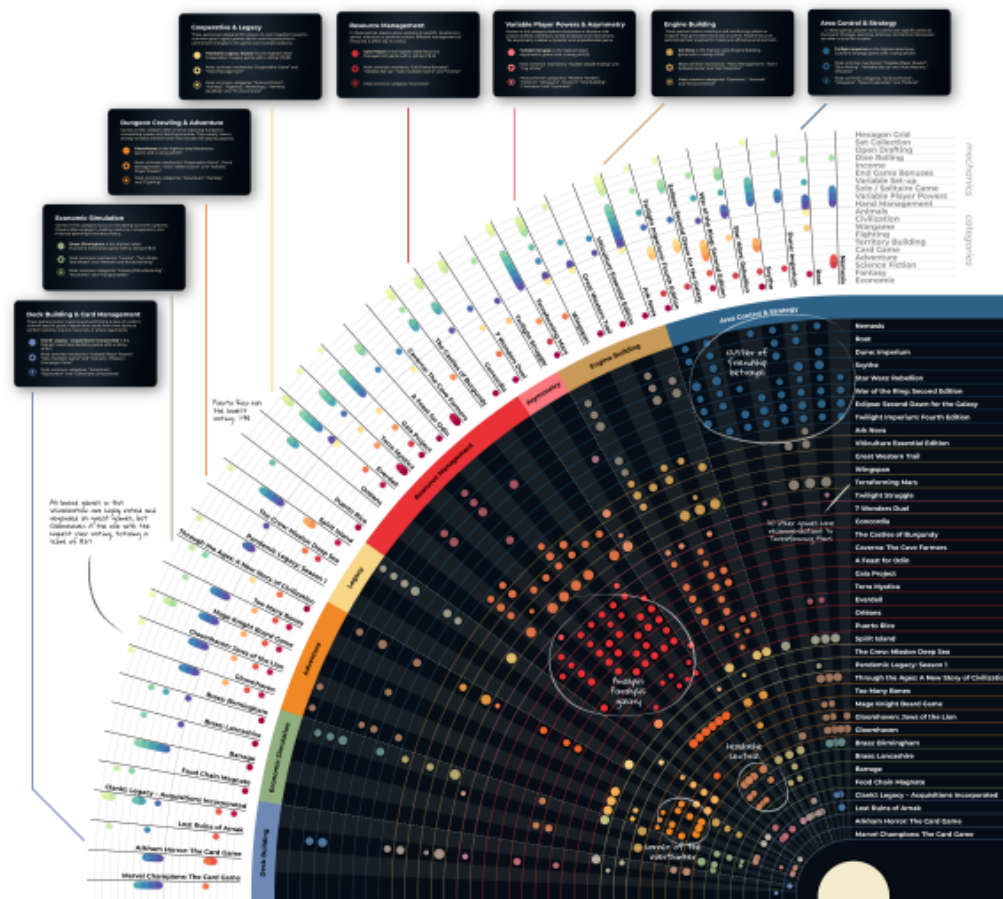
Why the matrix visualization? This is a very highly connected graph, we used many node-link visualizations, but ultimately settled on the most readable visualization being an incidence matrix. Although this is not the most common graph visualization used at the conference, we figured the conference is called Graph Drawing, and not Node-Link Drawing, thus a matrix would be an inevitable representation.

The size of the nodes are proportional to the amount of recommendations received by a game when reading from the radial labels.

20 recommendations 3 recommendations
Although every game might be recommended by many other games, the count shown in here only takes into account the top 40 games.

Why is there no rating shown? The top 40 games are all excellent games, and the differences in rating are not very meaningful. Although we annotated the games with the highest and lowest scores in this set of games, we do not believe the differences in rating is here to be of particular importance, and the enjoyability of every game will ultimately depend on personal preference.

The colored genre clusters are based on personal knowledge, mechanics and characteristics tags, plus some help in the classification from ChatGPT. It's important to note that many of these games could fit into more than one cluster, and many of them have overlapping characteristics, but we decided to try to aggregate the games based on their (according to us) most identifying features.



Sara Di Bartolomeo
Alexander Frings
Daniel Fürst
(University of Konstanz)

CREATIVE TOPICS

Boardgame Recommendations

4th Place



Graph Drawing Contest 2023



Boardgame Recommendations

In this visualization of the top-40 games on boardgamegeek.com, we show the connections between games according to what games the fans also liked. We divided the graph on three levels that provide different views on the data. The games are arranged with a modified Sugiyama algorithm and

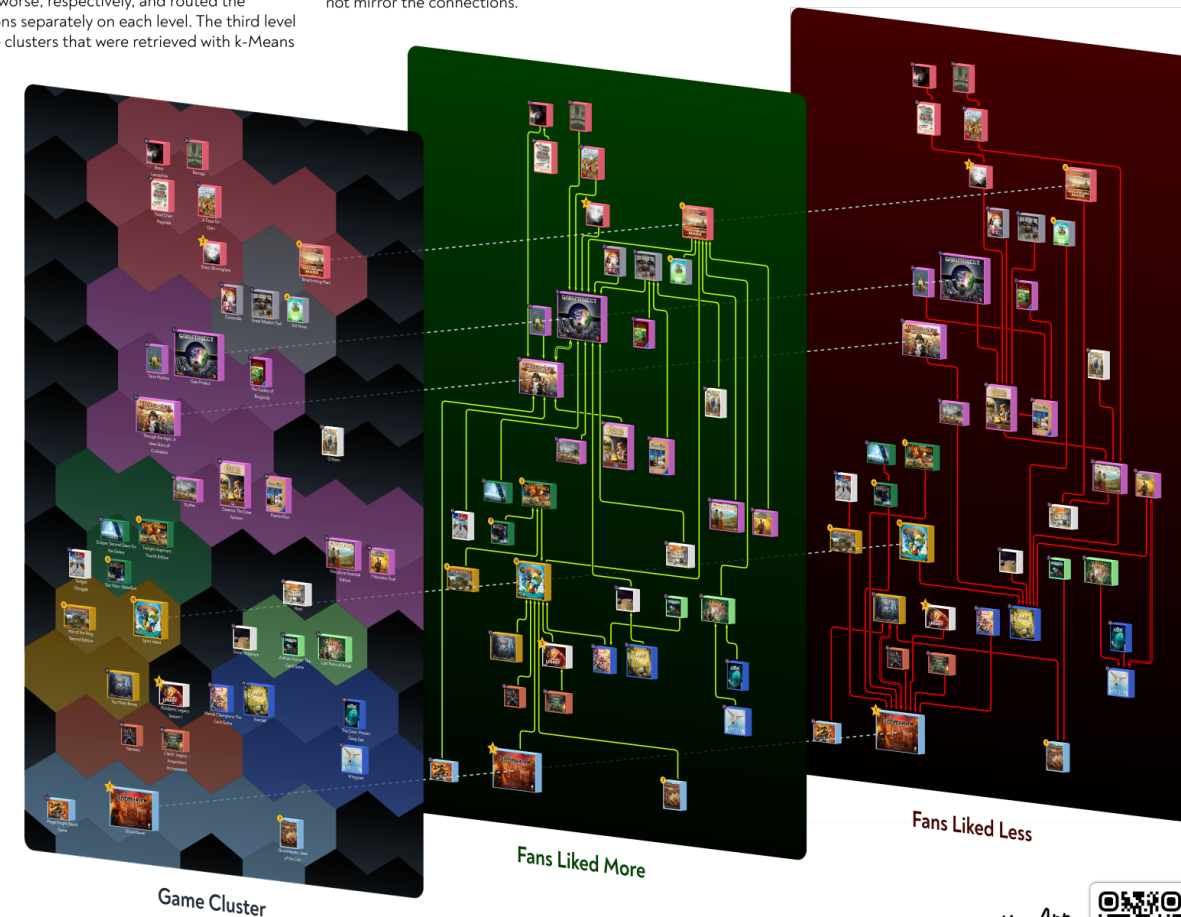
have the same locations across all levels. For the green and red level, we picked for each game the connection to those games, that most fans rated better or worse, respectively, and routed the connections separately on each level. The third level shows the clusters that were retrieved with k-Means

from the games' categories. Explore the game relations and discover which game other fans of your favorite game loved or where the ranking does not mirror the connections.

- Ranking
- Economic and Manufacturing
- Economic and Trade
- Civilization building
- Space and World Exploration
- Fantasy and Fighting
- Exploration and Adventure
- Strategic Card Games
- Monsters and Survival
- Cooperative Campaign Adventures
- No Cluster

- Points to another game that fans like more and for which they gave an above average rating. It seems like fans of many other games liked Gaia Project even better.
- Points to another game that fans like less and for which they gave a below average rating. It seems like fans of Nemesis liked Gloomhaven less despite of Gloomhavens prime rating.
- Indicates that the liked-better or liked-less relation between two games exists in both directions, so the community's opinion on those games is inconsistent.

Data Source: boardgamegeek.com

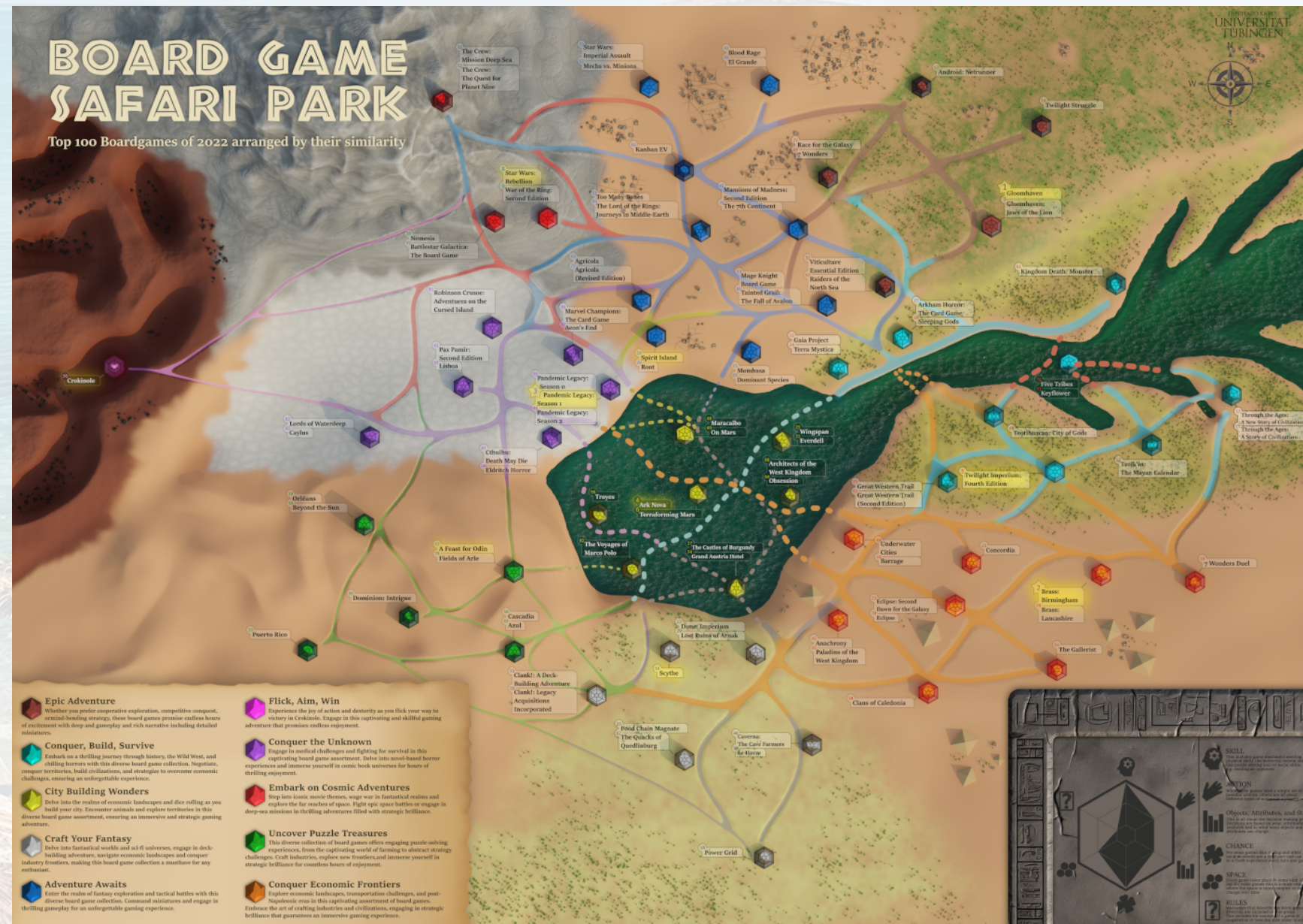


Christian Brunnermeier
Anne Eberle
Philipp Huber
Büsra Pestil
Lucas Schühle
Frank von Kuhlberg
(yWorks)

CREATIVE TOPICS

Boardgame Recommendations

4th Place



Kadir Koc
Erik Großkopf
Christoph Weik
Fabian Poetzsch-Heffter
Alexej Onken
(U Tübingen)

CREATIVE TOPICS

Boardgame Recommendations

3rd Place

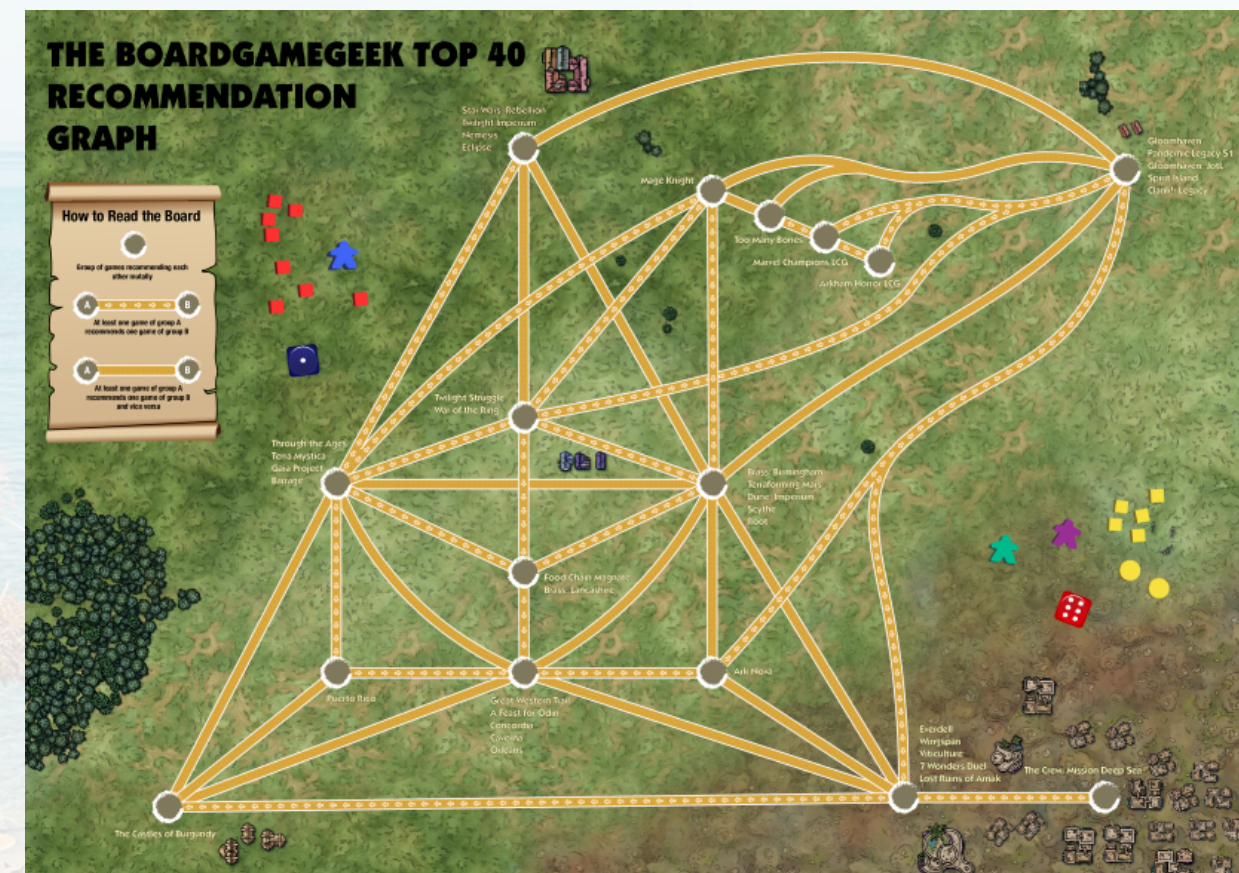
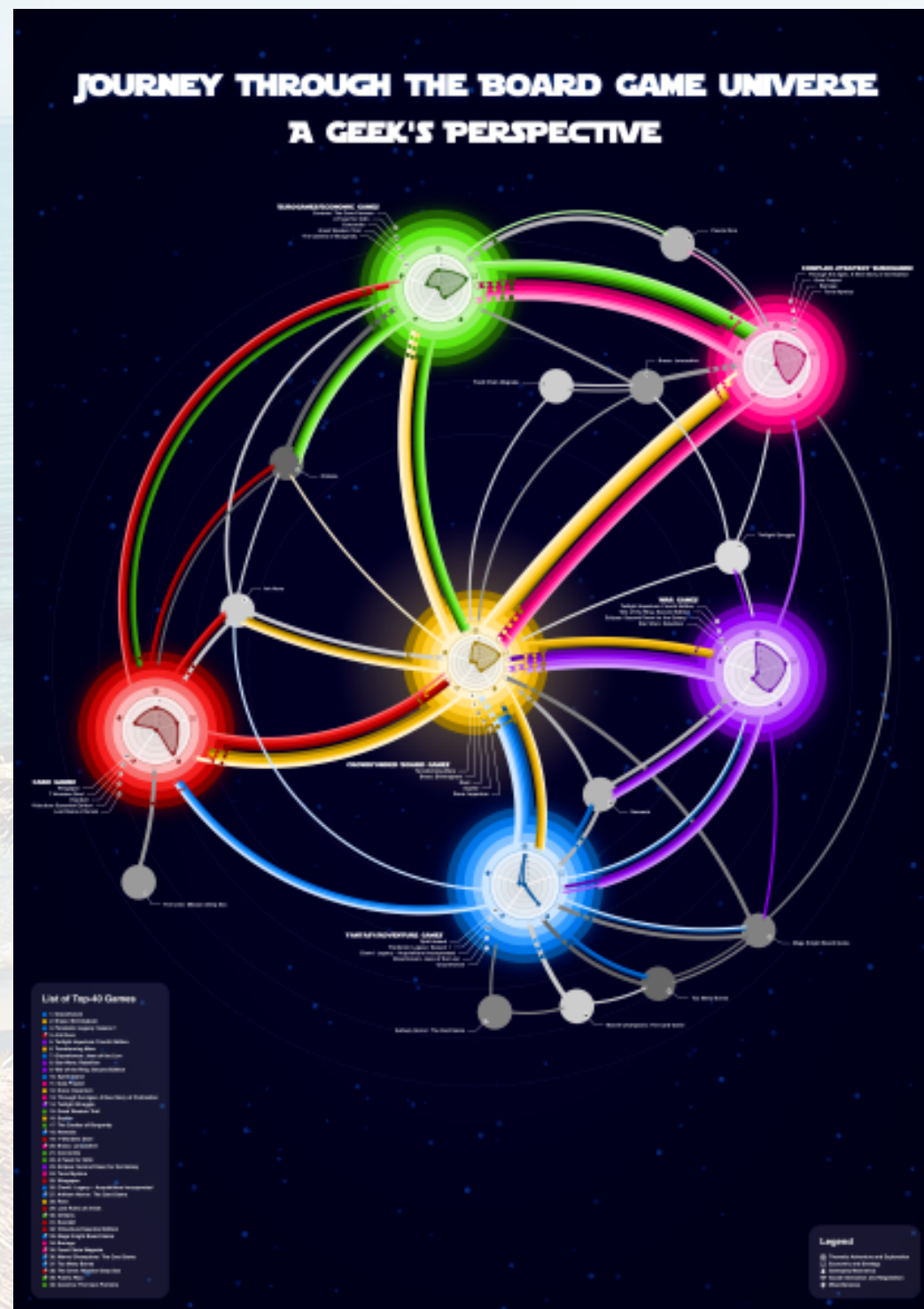


Florentina Voboril
Felicia Schmidt
Viktoria Pogrzebacz
(TU Wien)

CREATIVE TOPICS

Boardgame Recommendations

1st Place



André Schulz
(FernUniversität
in Hagen)

Christoph Kern
Manuel Oberbacher
Horst Zahradnik
(TU Wien)

LIVE CHALLENGE



LIVE CHALLENGE



Crossing-Minimal Point-Set Embedding

- input: a graph and a point set
(possibly more points than vertices)

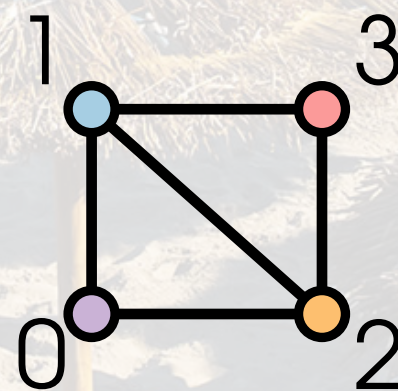


LIVE CHALLENGE



Crossing-Minimal Point-Set Embedding

- input: a graph and a point set
(possibly more points than vertices)

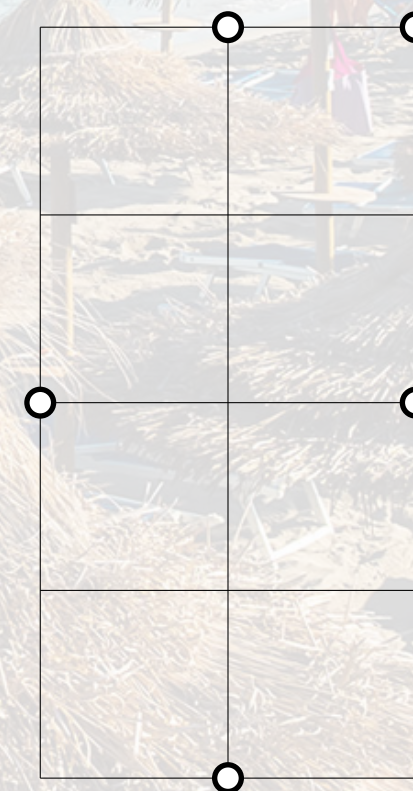
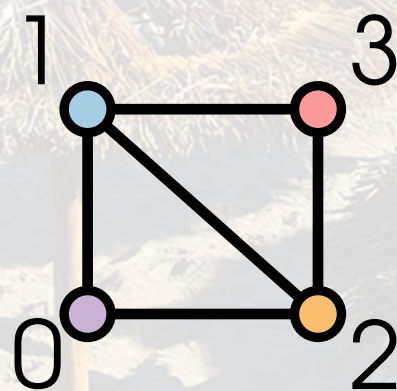


LIVE CHALLENGE



Crossing-Minimal Point-Set Embedding

- input: a graph and a point set
(possibly more points than vertices)



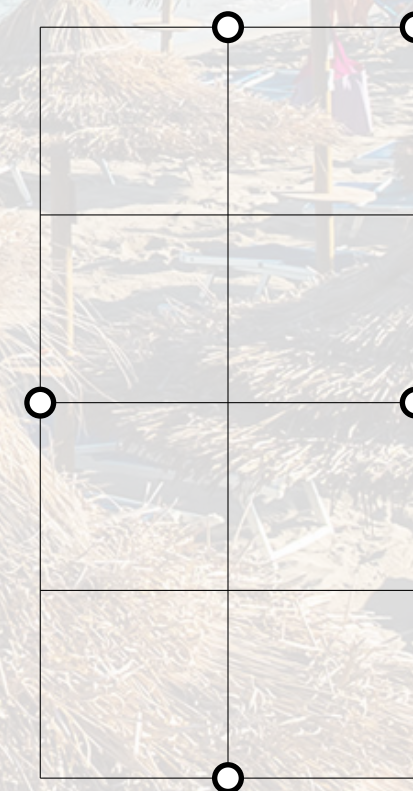
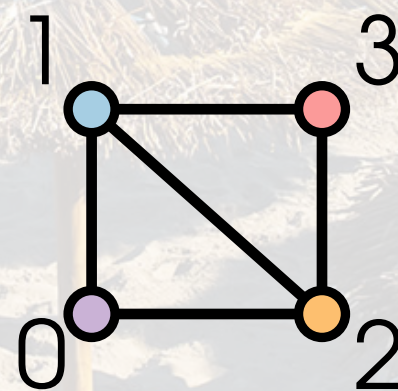
LIVE CHALLENGE



Crossing-Minimal Point-Set Embedding

- input: a graph and a point set (possibly more points than vertices)

output: drawing of the graph with vertices on the point set



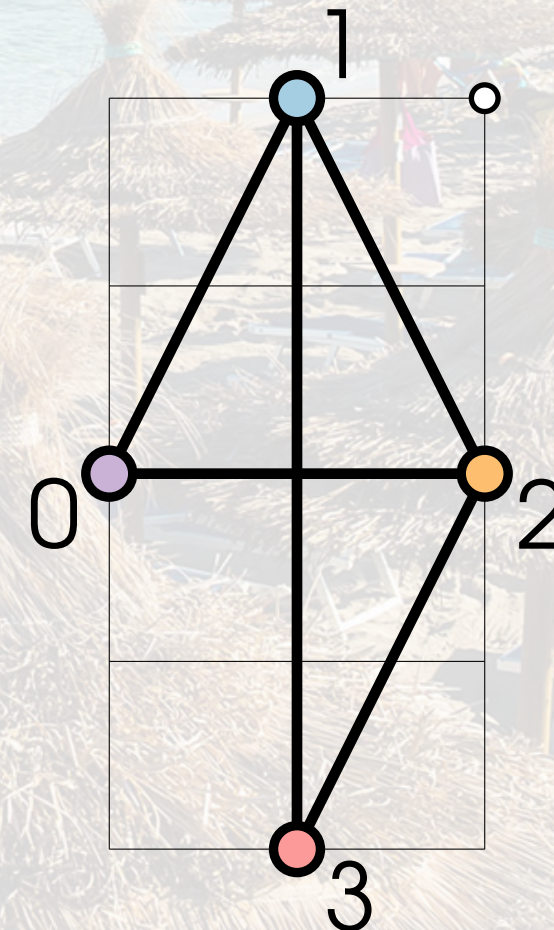
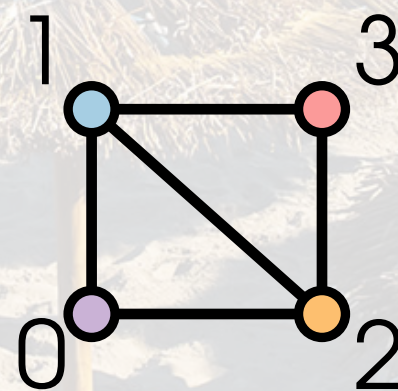
LIVE CHALLENGE



Crossing-Minimal Point-Set Embedding

- input: a graph and a point set (possibly more points than vertices)

output: drawing of the graph with vertices on the point set



LIVE CHALLENGE

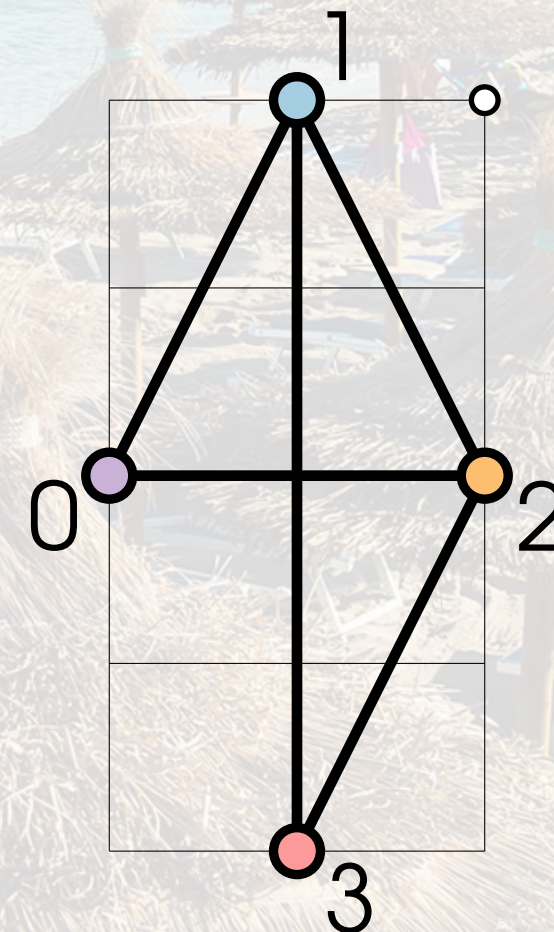
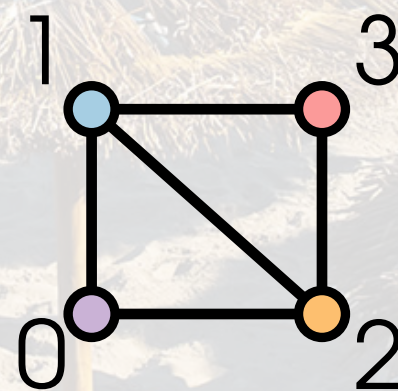


Crossing-Minimal Point-Set Embedding

- input: a graph and a point set (possibly more points than vertices)

output: drawing of the graph with vertices on the point set

objective: minimize #crossings



LIVE CHALLENGE

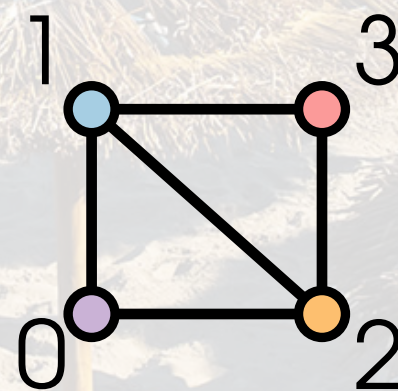


Crossing-Minimal Point-Set Embedding

- input: a graph and a point set (possibly more points than vertices)

output: drawing of the graph with vertices on the point set

objective: minimize #crossings



LIVE CHALLENGE



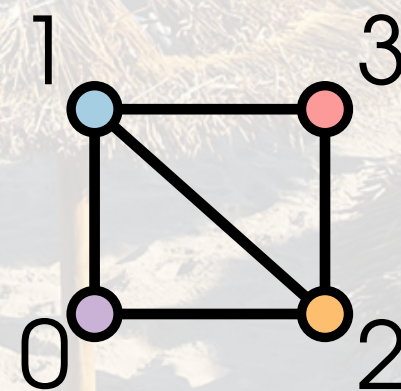
Crossing-Minimal Point-Set Embedding

- input: a graph and a point set (possibly more points than vertices)

output: drawing of the graph with vertices on the point set

objective: minimize #crossings

points are on integer grid, but not necessarily in general position



LIVE CHALLENGE



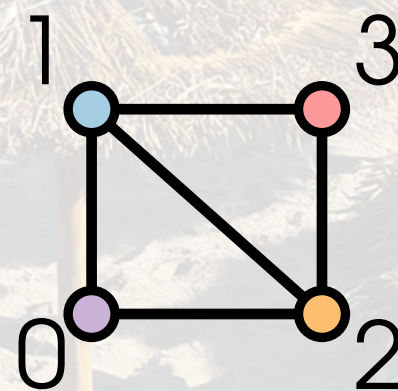
Crossing-Minimal Point-Set Embedding

- input: a graph and a point set (possibly more points than vertices)

output: drawing of the graph with vertices on the point set

objective: minimize #crossings

points are on integer grid, but not necessarily in general position



LIVE CHALLENGE

Photos



LIVE CHALLENGE

Photos



LIVE CHALLENGE

Photos



LIVE CHALLENGE

Photos



LIVE CHALLENGE

Photos



LIVE CHALLENGE

Photos

gd
3



LIVE CHALLENGE

Photos

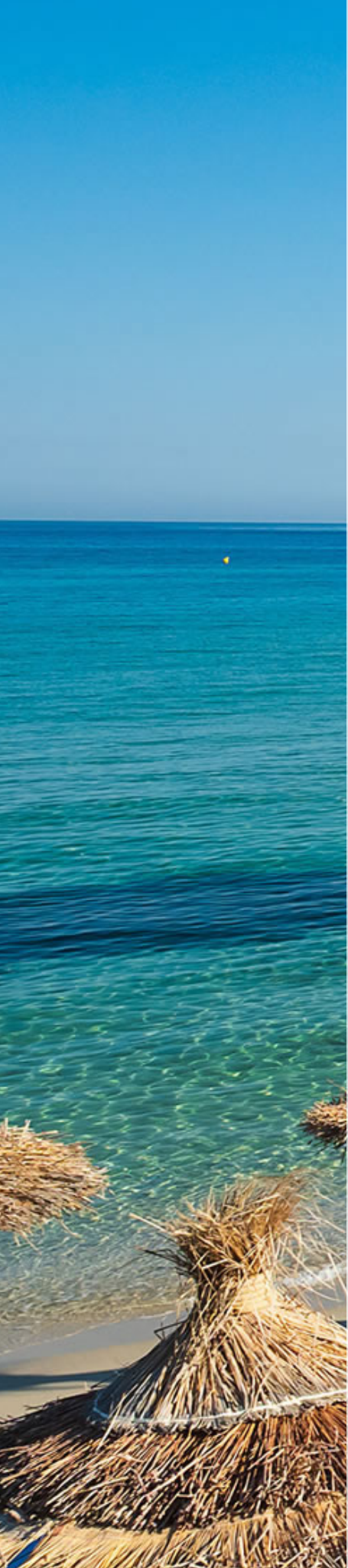
gd
3



LIVE CHALLENGE

Photos

gd
3



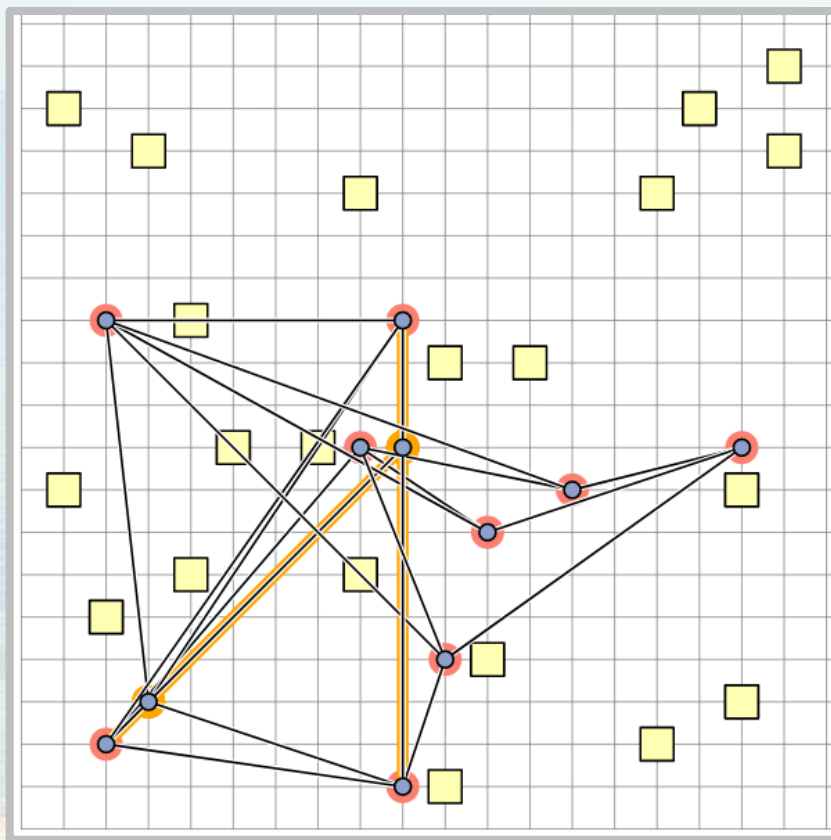
LIVE CHALLENGE

The Graphs



LIVE CHALLENGE

The Graphs



input



best manual

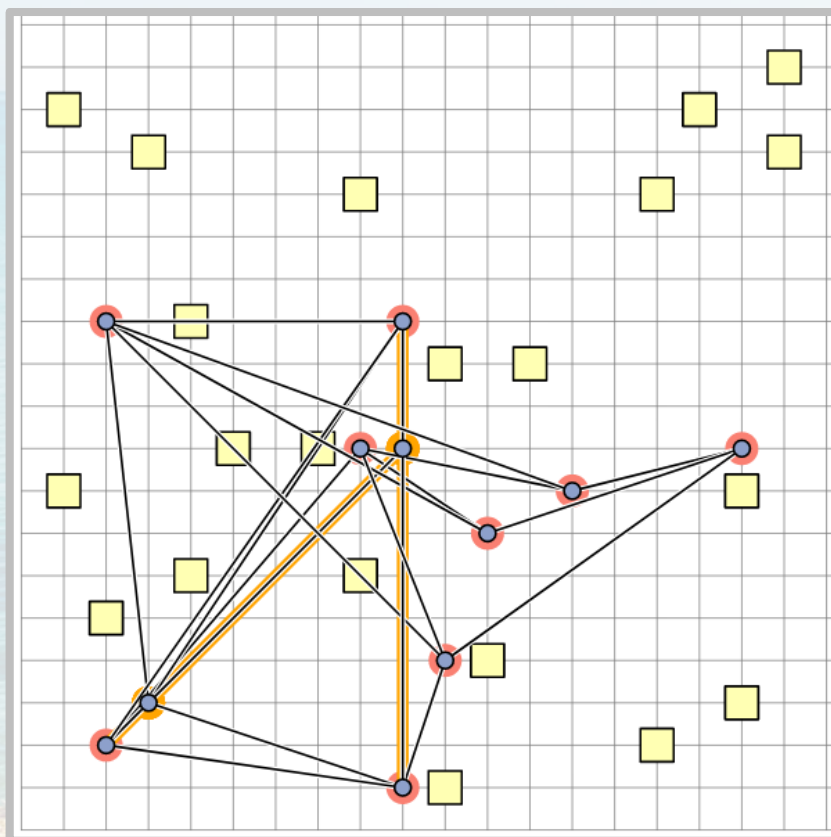


best automatic

133 crossings (inv)
graph 1

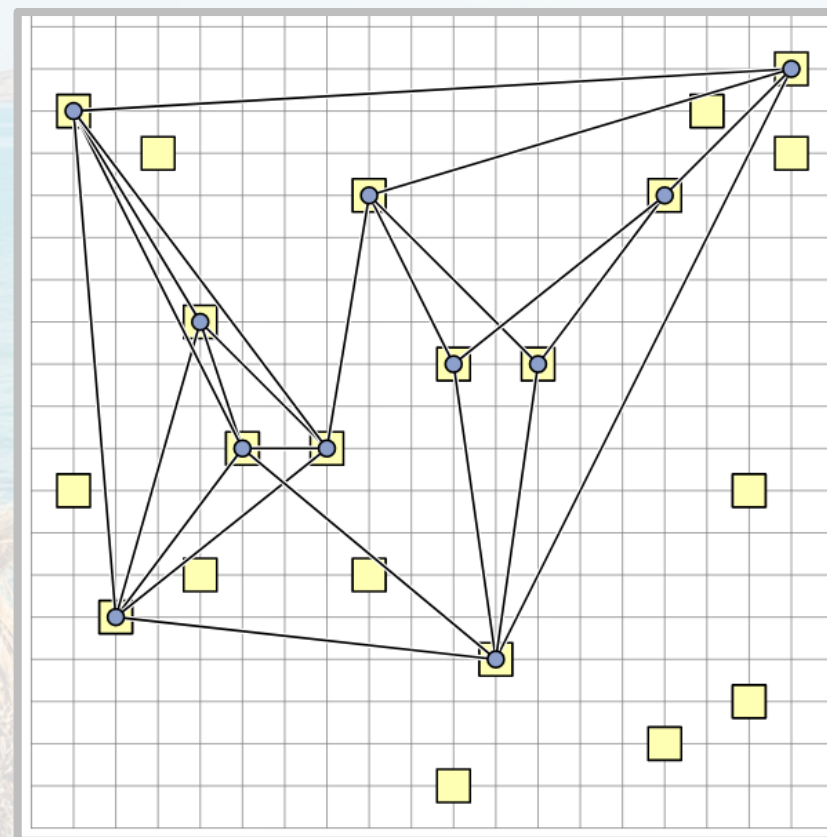
LIVE CHALLENGE

The Graphs



input

133 crossings (inv)
graph 1



best manual

the backseats

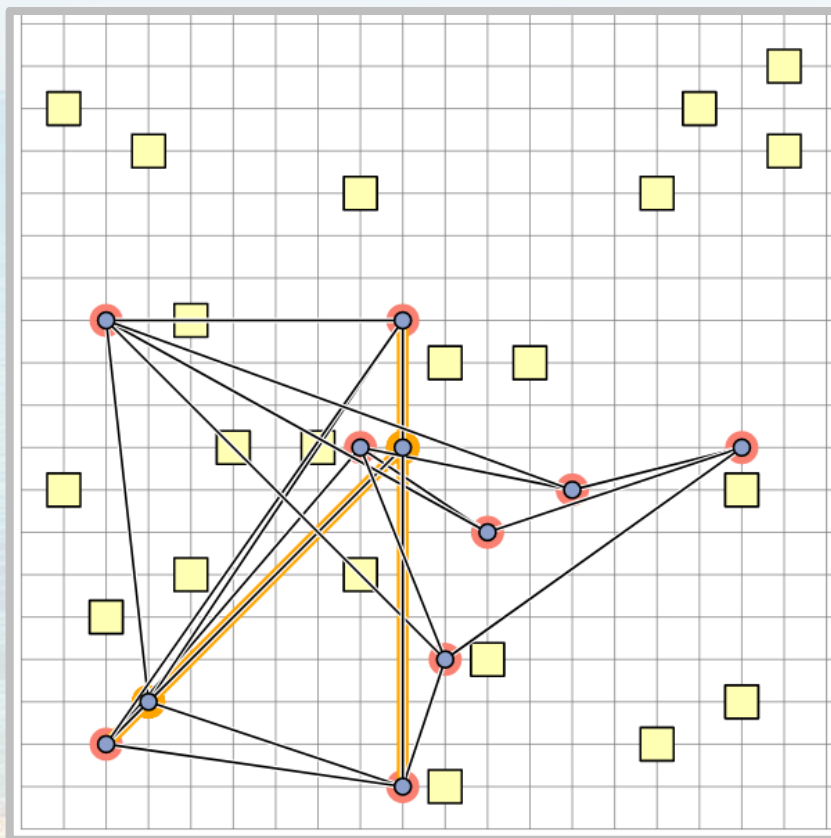
3 crossings



best automatic

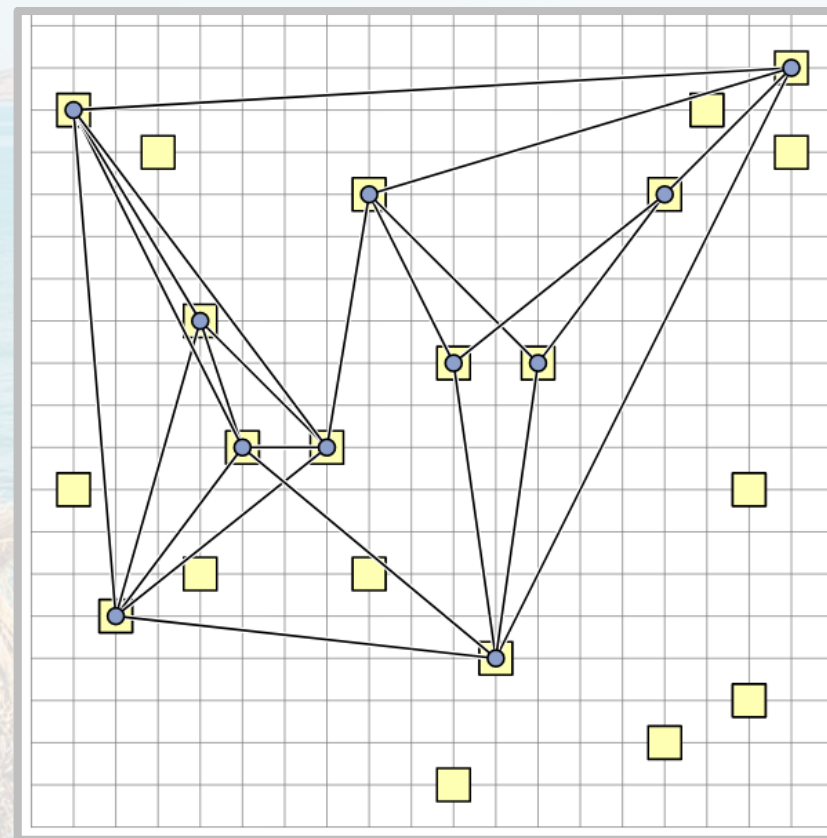
LIVE CHALLENGE

The Graphs



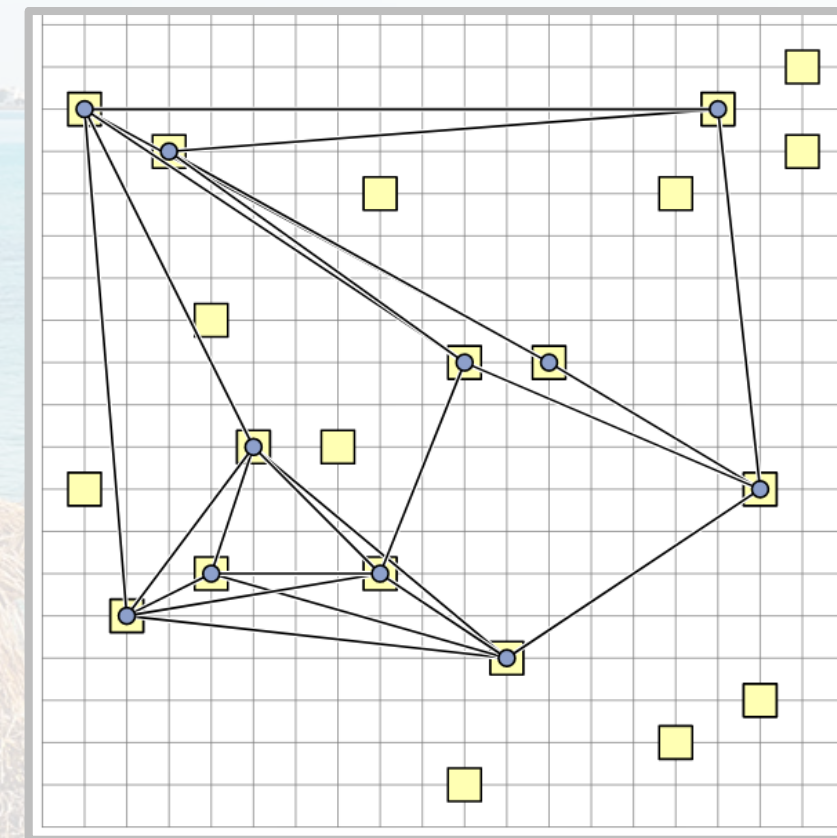
input

133 crossings (inv)
graph 1



best manual
the backseats

3 crossings

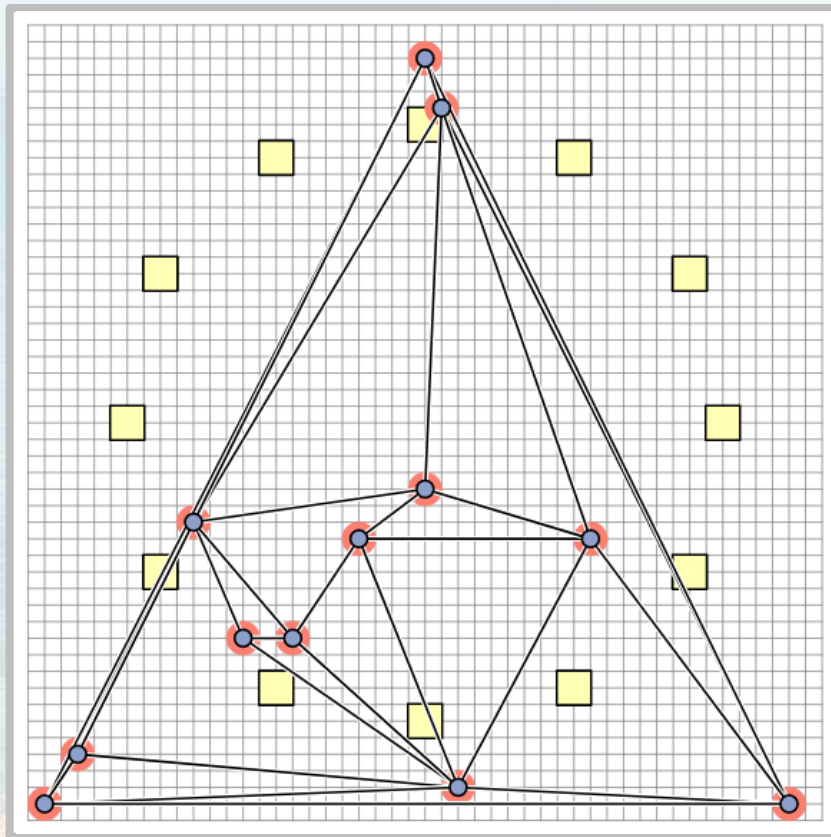


best automatic
GKLAJER

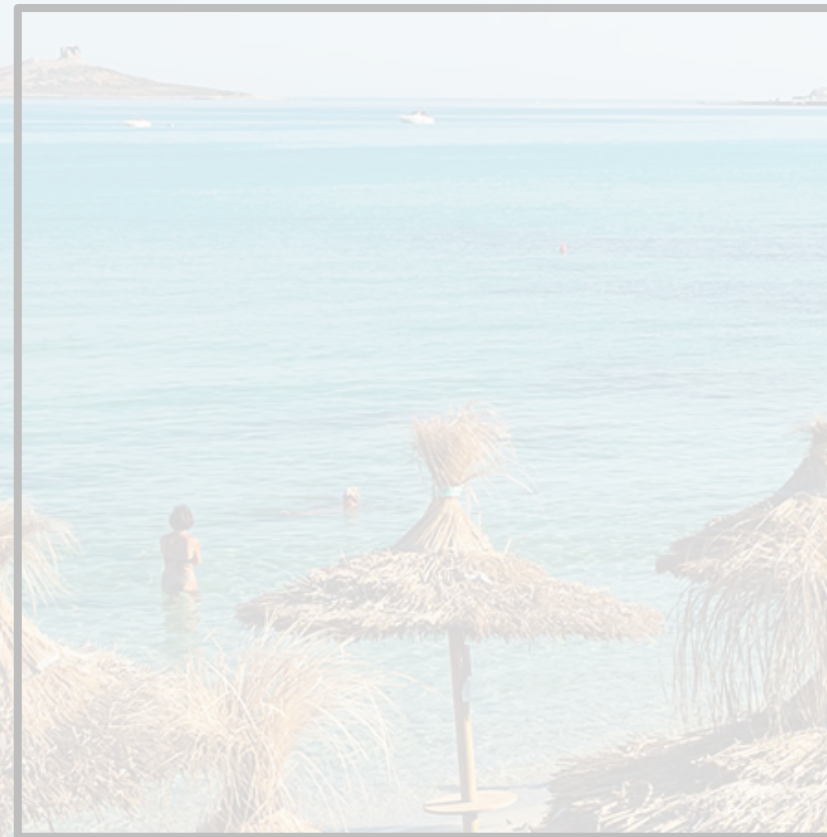
3 crossings

LIVE CHALLENGE

The Graphs



input



best manual

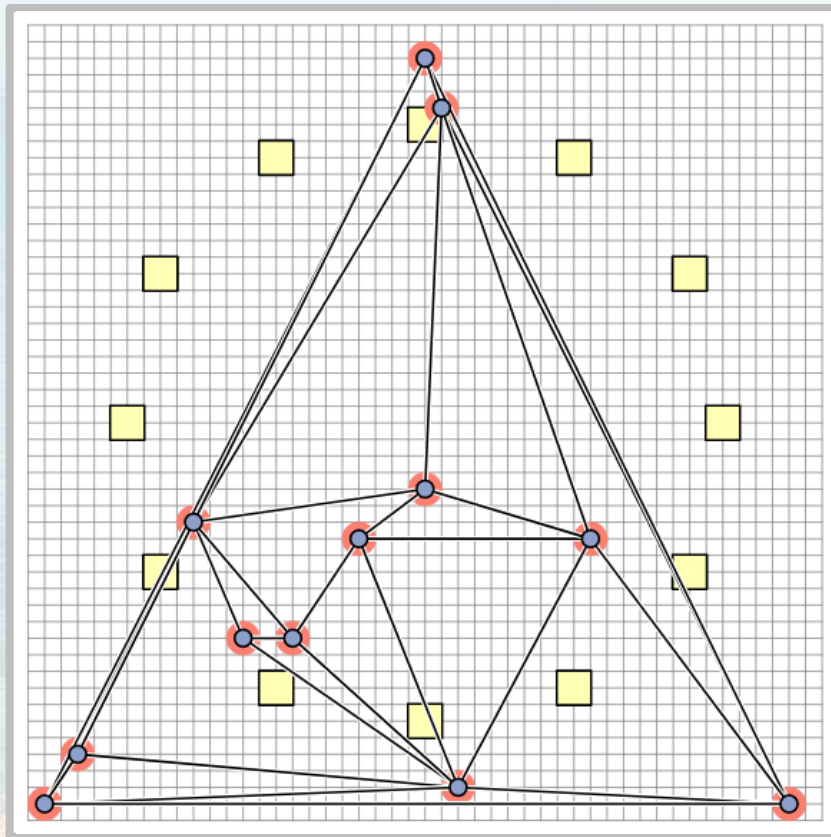


best automatic

0 crossings (inv)
graph **2**

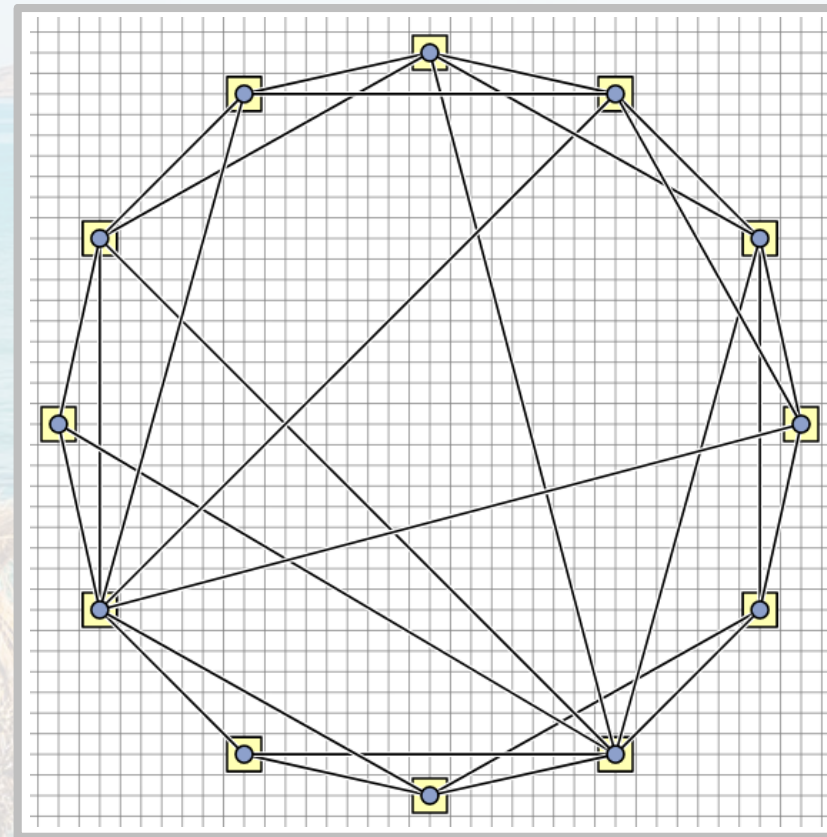
LIVE CHALLENGE

The Graphs



input

0 crossings (inv)
graph **2**



best manual

yWorks Team Yellow

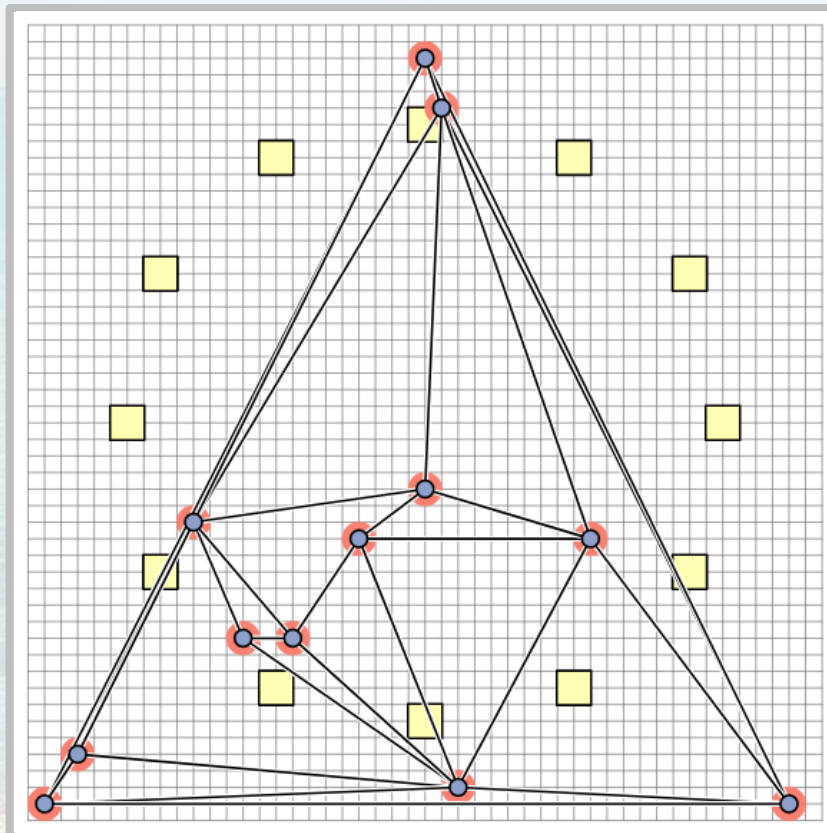
25 crossings



best automatic

LIVE CHALLENGE

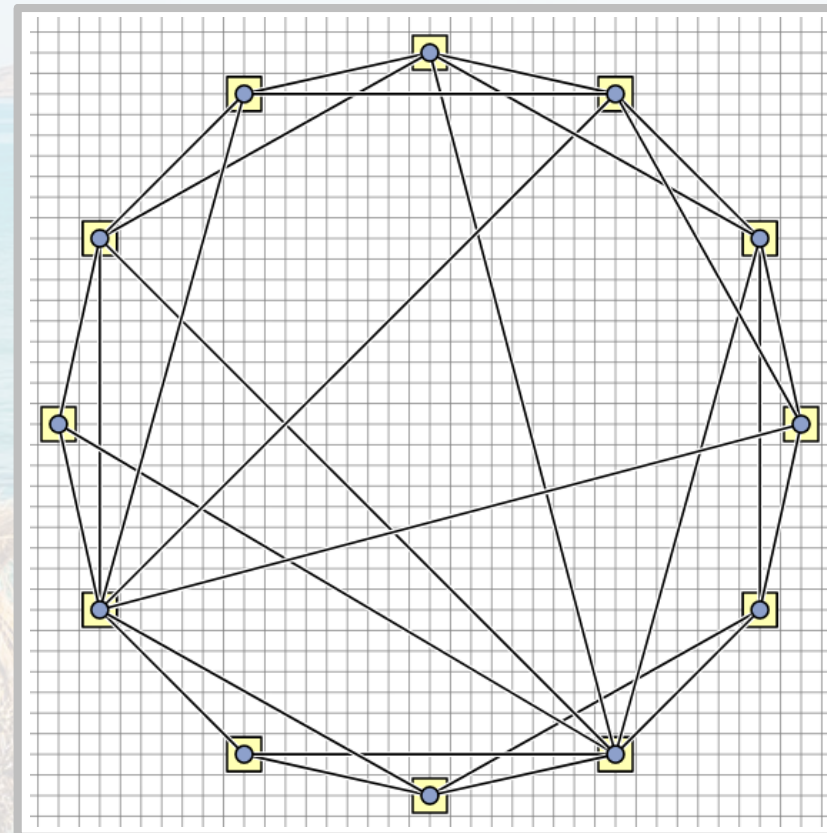
The Graphs



input

0 crossings (inv)

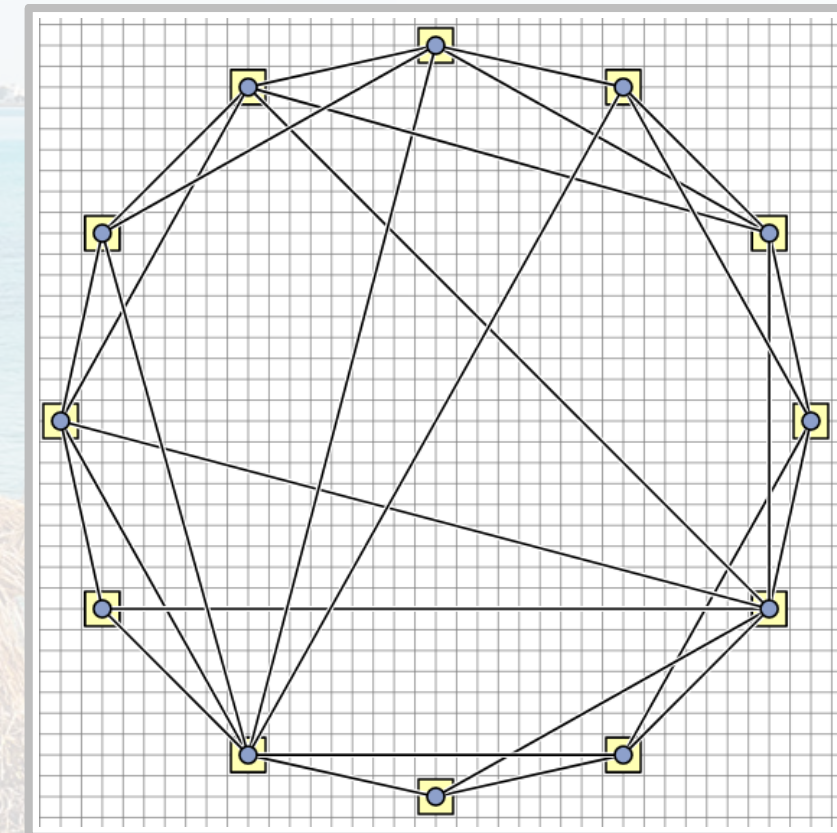
graph **2**



best manual

yWorks Team Yellow

25 crossings



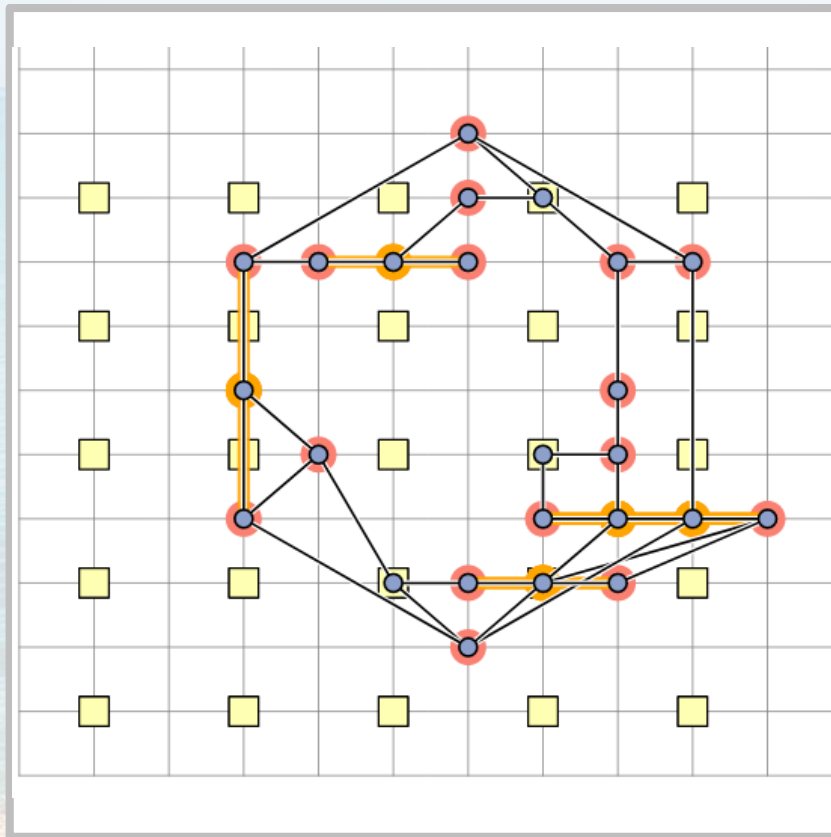
best automatic

LookMumNoCrossing

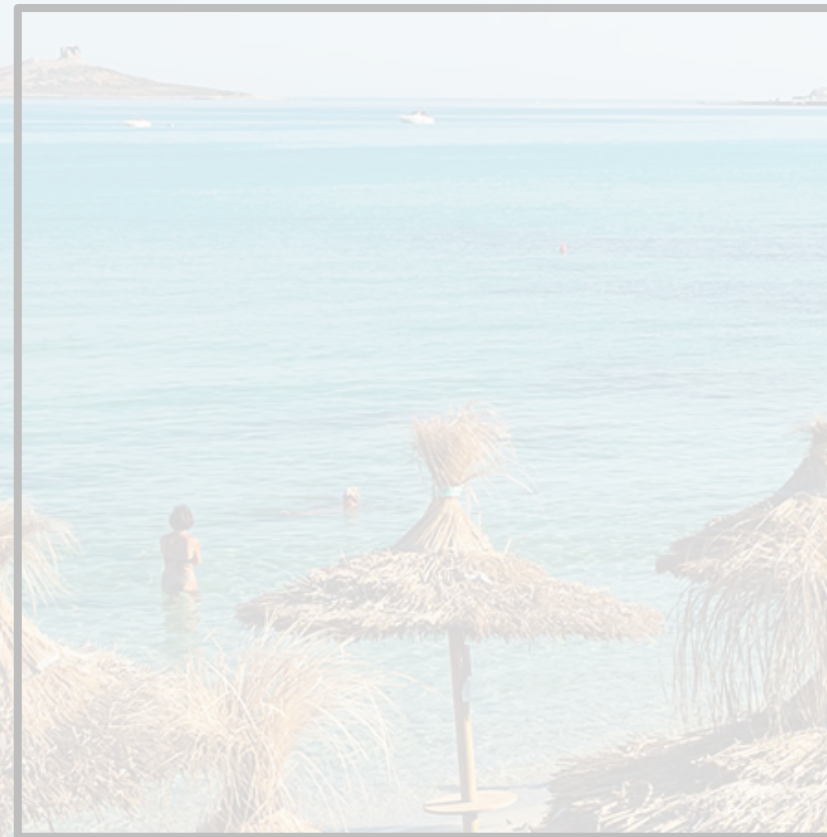
25 crossings

LIVE CHALLENGE

The Graphs



input



best manual

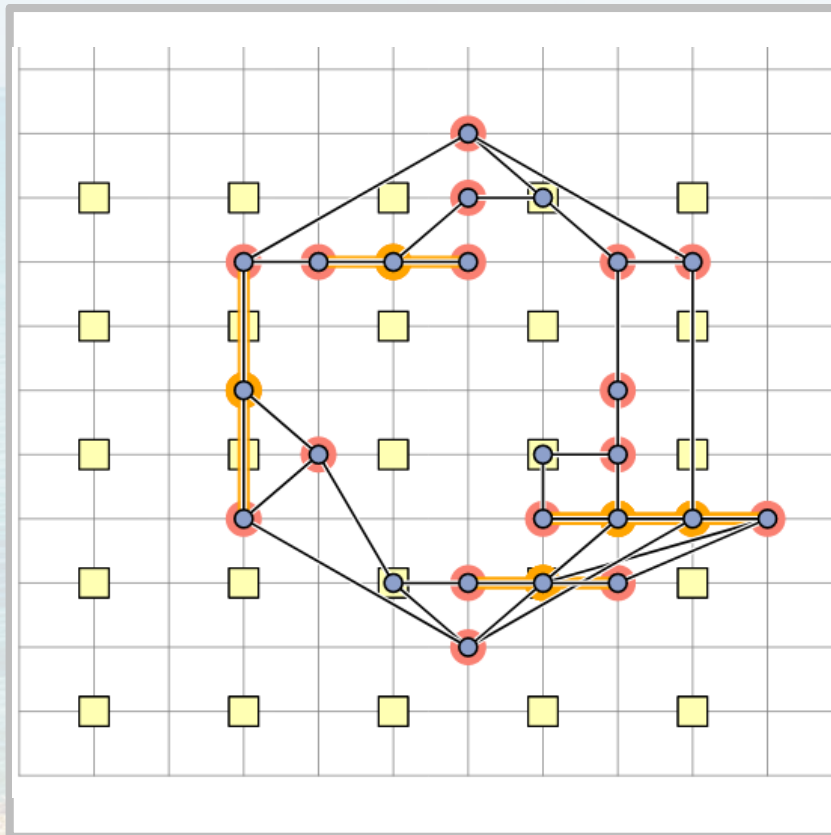


best automatic

314 crossings (inv)
graph **3**

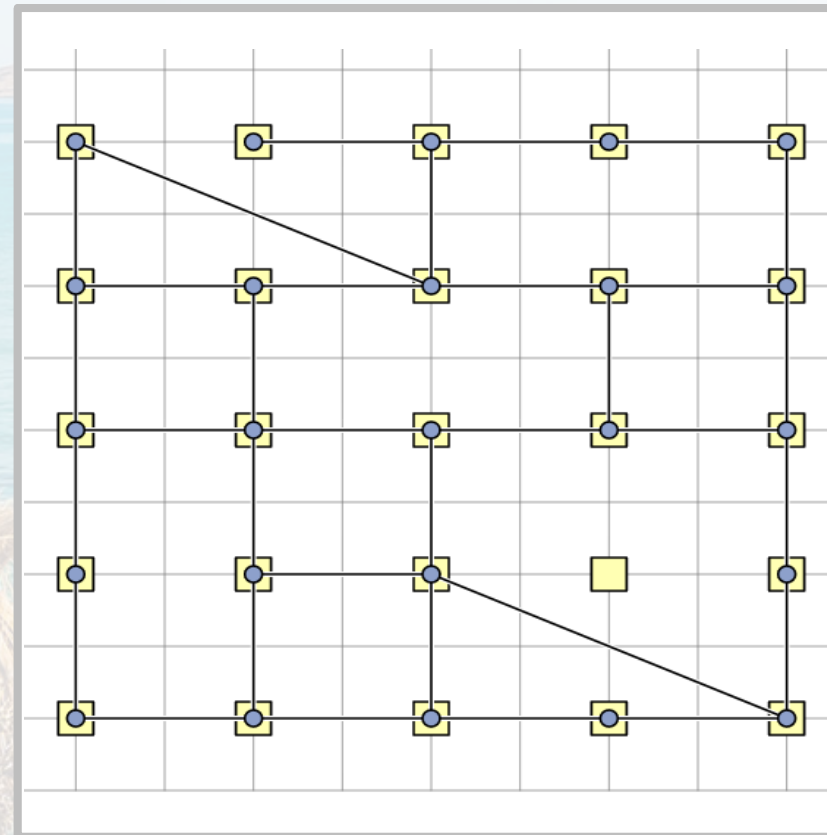
LIVE CHALLENGE

The Graphs



input

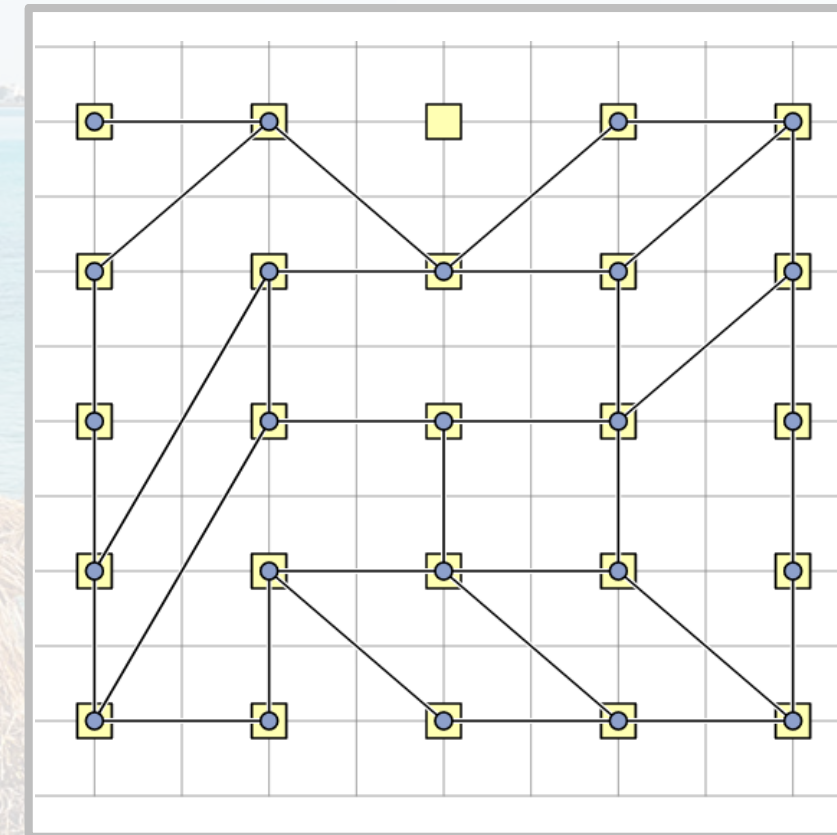
314 crossings (inv)
graph **3**



best manual

Beppos

0 crossings



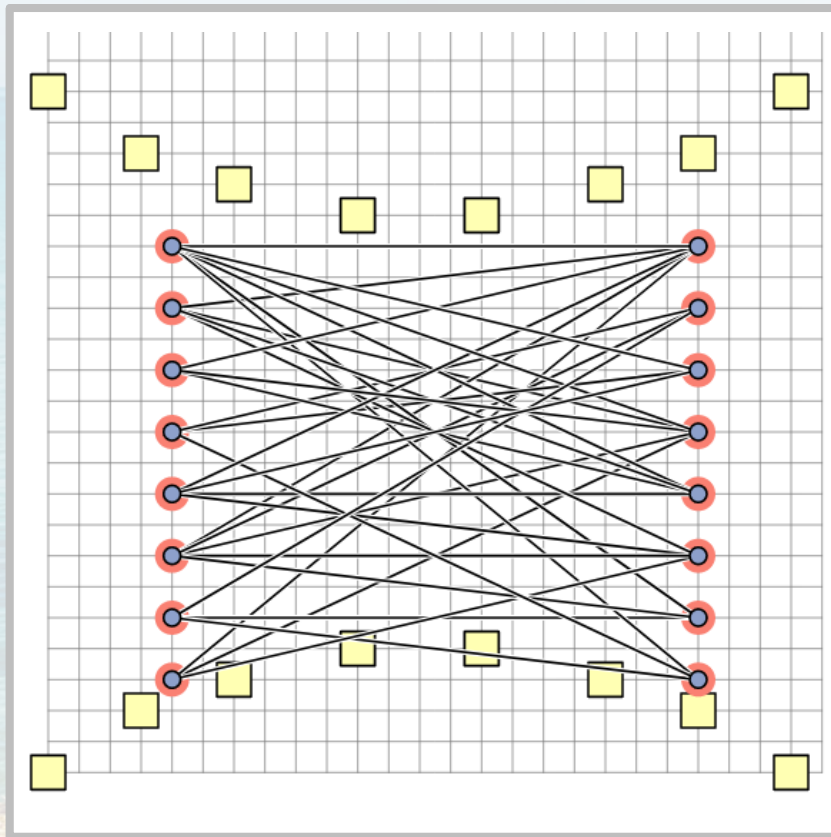
best automatic

12345

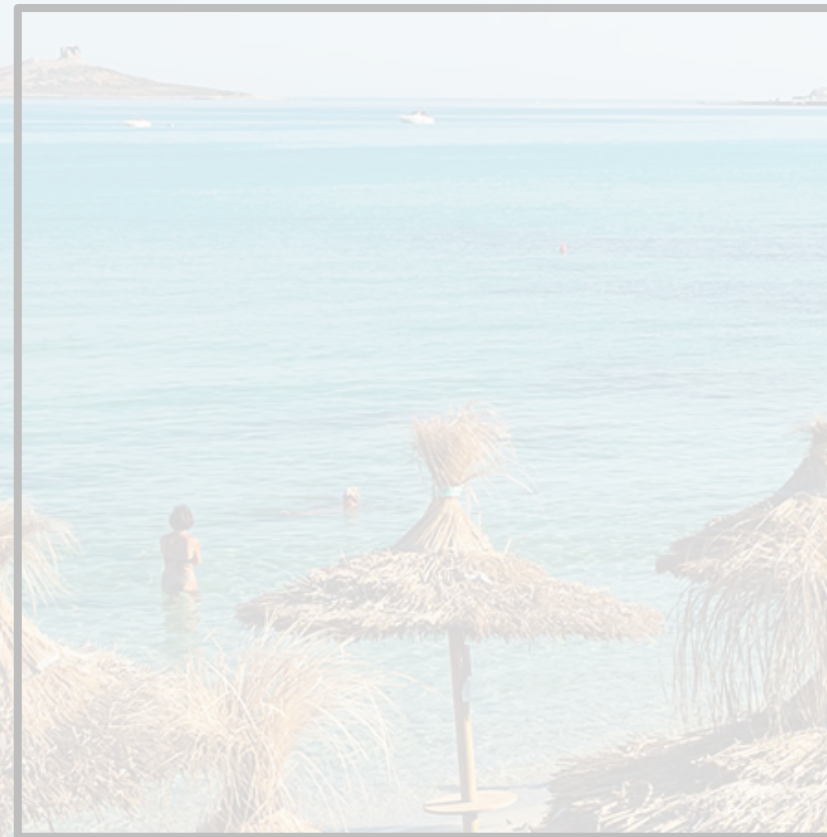
0 crossings

LIVE CHALLENGE

The Graphs



input



best manual

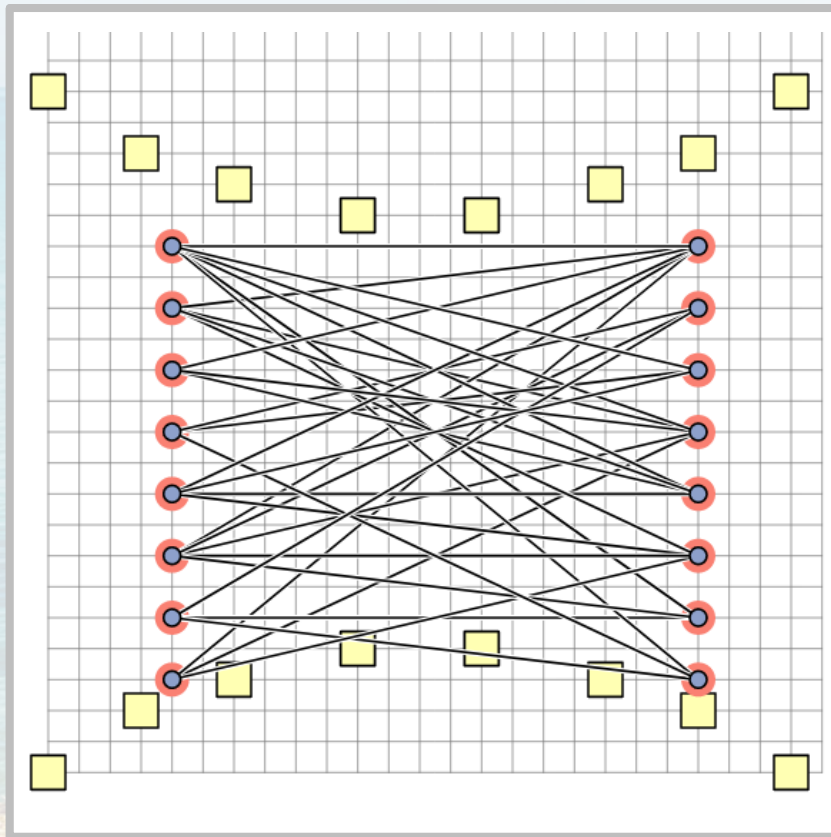


best automatic

184 crossings (inv)
graph 4

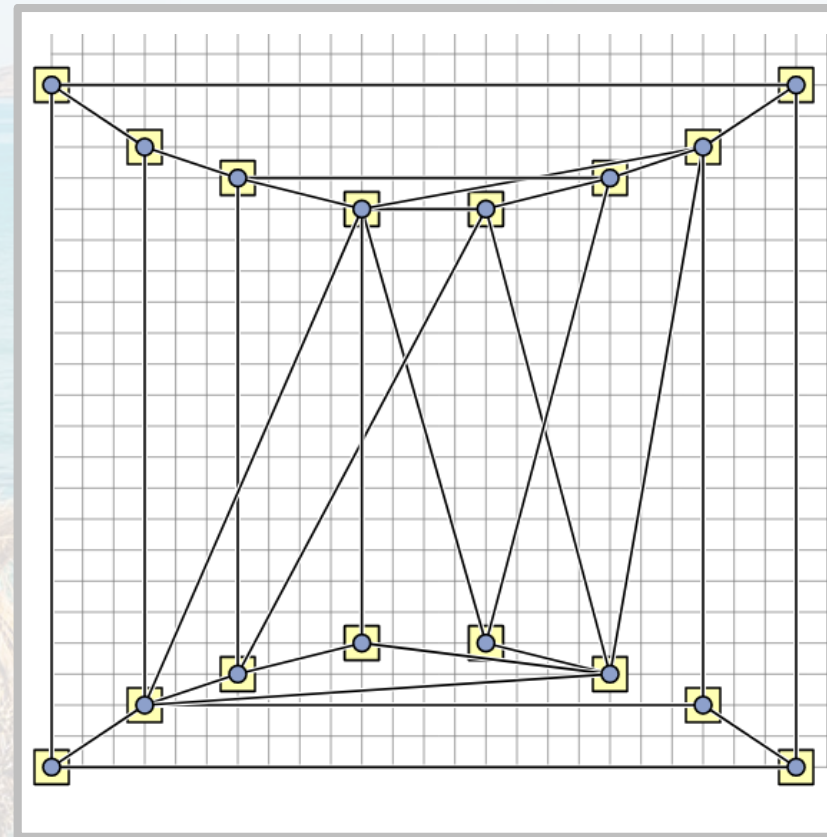
LIVE CHALLENGE

The Graphs



input

184 crossings (inv)
graph 4



best manual

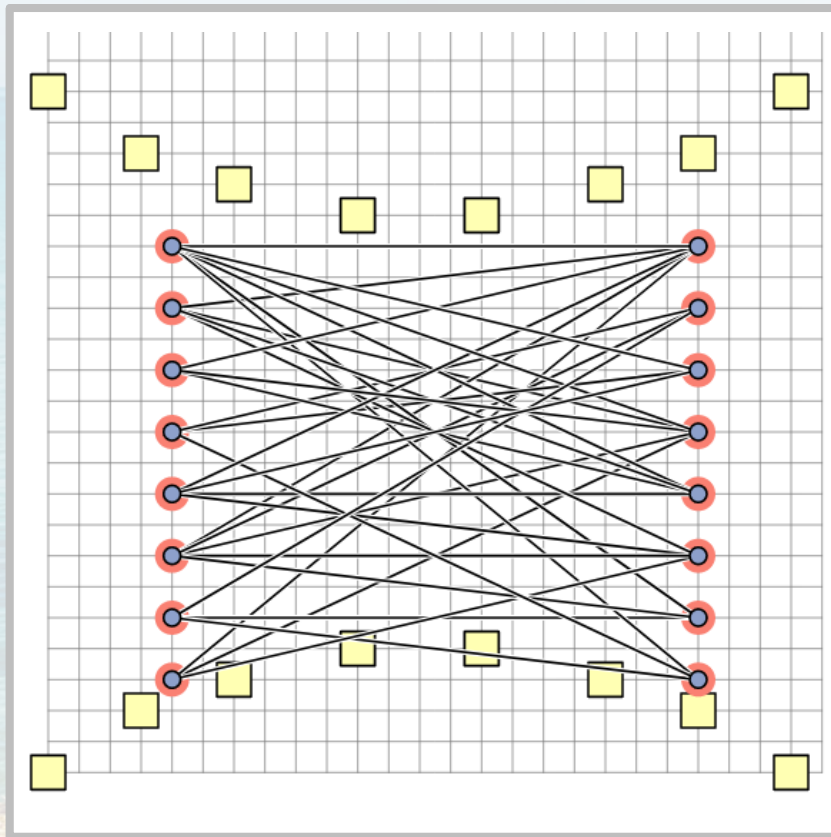
RoMaMa
5 crossings



best automatic

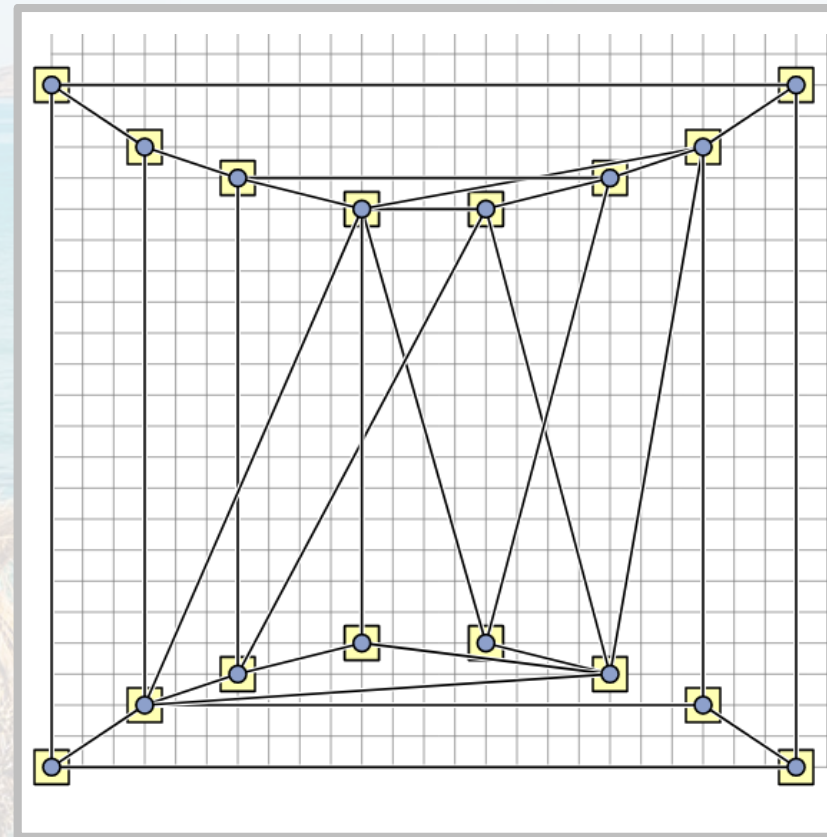
LIVE CHALLENGE

The Graphs



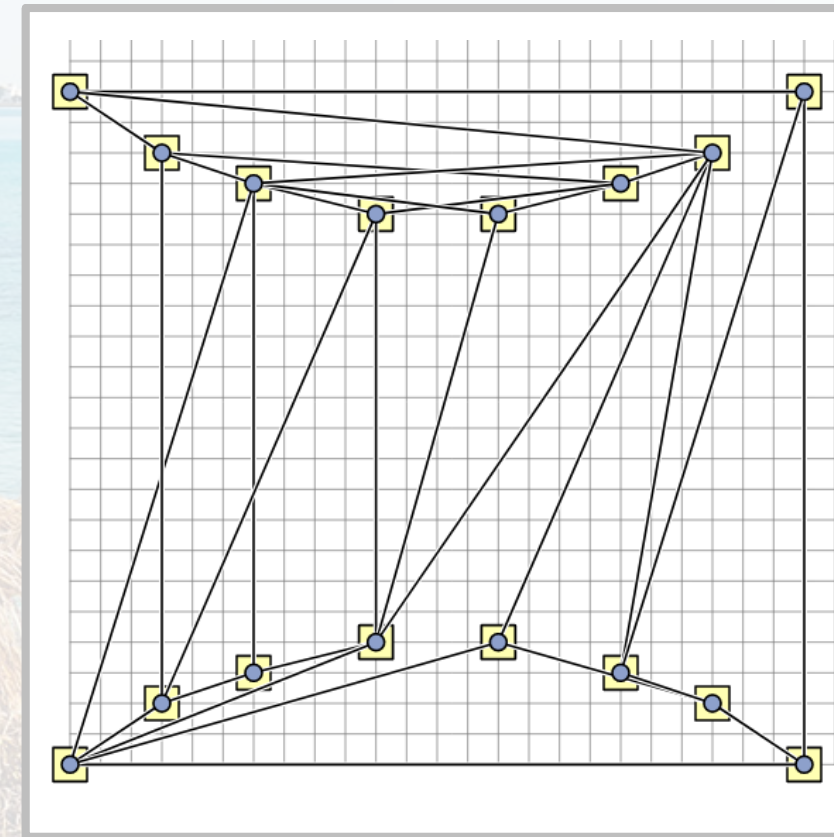
input

184 crossings (inv)
graph 4



best manual

RoMaMa
5 crossings

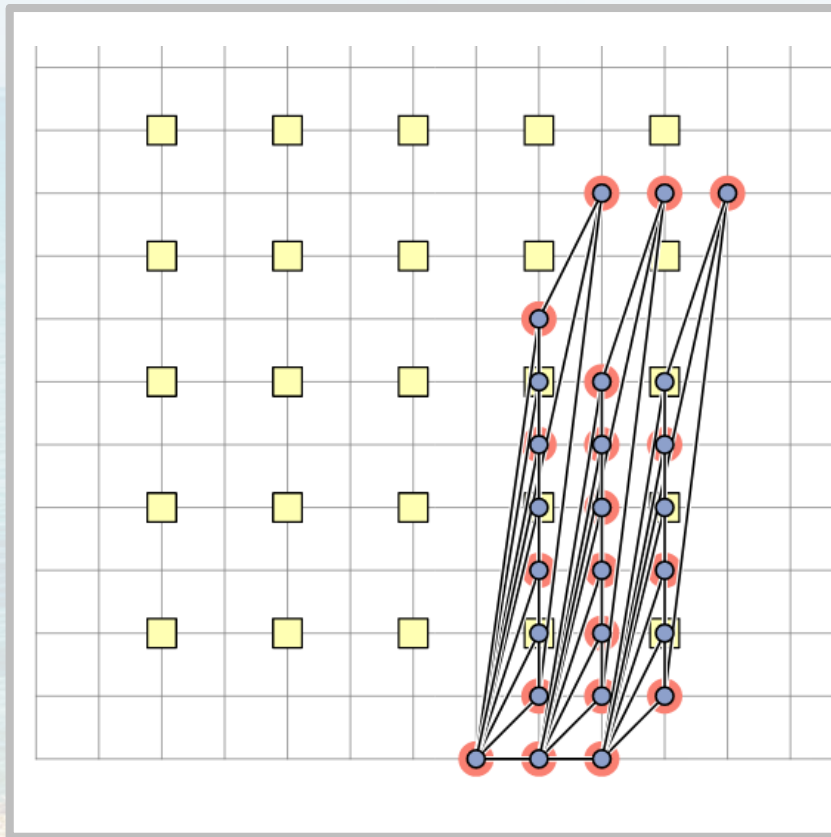


best automatic

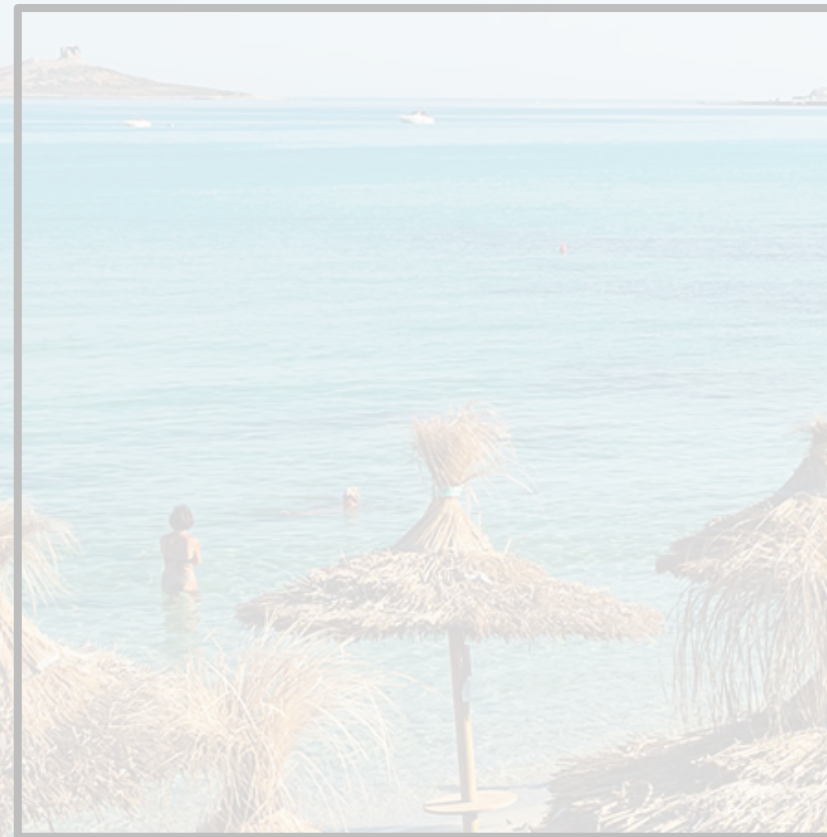
Baseline
4 crossings

LIVE CHALLENGE

The Graphs



input



best manual

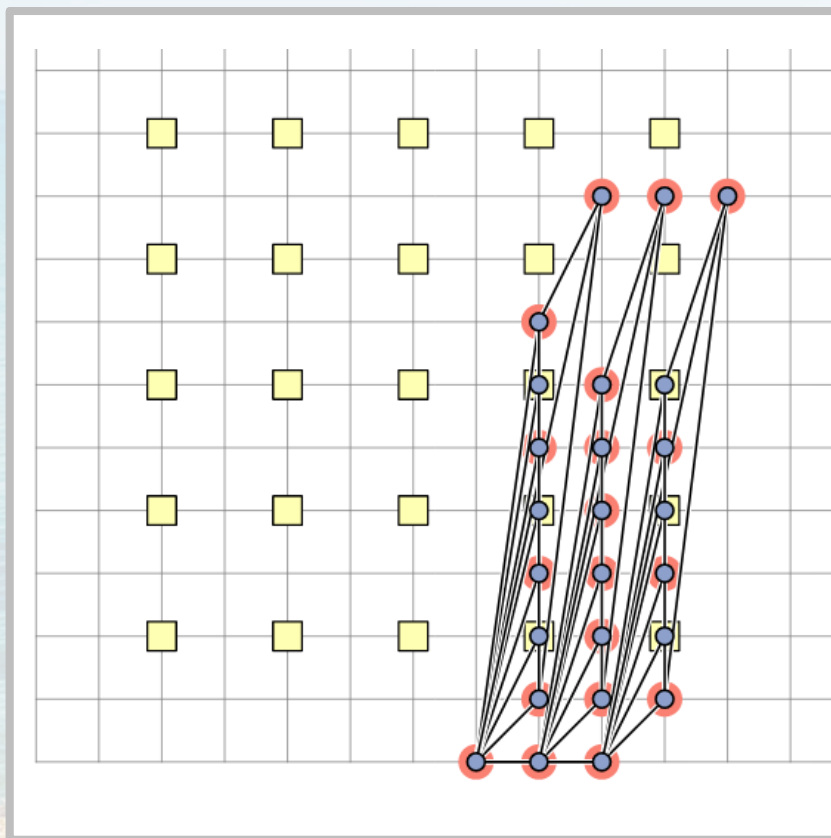


best automatic

3 crossings (inv)
graph **5**

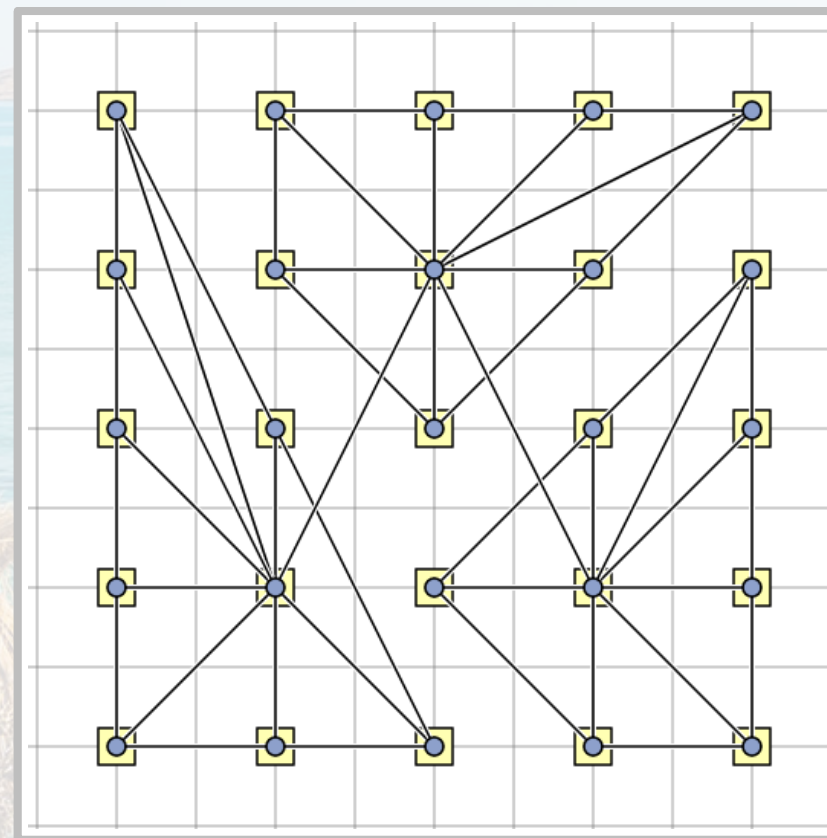
LIVE CHALLENGE

The Graphs



input

3 crossings (inv)
graph **5**



best manual

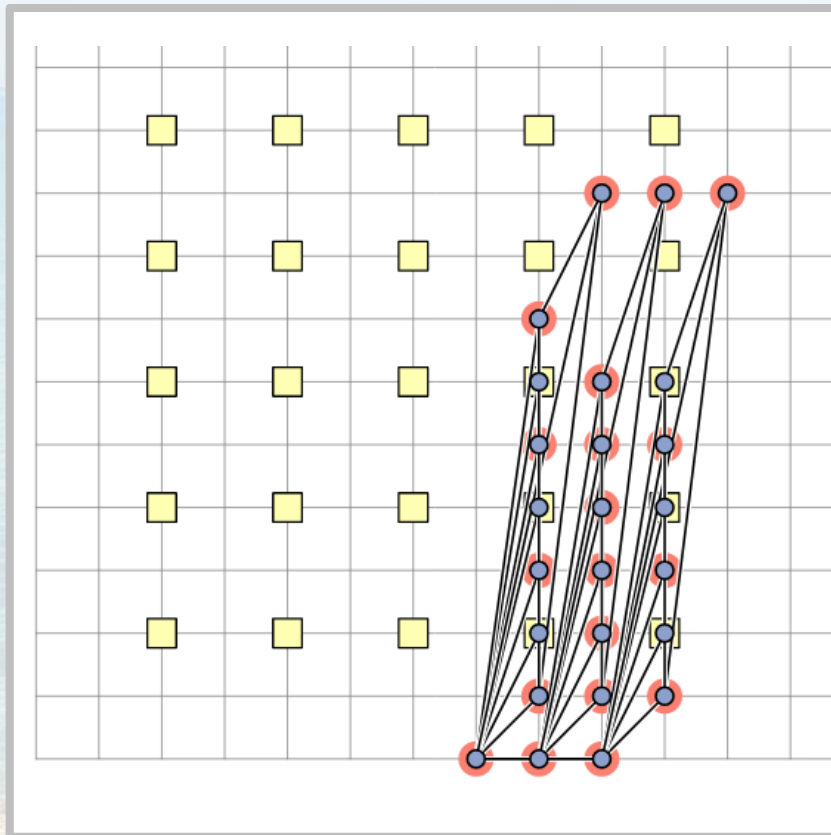
Hebonk
4 crossings



best automatic

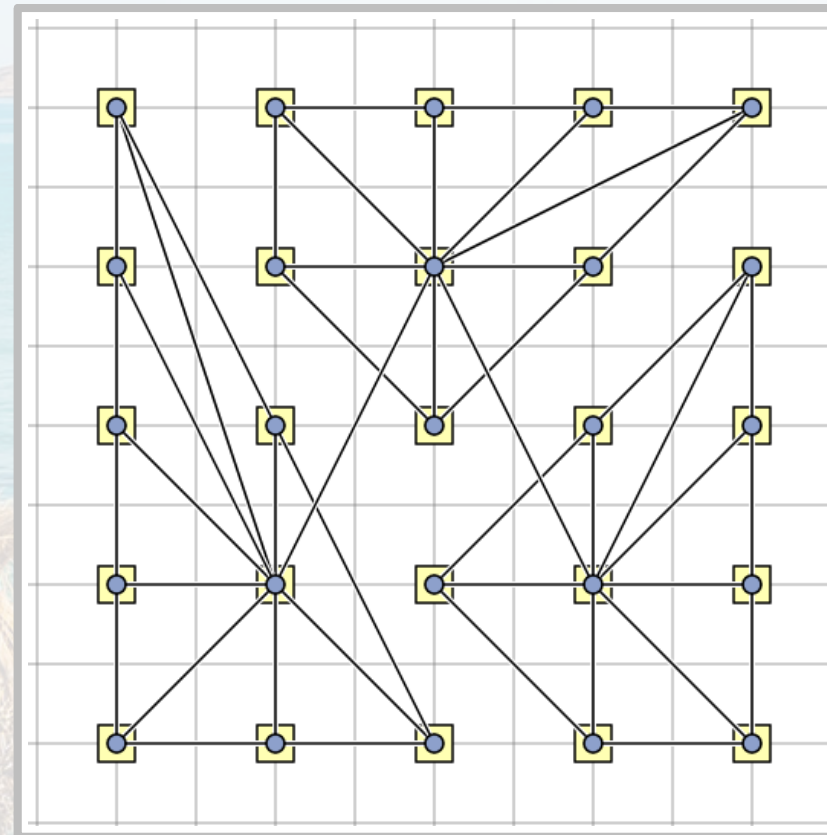
LIVE CHALLENGE

The Graphs



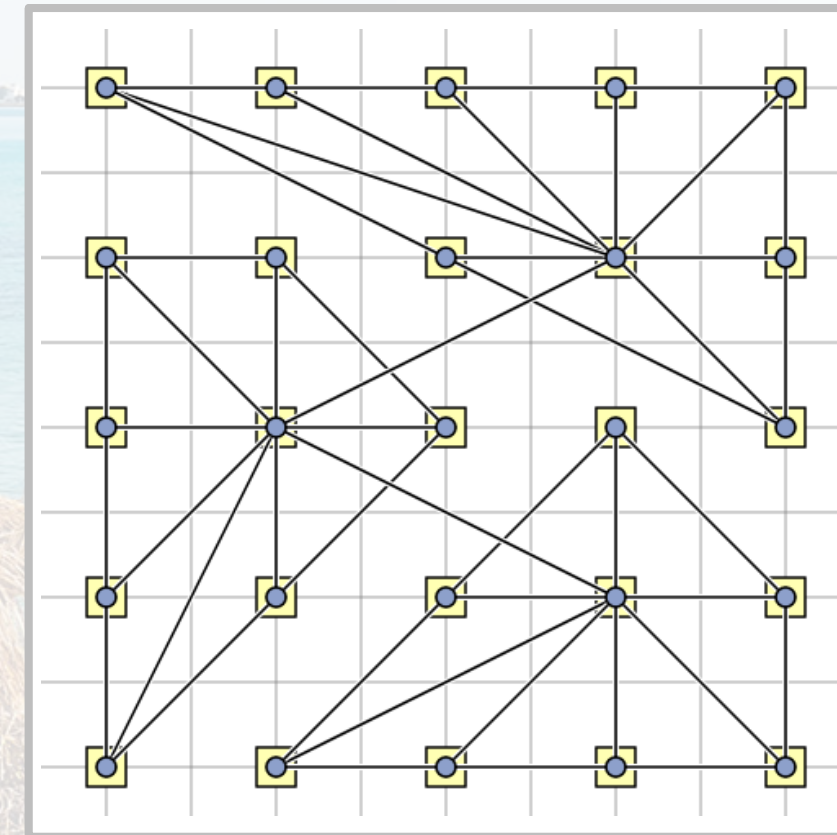
input

3 crossings (inv)
graph **5**



best manual

Hebonk
4 crossings

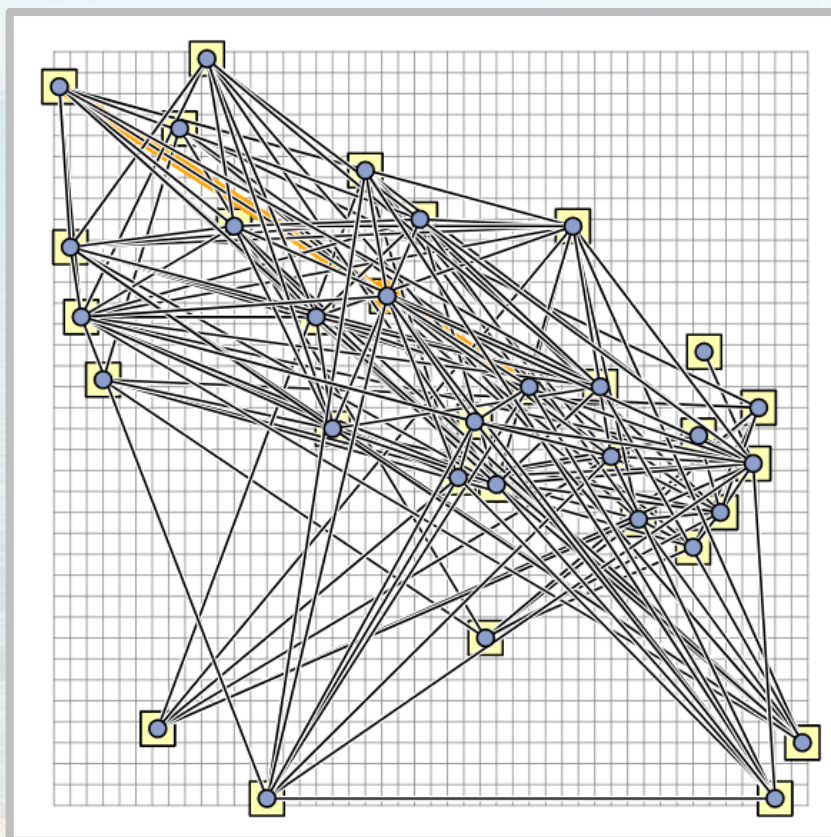


best automatic

Crossing Crushers
4 crossings

LIVE CHALLENGE

The Graphs



input



best manual

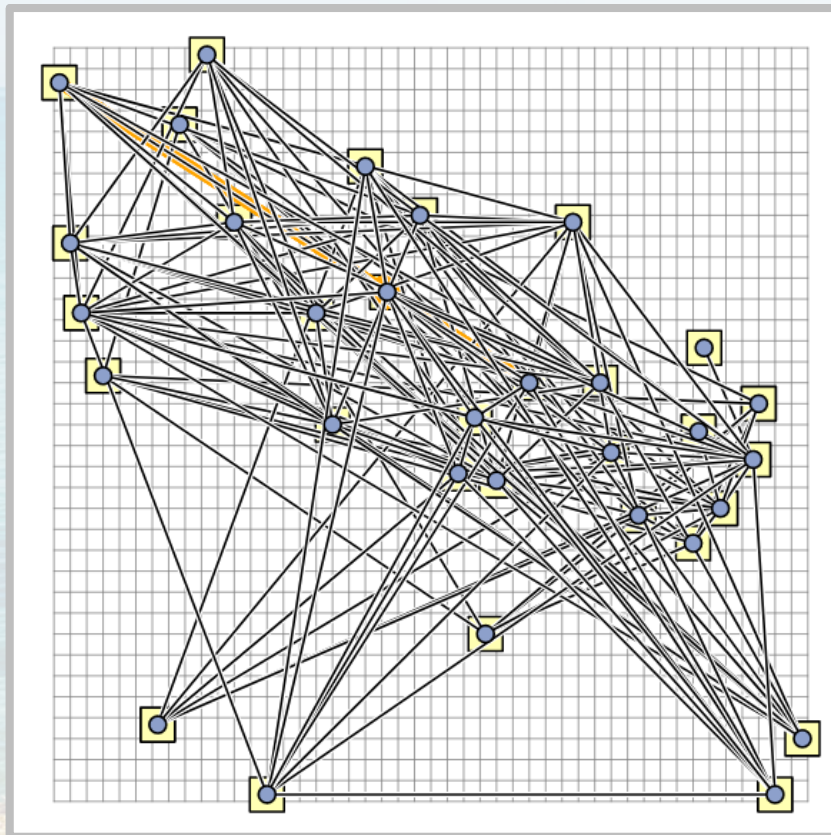


best automatic

2224 crossings
graph **6**

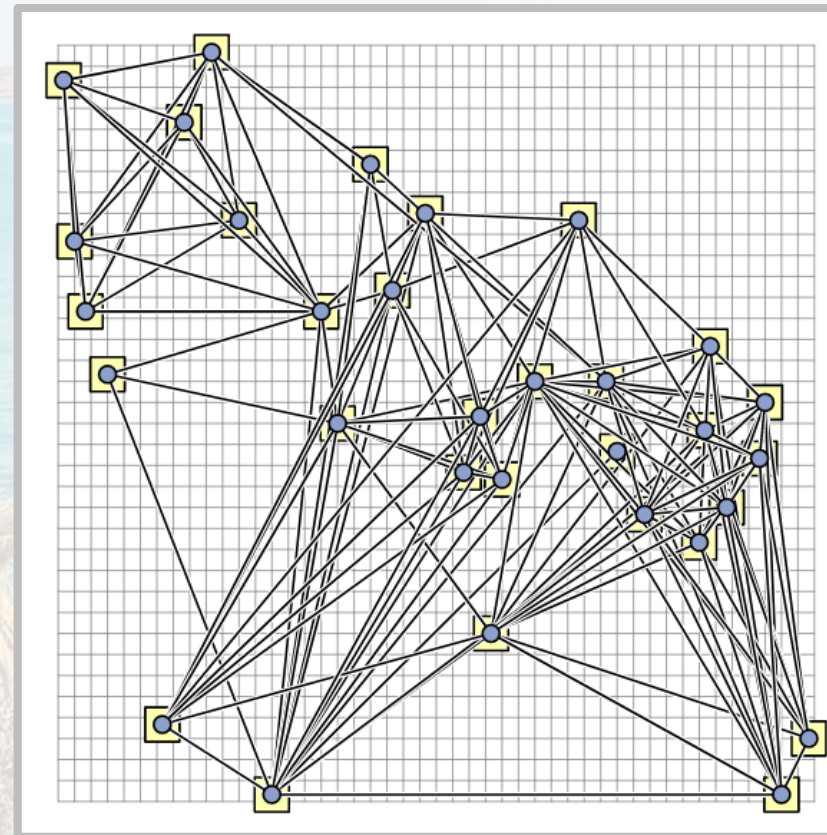
LIVE CHALLENGE

The Graphs



input

2224 crossings
graph **6**



best manual

Power Graph Girls

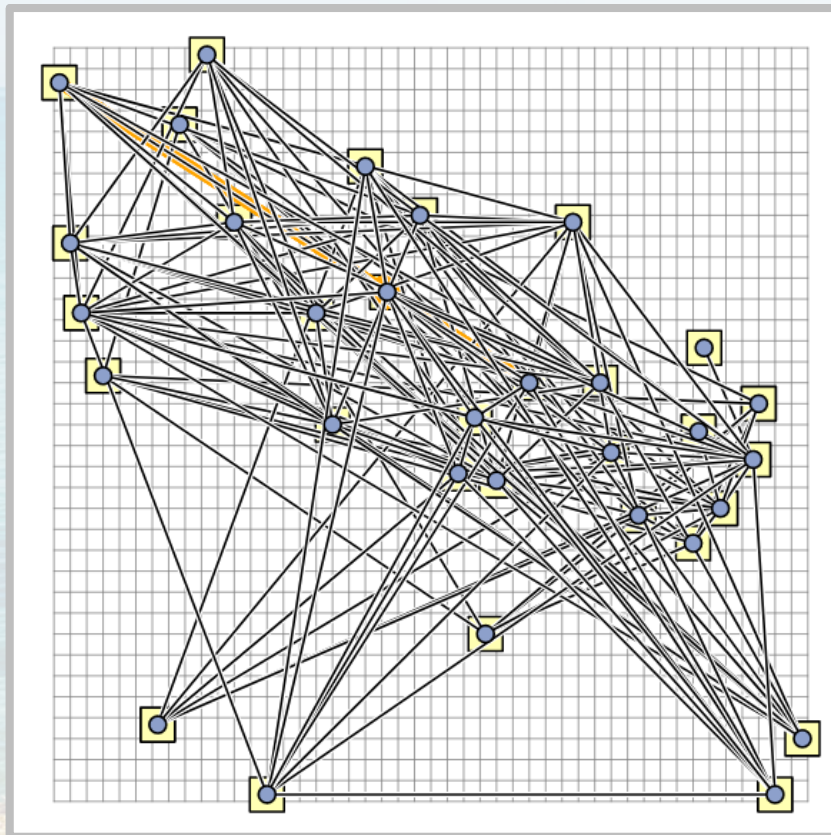
502 crossings



best automatic

LIVE CHALLENGE

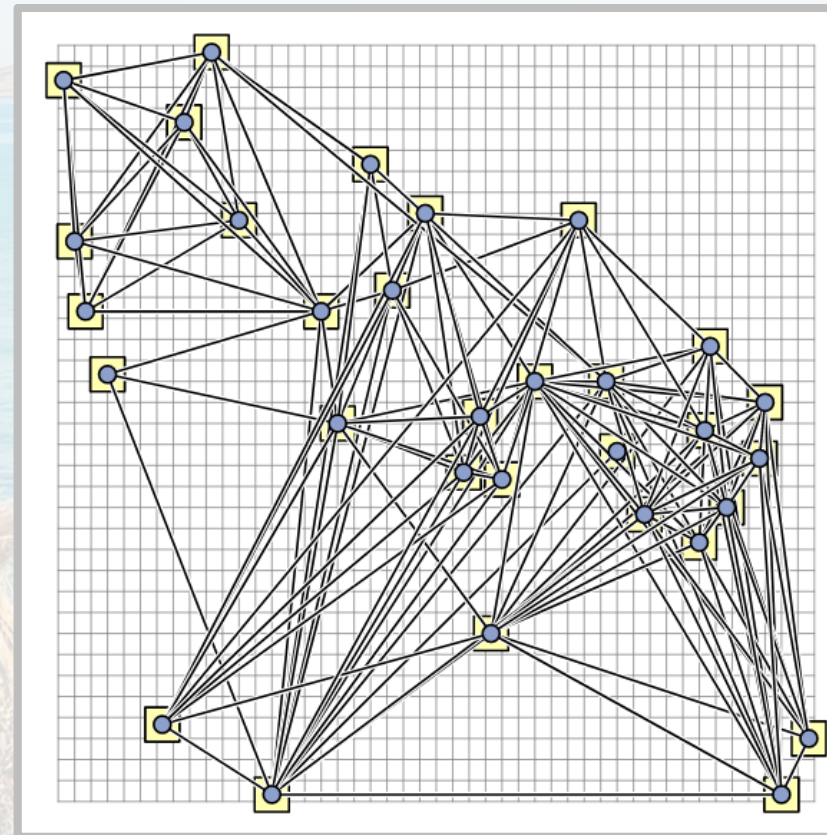
The Graphs



input

2224 crossings

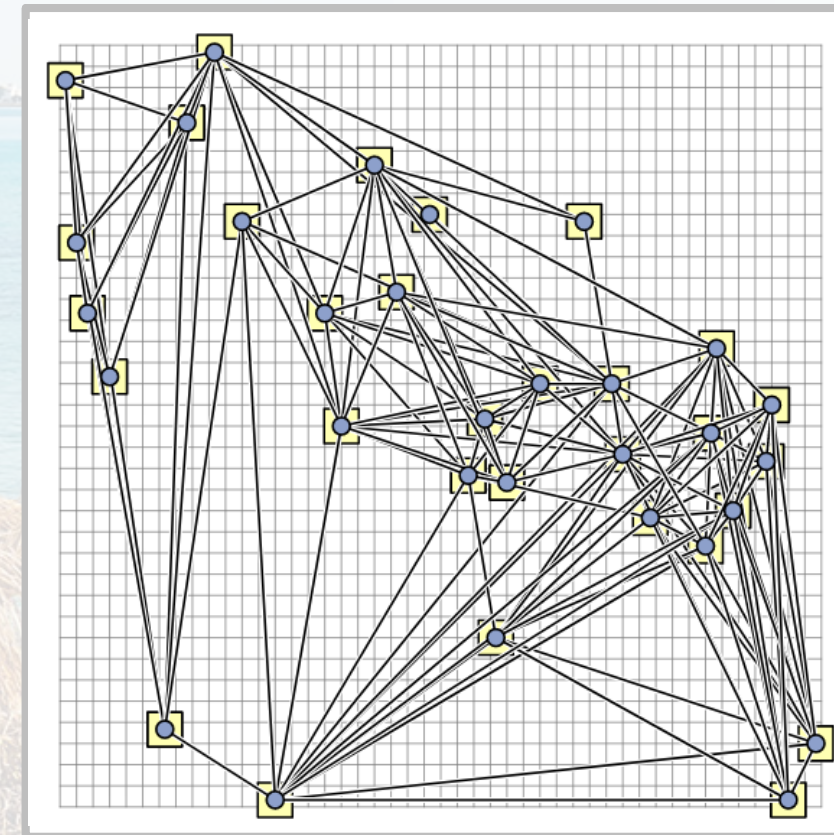
graph **6**



best manual

Power Graph Girls

502 crossings



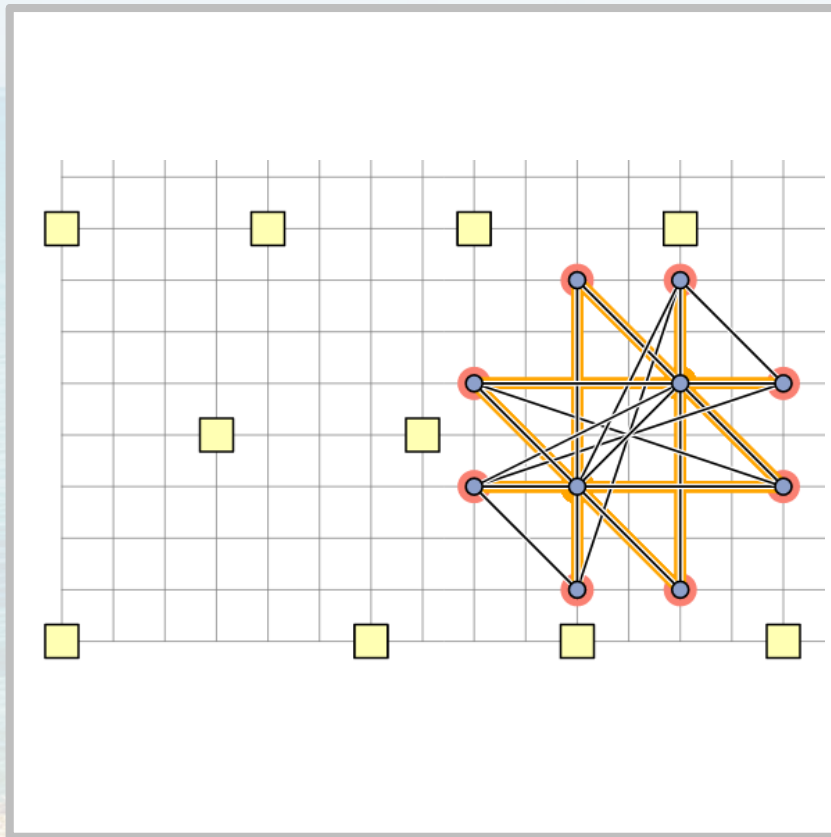
best automatic

OMeGA

395 crossings

LIVE CHALLENGE

The Graphs



input



best manual

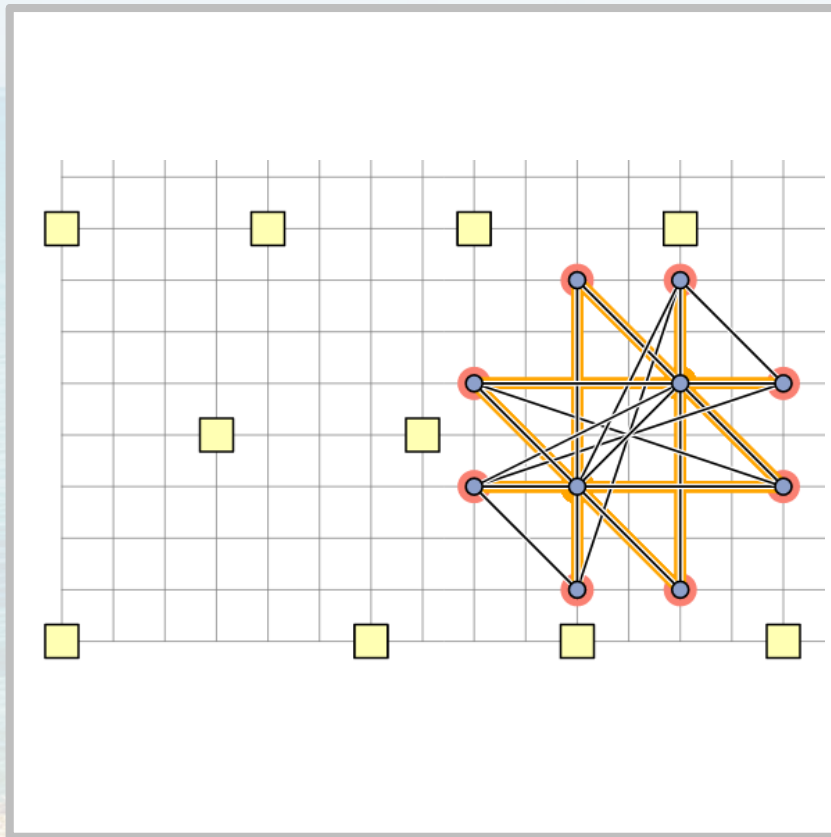


best automatic

502 crossings (inv)
graph **7**

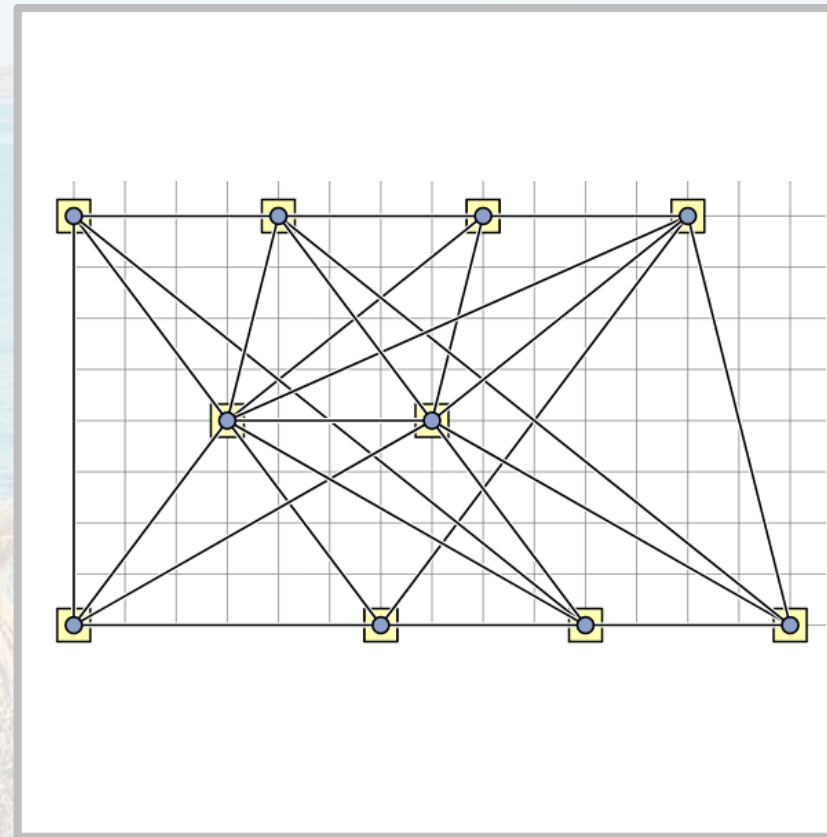
LIVE CHALLENGE

The Graphs



input

502 crossings (inv)
graph **7**



best manual

HliKra

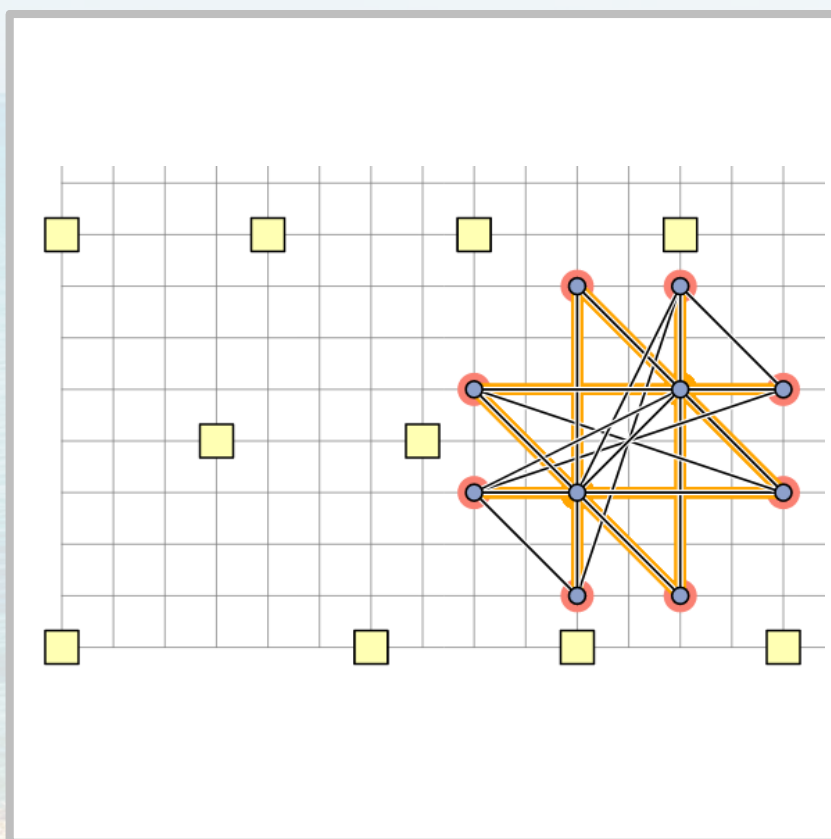
19 crossings



best automatic

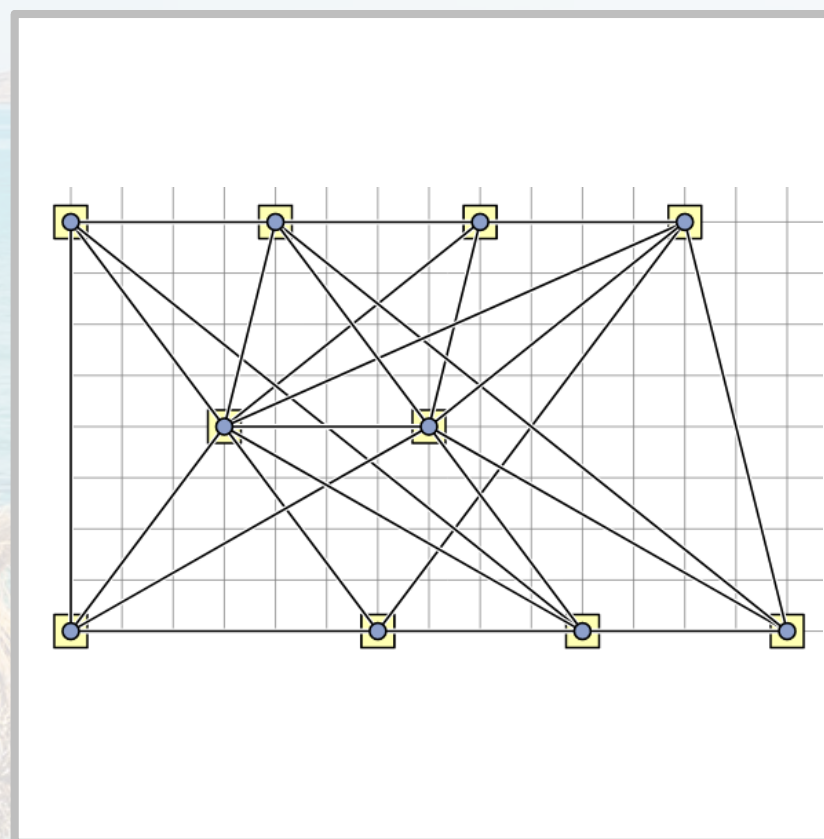
LIVE CHALLENGE

The Graphs



input

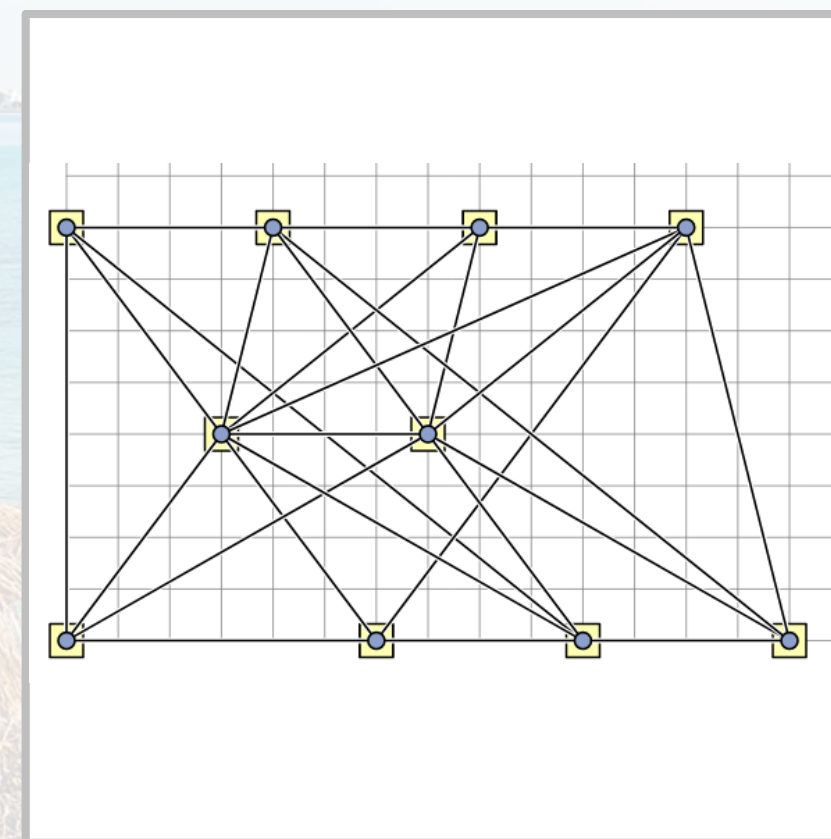
502 crossings (inv)
graph **7**



best manual

HliKra

19 crossings



best automatic

Minamo

19 crossings

LIVE CHALLENGE
manual category



LIVE CHALLENGE

manual category



graph

Phoenicopteridae

Hello KITty

Goose

TU RACs

yPeoplez

Power Graph Girls

We have GD at home

Beppos

Esri

We found a new Martin Gronemann!

HliKra

yWorks Team Yellow

Hebonk

????????????? keyboard, who dis?

Grand Theft Edge Crossing

The Backseats

RoMaMa

Duck

Konstanz

LIVE CHALLENGE

manual category



graph 1

Phoenicopteridae	3
Hello KITty	4
Goose	9
TU RACs	4
yPeoplez	8
Power Graph Girls	5
We have GD at home	3
Beppos	5
Esri	5
We found a new Martin Gronemann!	5
HliKra	3
yWorks Team Yellow	3
Hebonk	3
????????????? keyboard, who dis?	6
Grand Theft Edge Crossing	5
The Backseats	3
RoMaMa	3
Duck	4
Konstanz	5

LIVE CHALLENGE

manual category



graph	1	2
Phoenicopteridae	3	25
Hello KITty	4	33
Goose	9	41
TU RACs	4	29
yPeoplez	8	25
Power Graph Girls	5	29
We have GD at home	3	33
Beppos	5	29
Esri	5	38
We found a new Martin Gronemann!	5	27
HliKra	3	27
yWorks Team Yellow	3	25
Hebonk	3	29
????????????? keyboard, who dis?	6	27
Grand Theft Edge Crossing	5	35
The Backseats	3	29
RoMaMa	3	25
Duck	4	29
Konstanz	5	29

LIVE CHALLENGE

manual category



graph	1	2	3
Phoenicopteridae	3	25	1
Hello KITty	4	33	5
Goose	9	41	18
TU RACs	4	29	9
yPeoplez	8	25	25
Power Graph Girls	5	29	15
We have GD at home	3	33	0
Beppos	5	29	0
Esri	5	38	17
We found a new Martin Gronemann!	5	27	0
HliKra	3	27	0
yWorks Team Yellow	3	25	6
Hebonk	3	29	0
????????????? keyboard, who dis?	6	27	0
Grand Theft Edge Crossing	5	35	18
The Backseats	3	29	20
RoMaMa	3	25	5
Duck	4	29	0
Konstanz	5	29	2

LIVE CHALLENGE

manual category



graph	1	2	3
Phoenicopteridae	3	25	1
Hello KITty	4	33	5
Goose	9	41	18
TU RACs	4	29	9
yPeoplez	8	25	25
Power Graph Girls	5	29	15
We have GD at home	3	33	0
Beppos	5	29	0
Esri	5	38	17
We found a new Martin Gronemann!	5	27	0
HliKra	3	27	0
yWorks Team Yellow	3	25	6
Hebonk	3	29	0
????????????? keyboard, who dis?	6	27	0
Grand Theft Edge Crossing	5	35	18
The Backseats	3	29	20
RoMaMa	3	25	5
Duck	4	29	0
Konstanz	5	29	2

LIVE CHALLENGE

manual category



graph	1	2	3	4
Phoenicopteridae	3	25	1	22
Hello KITty	4	33	5	8
Goose	9	41	18	48
TU RACs	4	29	9	31
yPeoplez	8	25	25	56
Power Graph Girls	5	29	15	16
We have GD at home	3	33	0	9
Beppos	5	29	0	17
Esri	5	38	17	20
We found a new Martin Gronemann!	5	27	0	10
HliKra	3	27	0	19
yWorks Team Yellow	3	25	6	9
Hebonk	3	29	0	14
????????????? keyboard, who dis?	6	27	0	17
Grand Theft Edge Crossing	5	35	18	21
The Backseats	3	29	20	59
RoMaMa	3	25	5	5
Duck	4	29	0	32
Konstanz	5	29	2	12

LIVE CHALLENGE

manual category



graph	1	2	3	4
Phoenicopteridae	3	25	1	22
Hello KITty	4	33	5	8
Goose	9	41	18	48
TU RACs	4	29	9	31
yPeoplez	8	25	25	56
Power Graph Girls	5	29	15	16
We have GD at home	3	33	0	9
Beppos	5	29	0	17
Esri	5	38	17	20
We found a new Martin Gronemann!	5	27	0	10
HliKra	3	27	0	19
yWorks Team Yellow	3	25	6	9
Hebonk	3	29	0	14
????????????? keyboard, who dis?	6	27	0	17
Grand Theft Edge Crossing	5	35	18	21
The Backseats	3	29	20	59
RoMaMa	3	25	5	5
Duck	4	29	0	32
Konstanz	5	29	2	12

LIVE CHALLENGE

manual category



graph	1	2	3	4	5
Phoenicopteridae	3	25	1	22	10
Hello KITty	4	33	5	8	4
Goose	9	41	18	48	18
TU RACs	4	29	9	31	347
yPeoplez	8	25	25	56	149
Power Graph Girls	5	29	15	16	4
We have GD at home	3	33	0	9	4
Beppos	5	29	0	17	110
Esri	5	38	17	20	160
We found a new Martin Gronemann!	5	27	0	10	9
HliKra	3	27	0	19	10
yWorks Team Yellow	3	25	6	9	16
Hebonk	3	29	0	14	4
????????????? keyboard, who dis?	6	27	0	17	379
Grand Theft Edge Crossing	5	35	18	21	1602
The Backseats	3	29	20	59	482
RoMaMa	3	25	5	5	4
Duck	4	29	0	32	106
Konstanz	5	29	2	12	575

LIVE CHALLENGE

manual category



graph	1	2	3	4	5
Phoenicopteridae	3	25	1	22	10
Hello KITty	4	33	5	8	4
Goose	9	41	18	48	18
TU RACs	4	29	9	31	347
yPeoplez	8	25	25	56	149
Power Graph Girls	5	29	15	16	4
We have GD at home	3	33	0	9	4
Beppos	5	29	0	17	110
Esri	5	38	17	20	160
We found a new Martin Gronemann!	5	27	0	10	9
HliKra	3	27	0	19	10
yWorks Team Yellow	3	25	6	9	16
Hebonk	3	29	0	14	4
????????????? keyboard, who dis?	6	27	0	17	379
Grand Theft Edge Crossing	5	35	18	21	1602
The Backseats	3	29	20	59	482
RoMaMa	3	25	5	5	4
Duck	4	29	0	32	106
Konstanz	5	29	2	12	575

LIVE CHALLENGE

manual category



graph	1	2	3	4	5	6
Phoenicopteridae	3	25	1	22	10	587
Hello KITty	4	33	5	8	4	531
Goose	9	41	18	48	18	581
TU RACs	4	29	9	31	347	622
yPeoplez	8	25	25	56	149	622
Power Graph Girls	5	29	15	16	4	502
We have GD at home	3	33	0	9	4	1361
Beppos	5	29	0	17	110	622
Esri	5	38	17	20	160	689
We found a new Martin Gronemann!	5	27	0	10	9	593
HliKra	3	27	0	19	10	590
yWorks Team Yellow	3	25	6	9	16	622
Hebonk	3	29	0	14	4	583
????????????? keyboard, who dis?	6	27	0	17	379	1415
Grand Theft Edge Crossing	5	35	18	21	1602	1565
The Backseats	3	29	20	59	482	567
RoMaMa	3	25	5	5	4	681
Duck	4	29	0	32	106	2038
Konstanz	5	29	2	12	575	1005

LIVE CHALLENGE

manual category



graph	1	2	3	4	5	6
Phoenicopteridae	3	25	1	22	10	587
Hello KITty	4	33	5	8	4	531
Goose	9	41	18	48	18	581
TU RACs	4	29	9	31	347	622
yPeoplez	8	25	25	56	149	622
Power Graph Girls	5	29	15	16	4	502
We have GD at home	3	33	0	9	4	1361
Beppos	5	29	0	17	110	622
Esri	5	38	17	20	160	689
We found a new Martin Gronemann!	5	27	0	10	9	593
HliKra	3	27	0	19	10	590
yWorks Team Yellow	3	25	6	9	16	622
Hebonk	3	29	0	14	4	583
????????????? keyboard, who dis?	6	27	0	17	379	1415
Grand Theft Edge Crossing	5	35	18	21	1602	1565
The Backseats	3	29	20	59	482	567
RoMaMa	3	25	5	5	4	681
Duck	4	29	0	32	106	2038
Konstanz	5	29	2	12	575	1005

LIVE CHALLENGE

manual category



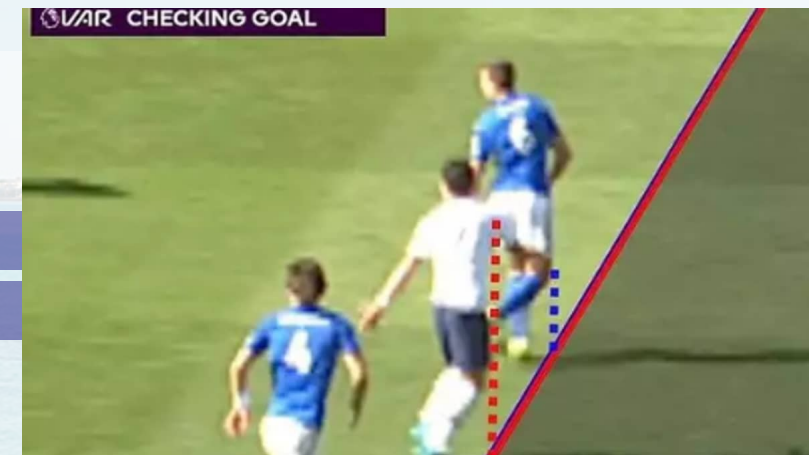
graph	1	2	3	4	5	6	7
Phoenicopteridae	3	25	1	22	10	587	81
Hello KITty	4	33	5	8	4	531	78
Goose	9	41	18	48	18	581	29
TU RACs	4	29	9	31	347	622	28
yPeoplez	8	25	25	56	149	622	40
Power Graph Girls	5	29	15	16	4	502	95
We have GD at home	3	33	0	9	4	1361	19
Beppos	5	29	0	17	110	622	29
Esri	5	38	17	20	160	689	40
We found a new Martin Gronemann!	5	27	0	10	9	593	33
HliKra	3	27	0	19	10	590	19
yWorks Team Yellow	3	25	6	9	16	622	25
Hebonk	3	29	0	14	4	583	25
????????????? keyboard, who dis?	6	27	0	17	379	1415	19
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76
The Backseats	3	29	20	59	482	567	34
RoMaMa	3	25	5	5	4	681	29
Duck	4	29	0	32	106	2038	25
Konstanz	5	29	2	12	575	1005	33

LIVE CHALLENGE

manual category



graph	1	2	3	4	5	6	7	8
Phoenicopteridae	3	25	1	22				
Hello KITty	4	33	5	8				
Goose	9	41	18	48				
TU RACs	4	29	9	31				
yPeoplez	8	25	25	56	149	622	40	
Power Graph Girls	5	29	15	16	4	502	95	
We have GD at home	3	33	0	9	4	1361	19	
Beppos	5	29	0	17	110	622	29	
Esri	5	38	17	20	160	689	40	
We found a new Martin Gronemann!	5	27	0	10	9	593	33	
HliKra	3	27	0	19	10	590	19	
yWorks Team Yellow	3	25	6	9	16	622	25	
Hebonk	3	29	0	14	4	583	25	
????????????? keyboard, who dis?	6	27	0	17	379	1415	19	
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76	
The Backseats	3	29	20	59	482	567	34	
RoMaMa	3	25	5	5	4	681	29	
Duck	4	29	0	32	106	2038	25	
Konstanz	5	29	2	12	575	1005	33	

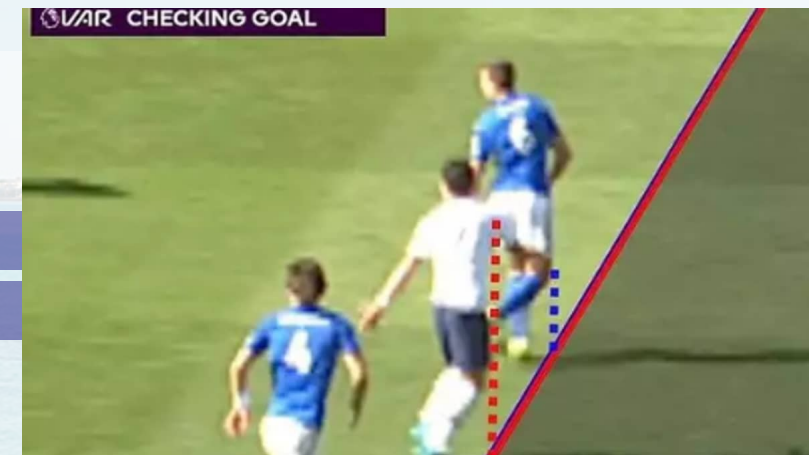


LIVE CHALLENGE

manual category

gd
23

graph	1	2	3	4	5	6	7
Phoenicopteridae	3	25	1	22			
Hello KITty	4	33	5	8			
Goose	9	41	18	48			
TU RACs	4	29	9	3			
yPeoplez	8	25	25	56	149	622	40
Power Graph Girls	5	29	15	16	4	502	95
We have GD at home	3	33	0	9	4	1361	19
Beppos	5	29	0	17	110	622	29
Esri	5	38	17	20	60	689	40
We found a new Martin Gronemann!	5	27	0	10	9	593	33
HliKra	3	27	0	19	10	590	19
yWorks Team Yellow	3	25	6	9	16	622	25
Hebonk	3	29	0	14	4	583	25
????????????? keyboard, who dis?	6	27	0	17		379	1415
Grand Theft Edge Crossing	5	35	18	21		1602	1565
The Backseats	3	29	20	59		482	567
RoMaMa	3	25	5	5	4	681	29
Duck	4	29	0	32		106	2038
Konstanz	5	29	2	12		575	1005

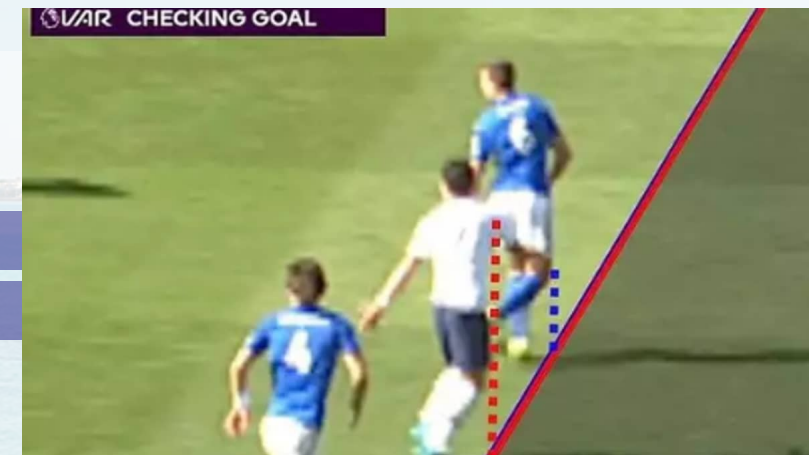


LIVE CHALLENGE

manual category

gd
23

graph	1	2	3	4	5	6	7
Phoenicopteridae	3	25	1	22	0	0	0
Hello KITty	4	33	5	8	0	0	0
Goose	9	41	18	48	0	0	0
TU RACs	4	29	9	3	0	0	0
yPeoplez	8	25	25	56	149	622	40
Power Graph Girls	5	29	15	16	4	502	95
We have GD at home	3	33	0	9	4	1361	19
Beppos	5	29	0	17	110	622	29
Esri	5	38	17	20	60	689	40
We found a new Martin Gronemann!	5	27	0	10	9	593	33
HliKra	3	27	0	19	10	590	19
yWorks Team Yellow	3	25	6	9	16	622	25
Hebonk	3	29	0	14	4	583	25
????????????? keyboard, who dis?	6	27	0	17	379	1415	19
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76
The Backseats	3	29	20	59	482	567	34
RoMaMa	3	25	5	5	4	681	29
Duck	4	29	0	32	106	2038	25
Konstanz	5	29	2	12	575	1005	33



LIVE CHALLENGE

manual category



graph 1 2 3 4 5 6 7



Alexander Dobler, Jules Wulms
We have GD at home

yPeoplez	8	25	25	56	149	622	40
Power Graph Girls	5	29	15	16	4	502	95
We have GD at home	3	33	0	9	4	1361	19
Beppos	5	29	0	17	110	622	29
Esri	5	38	17	20	160	689	40
We found a new Martin Gronemann!	5	27	0	10	9	593	33
HliKra	3	27	0	19	10	590	19
yWorks Team Yellow	3	25	6	9	16	622	25
Hebonk	3	29	0	14	4	583	25
????????????? keyboard, who dis?	6	27	0	17	379	1415	19
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76
The Backseats	3	29	20	59	482	567	34
RoMaMa	3	25	5	5	4	681	29
Duck	4	29	0	32	106	2038	25
Konstanz	5	29	2	12	575	1005	33

LIVE CHALLENGE

manual category



graph 1 2 3 4 5 6 7



Alexander Dobler, Jules Wulms

We have GD at home



yPeoplez	8	25	25					
Power Graph Girls	5	29	15					
We have GD at home	3	33	0					
Beppos	5	29	0					
Esri	5	38	17					
We found a new Martin Gronemann!	5	27	0					
HliKra	3	27	0					
yWorks Team Yellow	3	25	6					
Hebonk	3	29	0					
????????????? keyboard, who dis?	6	27	0	17	579	1415	19	
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76	
The Backseats	3	29	20	59	482	567	34	
RoMaMa	3	25	5	5	4	681	29	
Duck	4	29	0	32	106	2038	25	
Konstanz	5	29	2	12	575	1005	33	

LIVE CHALLENGE

manual category



graph	1	2	3	gd 23 OFFICIAL REVIEW					
Phoenicopteridae	3	25	1						
Hello KITty	4	33	5						
Goose	9	41	18						
TU RACs	4	29	9						
yPeoplez	8	25	25						
Power Graph Girls	5	29	15						
We have GD at home	3	33	0						
Beppos	5	29	0	17	110	022	29		
Esri	5	38	17	20	160	689	40		
We found a new Martin Gronemann!	5	27	0	10	9	593	33		
HliKra	3	27	0	19	10	590	19		
yWorks Team Yellow	3	25	6	9	16	622	25		
Hebonk	3	29	0	14	4	583	25		
????????????? keyboard, who dis?	6	27	0	17	379	1415	19		
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76		
The Backseats	3	29	20	59	482	567	34		
RoMaMa	3	25	5	5	4	681	29		
Duck	4	29	0	32	106	2038	25		
Konstanz	5	29	2	12	575	1005	33		

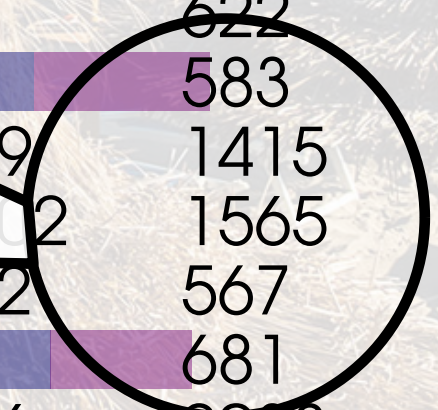


LIVE CHALLENGE

manual category



graph	1	2	3				
yPeoplez	8	25	25				
Power Graph Girls	5	29	15				
We have GD at home	3	33	0				
Beppos	5	29	0	17	110	022	29
Esri	5	38	17	20	160	689	40
We found a new Martin Gronemann!	5	27	0	10	9	593	33
HliKra	3	27	0	19	10	590	19
yWorks Team Yellow	3	25	6	9	16	622	25
Hebonk	3	29	0	14	4	583	25
????????????? keyboard, who dis?	6	27	0	17	379	1415	19
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76
The Backseats	3	29	20	59	482	567	34
RoMaMa	3	25	5	5	4	681	29
Duck	4	29	0	32	106	2038	25
Konstanz	5	29	2	12	575	1005	33



LIVE CHALLENGE

manual category



graph	1	2	3
yPeoplez	8	25	25
Power Graph Girls	5	29	15
We have GD at home	3	33	0
Beppos	5	29	0
Esri	5	38	17
We found a new Martin Gronemann!	5	27	0
HliKra	3	27	0
yWorks Team Yellow	3	25	6
Hebonk	3	29	0
????????????? keyboard, who dis?	6	27	0
Grand Theft Edge Crossing	5	35	18
The Backseats	3	29	20
RoMaMa	3	25	5
Duck	4	29	0
Konstanz	5	29	2



17	110	022	29
20	160	689	40
10	9	593	33
19	10	590	19
9	16	622	25
14	4	583	25
17	379	1415	19
21	1602	1565	76
59	482	567	34
5	4	681	29
32	106	2038	25
12	575	1005	33



LIVE CHALLENGE

manual category



graph 1 2 3 4 5 6 7



Ro Ganian, Ma Löffler, Ma Nöllenburg
RoMaMa

yPeoplez	8	25	25	56	149	622	40
Power Graph Girls	5	29	15	16	4	502	95
We have GD at home	3	33	0	9	4	1361	19
Beppos	5	29	0	17	110	622	29
Esri	5	38	17	20	160	689	40
We found a new Martin Gronemann!	5	27	0	10	9	593	33
HliKra	3	27	0	19	10	590	19
yWorks Team Yellow	3	25	6	9	16	622	25
Hebonk	3	29	0	14	4	583	25
????????????? keyboard, who dis?	6	27	0	17	379	1415	19
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76
The Backseats	3	29	20	59	482	567	34
RoMaMa	3	25	5	5	4	681	29
Duck	4	29	0	32	106	2038	25
Konstanz	5	29	2	12	575	1005	33

LIVE CHALLENGE

manual category



graph 1 2 3 4 5 6 7



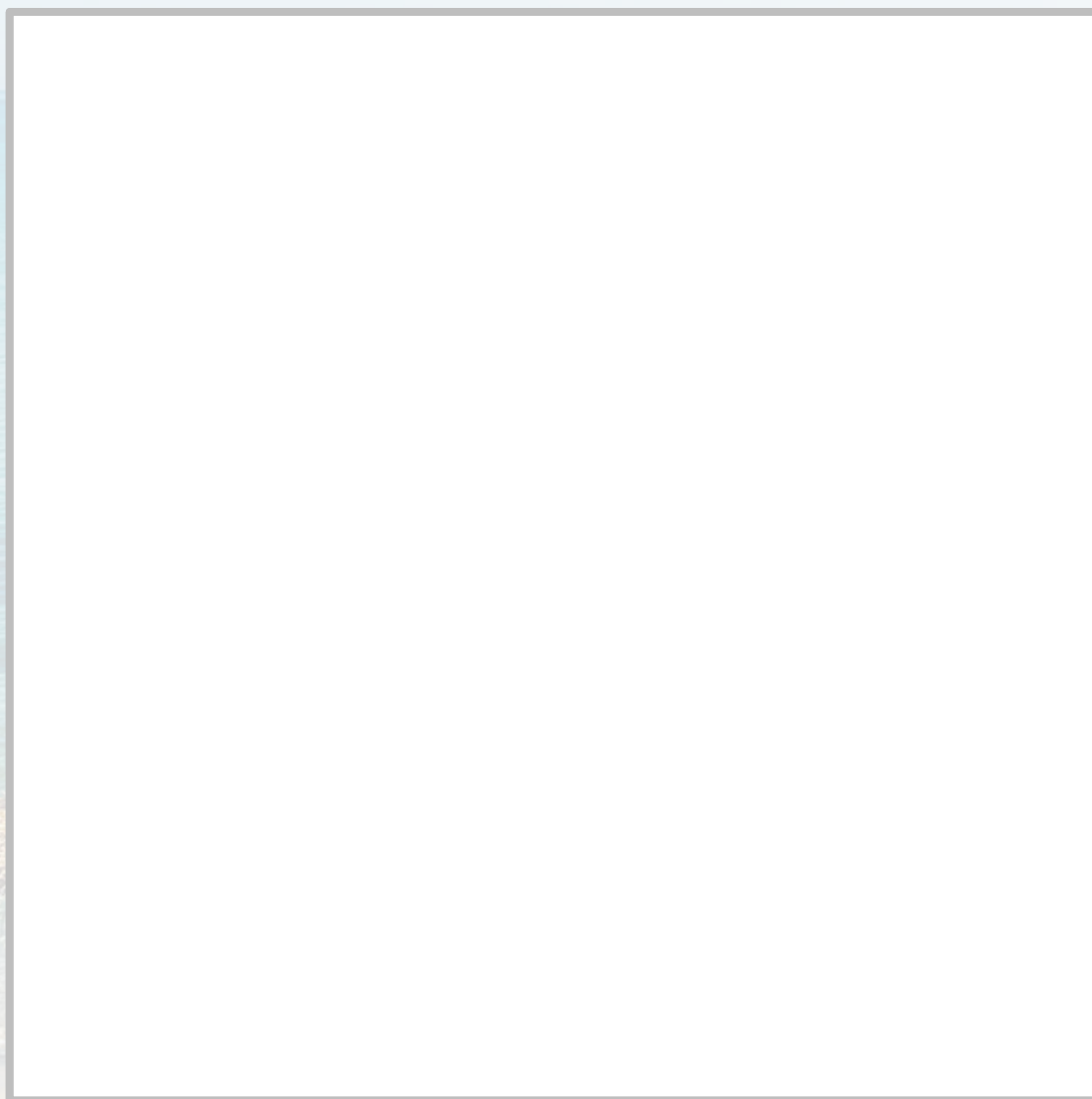
Tim Hegemann, Florentina Voboril, Johannes Zink

Hebonk

yPeoplez	8	25	25	56	149	622	40
Power Graph Girls	5	29	15	16	4	502	95
We have GD at home	3	33	0	9	4	1361	19
Beppos	5	29	0	17	110	622	29
Esri	5	38	17	20	160	689	40
We found a new Martin Gronemann!	5	27	0	10	9	593	33
HliKra	3	27	0	19	10	590	19
yWorks Team Yellow	3	25	6	9	16	622	25
Hebonk	3	29	0	14	4	583	25
????????????? keyboard, who dis?	6	27	0	17	379	1415	19
Grand Theft Edge Crossing	5	35	18	21	1602	1565	76
The Backseats	3	29	20	59	482	567	34
RoMaMa	3	25	5	5	4	681	29
Duck	4	29	0	32	106	2038	25
Konstanz	5	29	2	12	575	1005	33

LIVE CHALLENGE

The Graphs



input

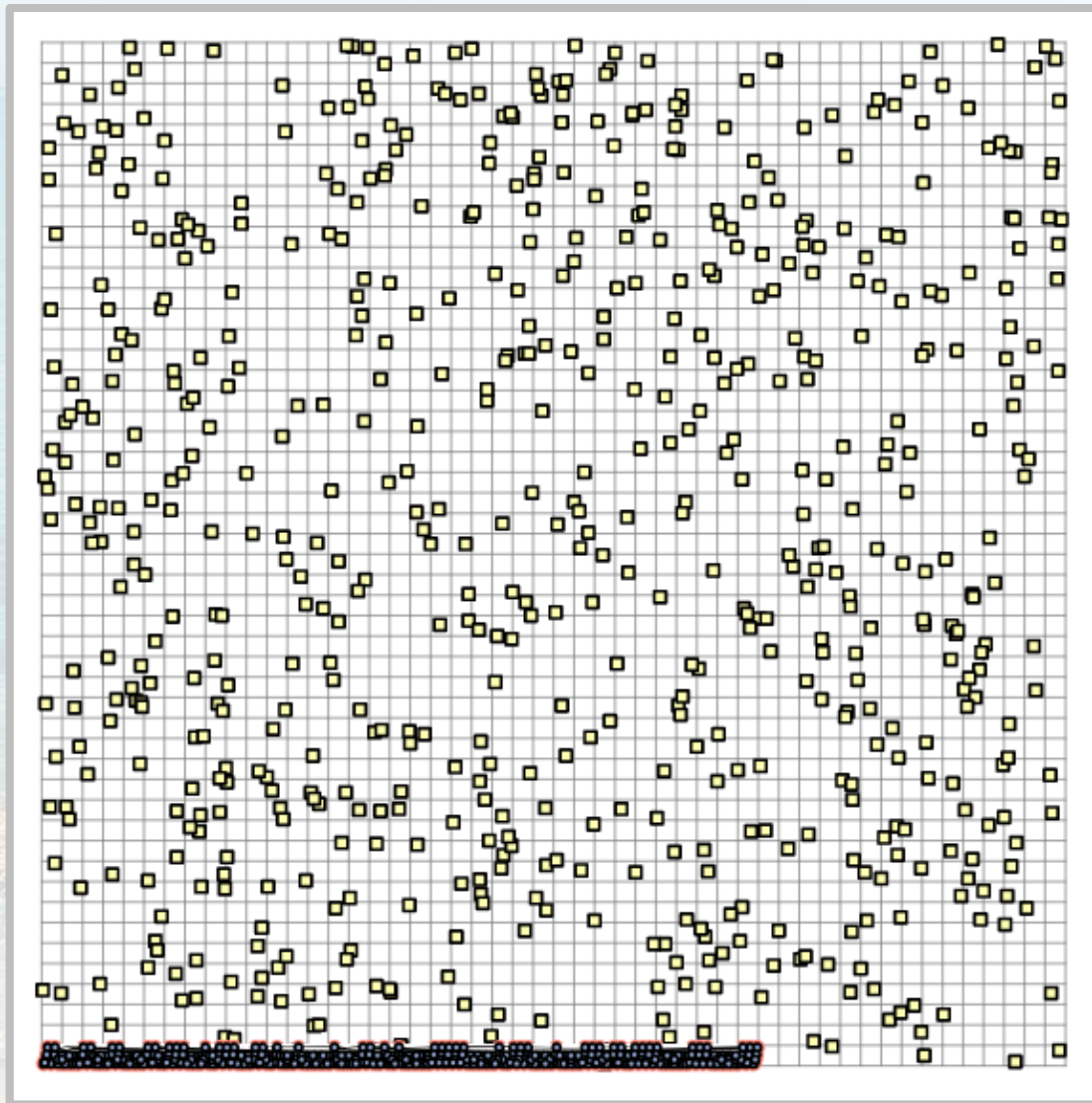


best automatic

graph 8

LIVE CHALLENGE

The Graphs



input

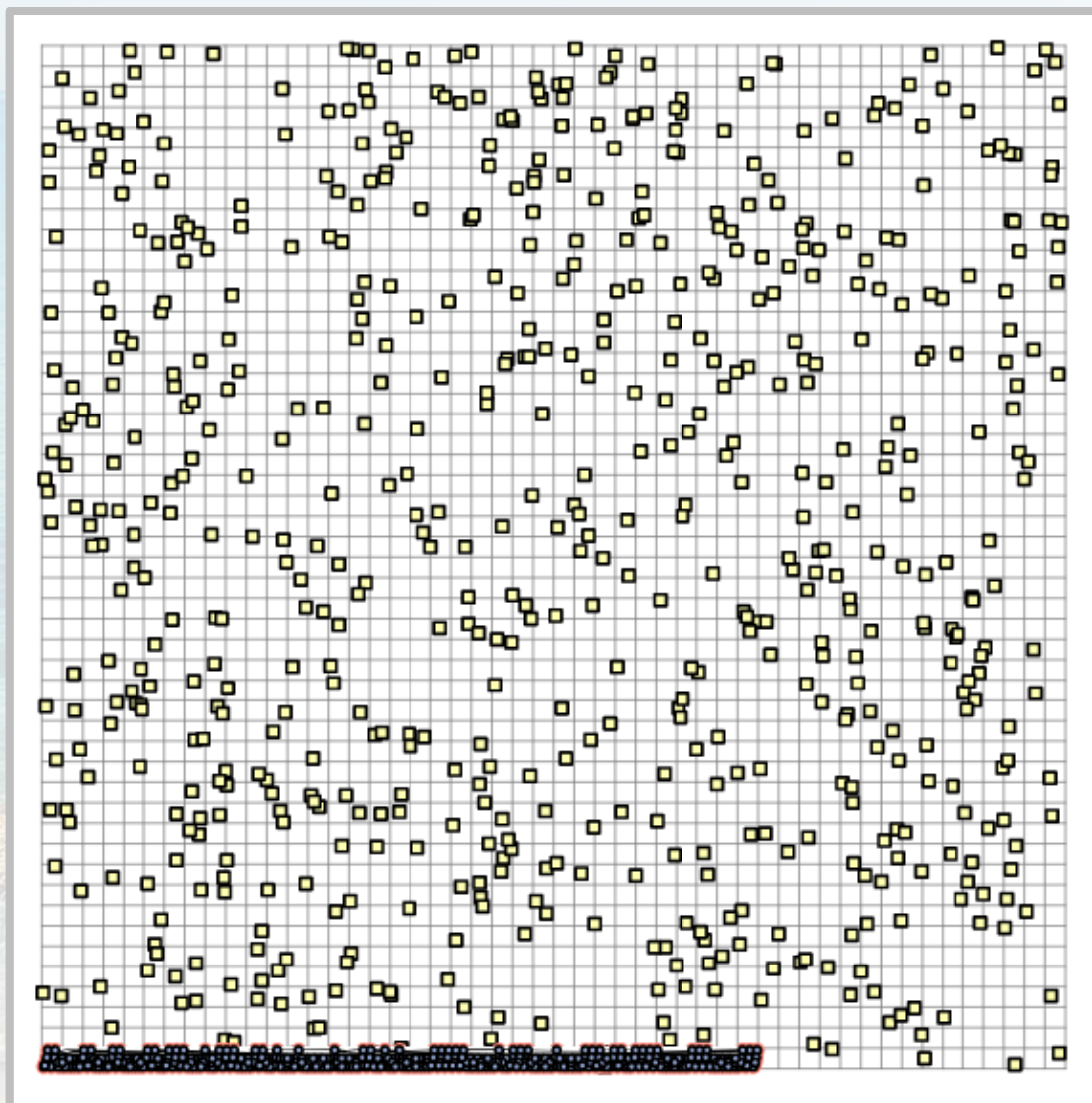
graph 8



best automatic

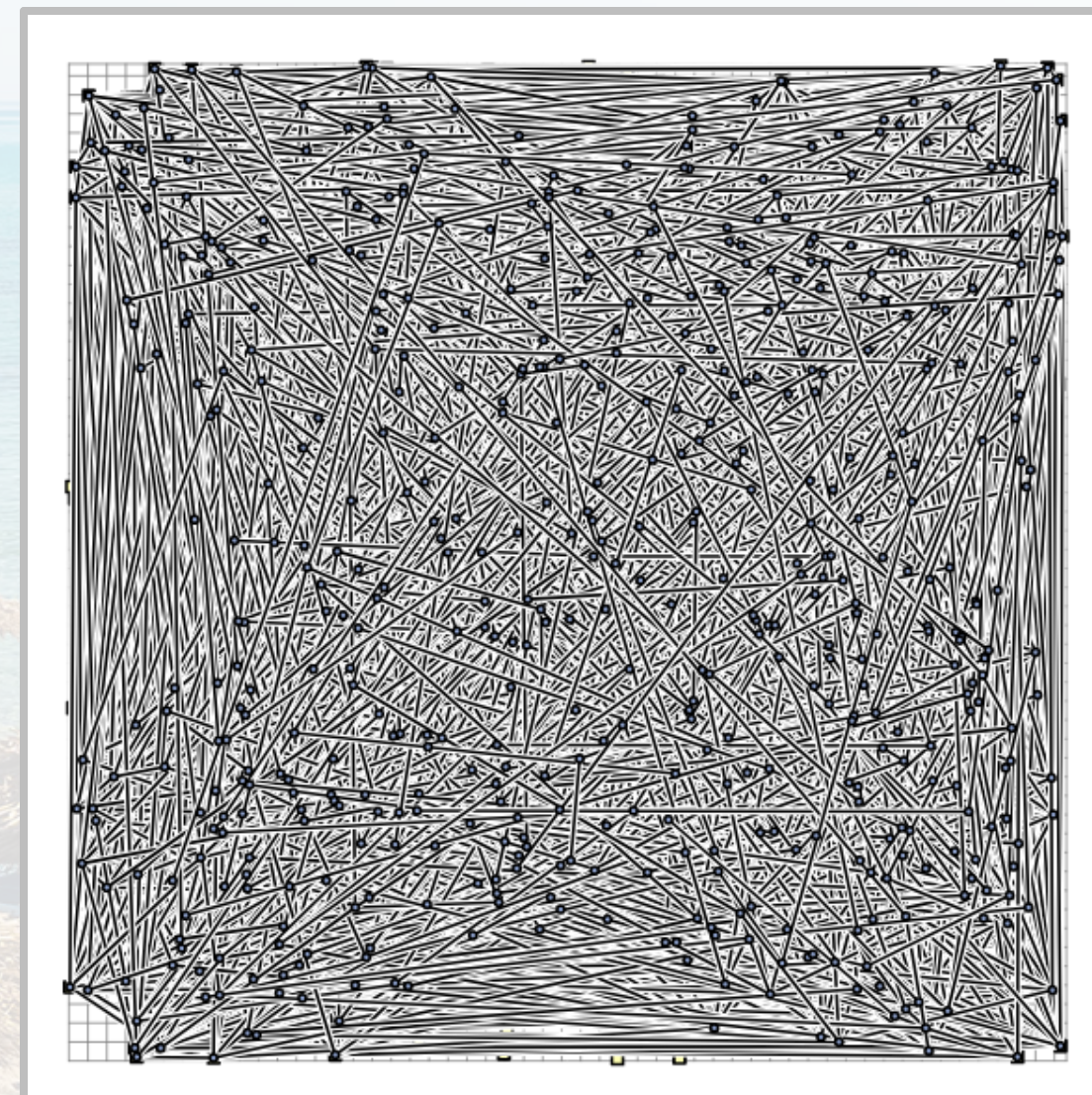
LIVE CHALLENGE

The Graphs



input

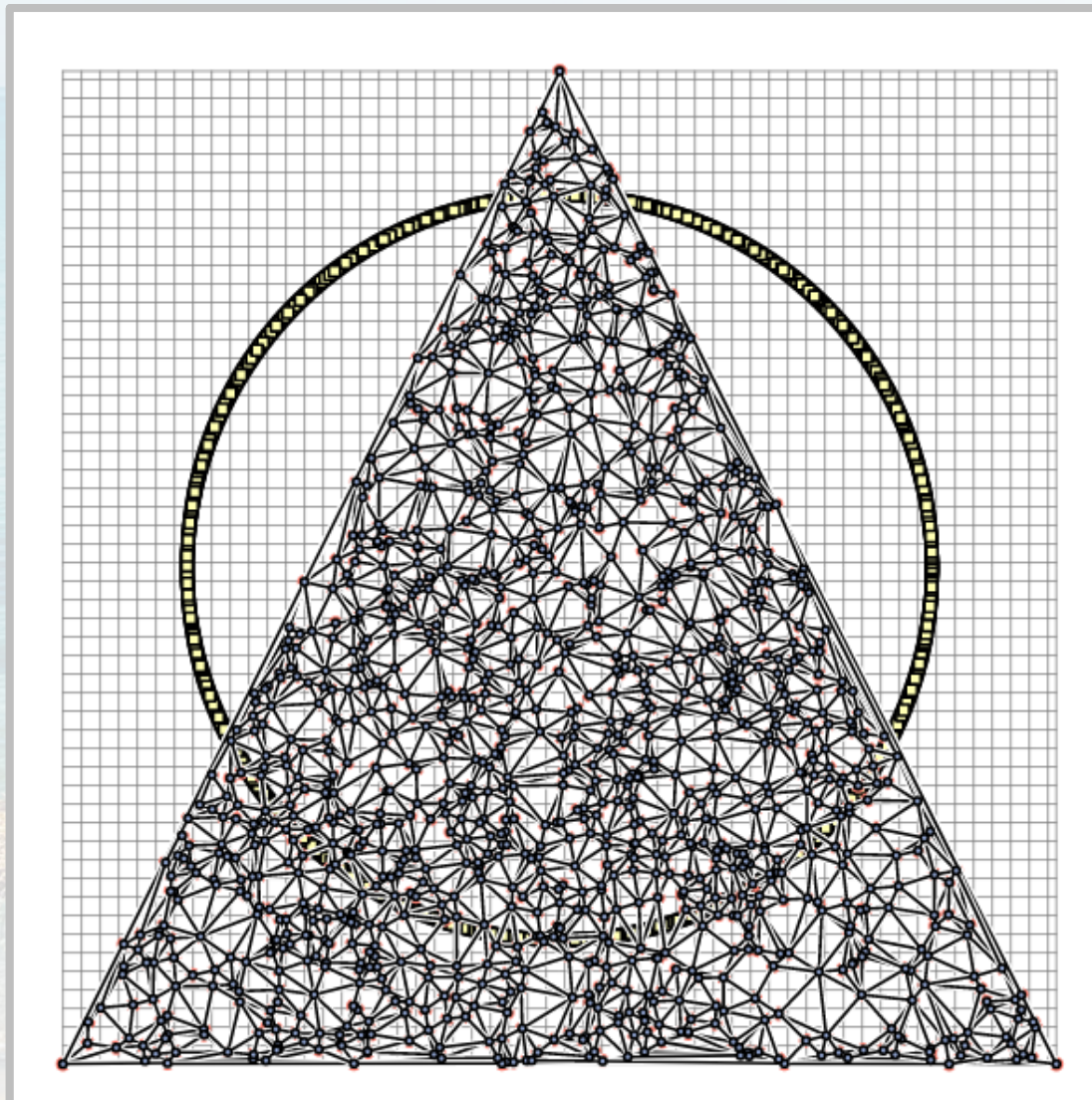
graph **8**



best automatic
OMEGA
4654687 crossings

LIVE CHALLENGE

The Graphs



input

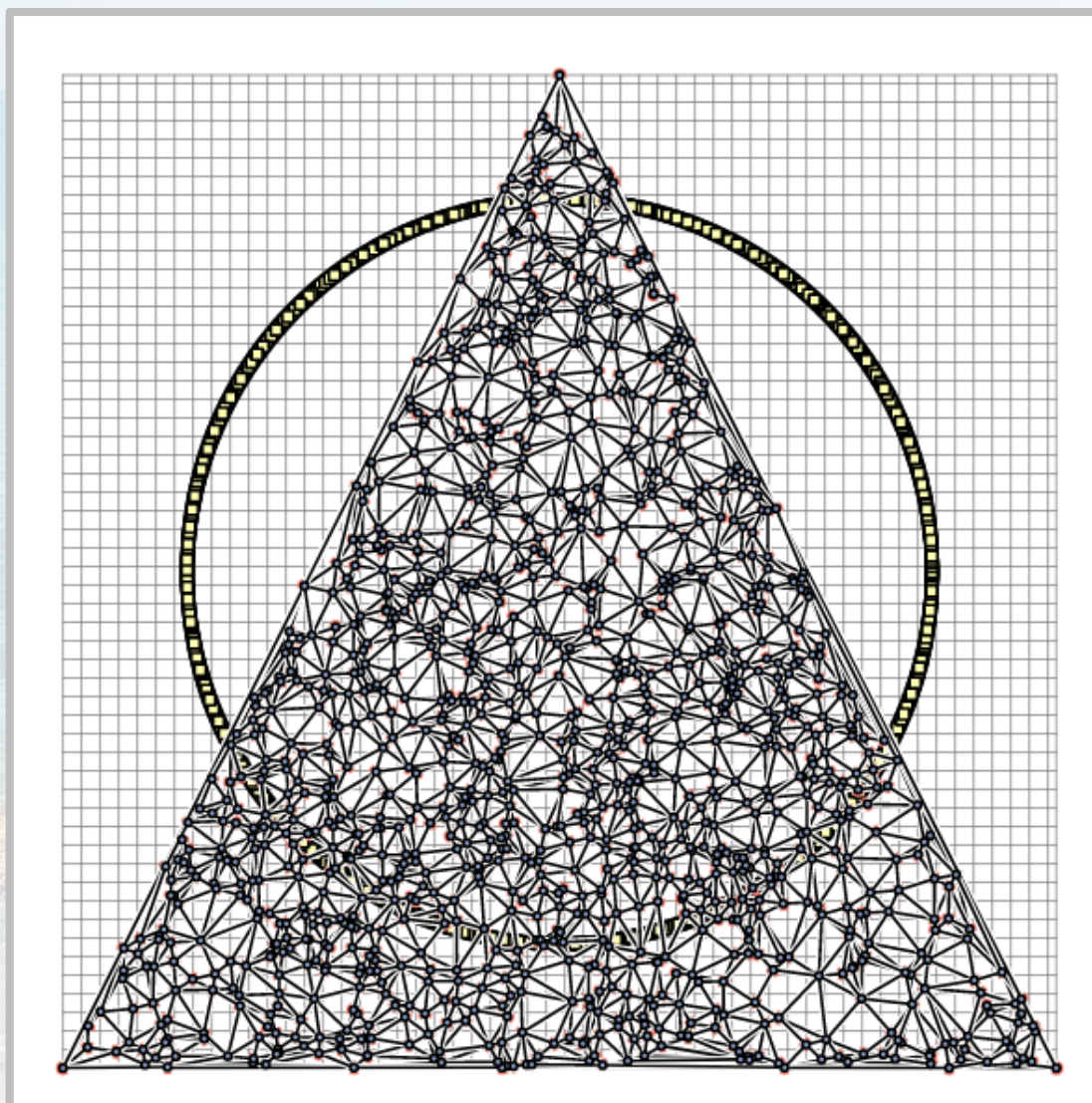
graph 9



best automatic

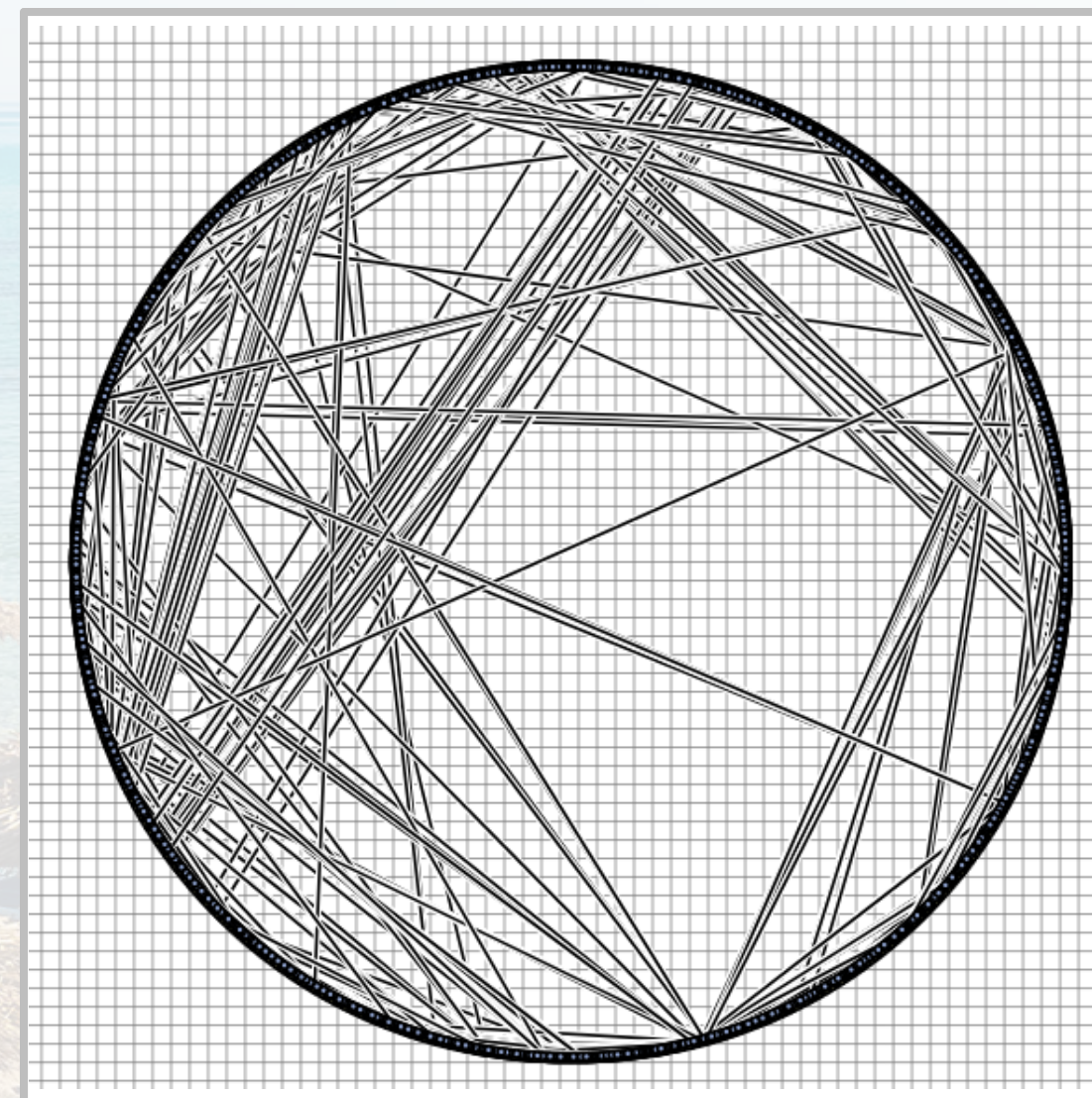
LIVE CHALLENGE

The Graphs



input

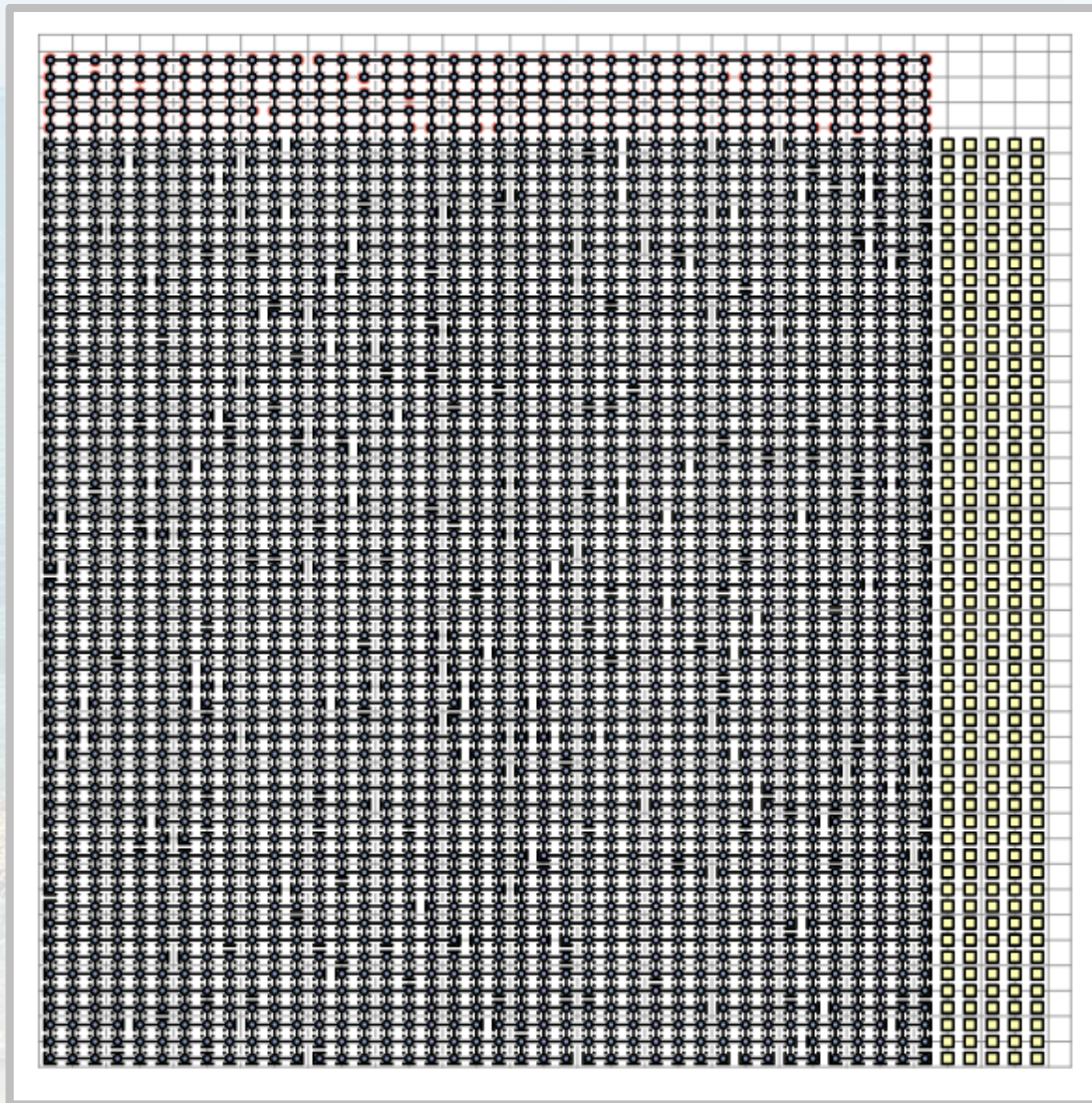
graph 9



best automatic
LookMumNoCrossing
51178 crossings

LIVE CHALLENGE

The Graphs



input

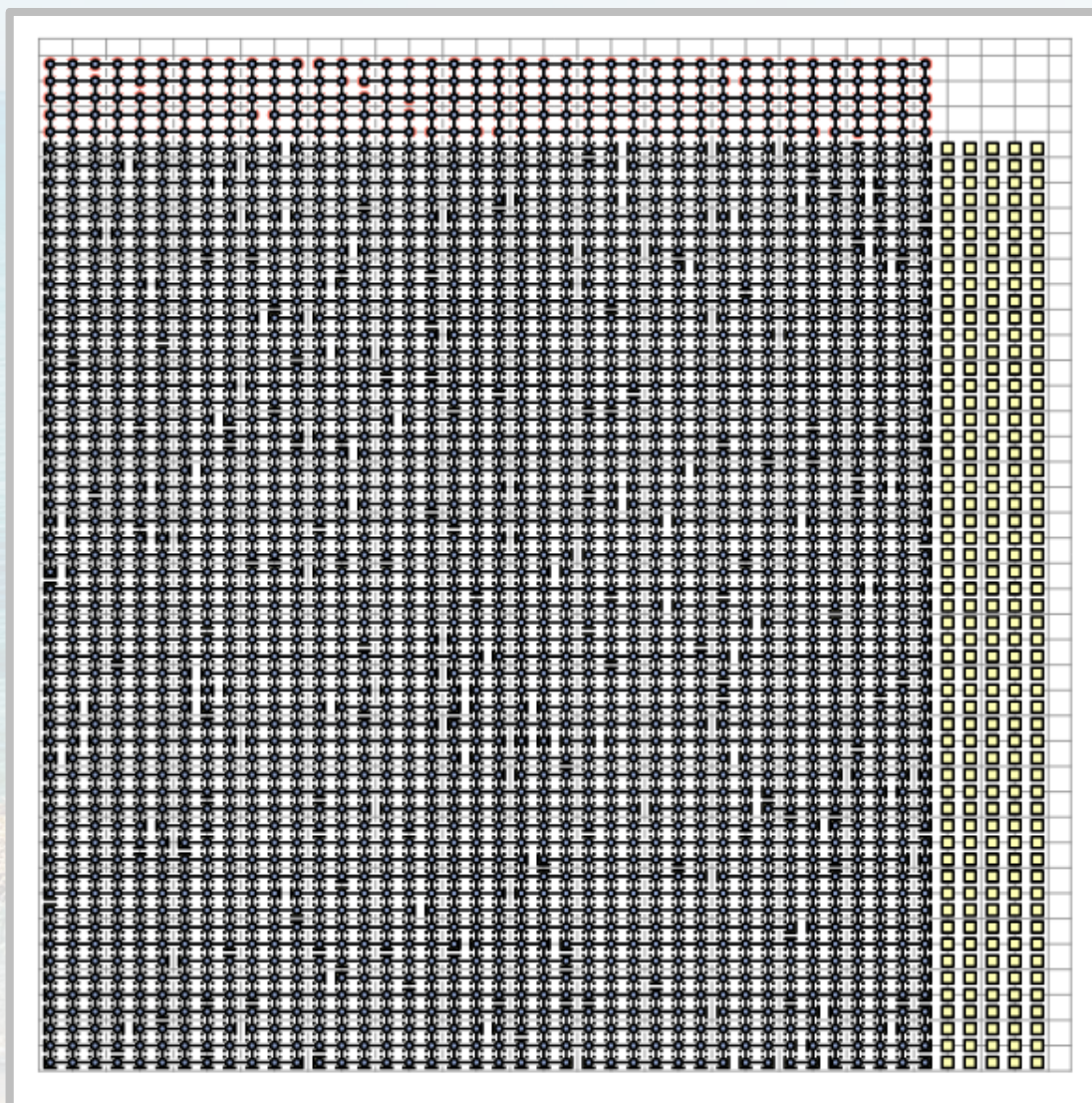
graph **10**



best automatic

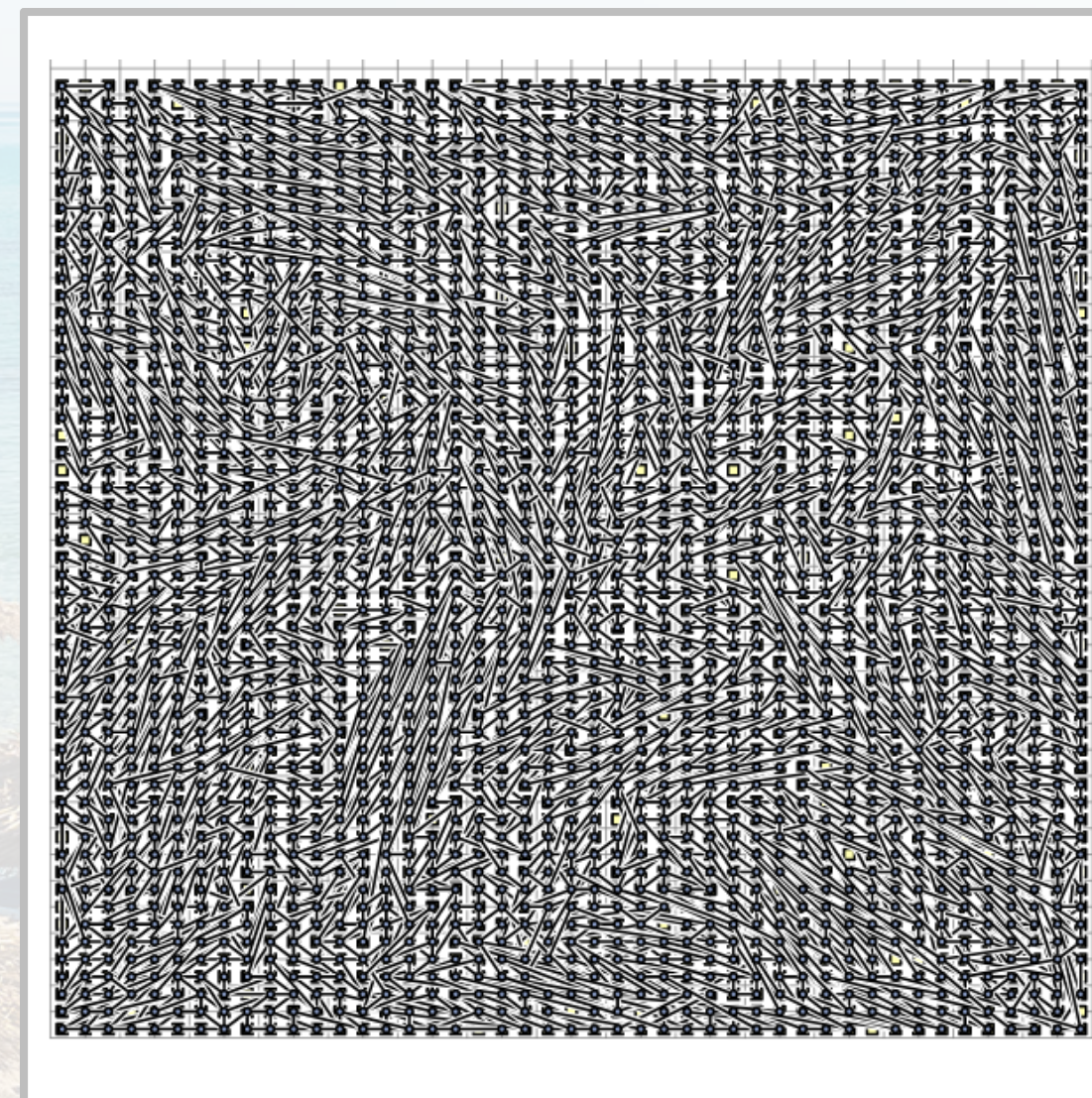
LIVE CHALLENGE

The Graphs



input

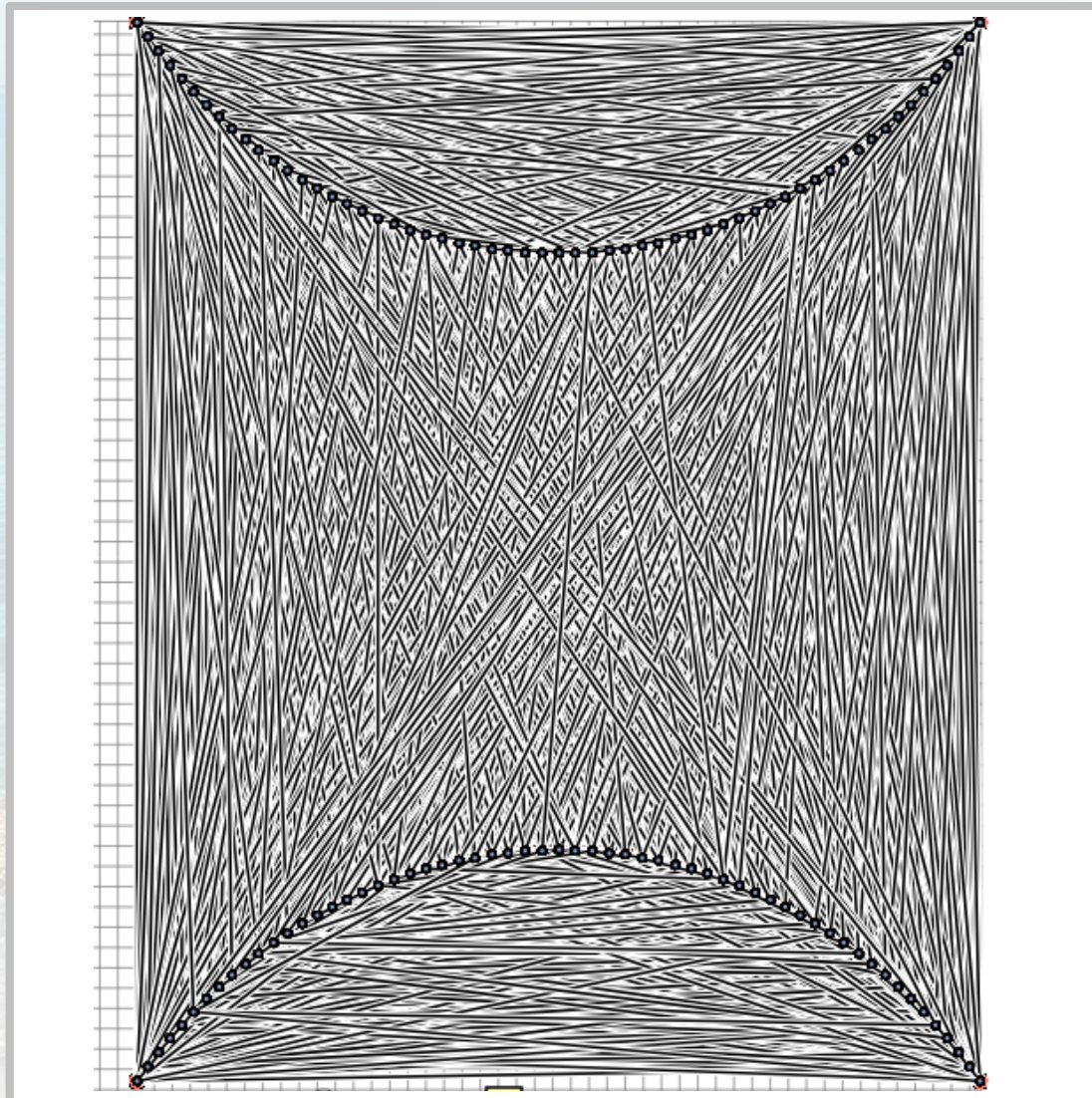
graph **10**



best automatic
OMeGA
3994 crossings

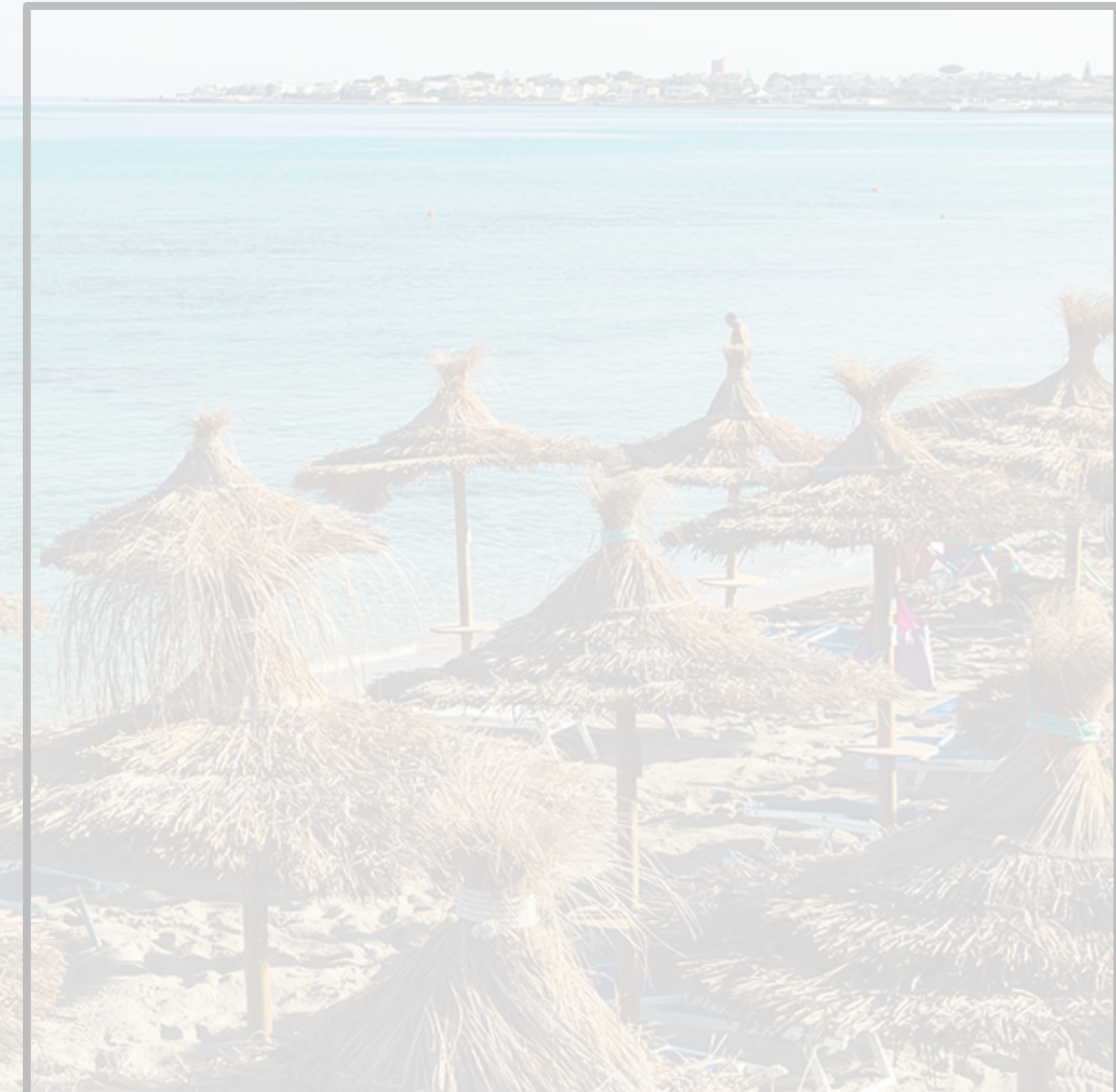
LIVE CHALLENGE

The Graphs



input

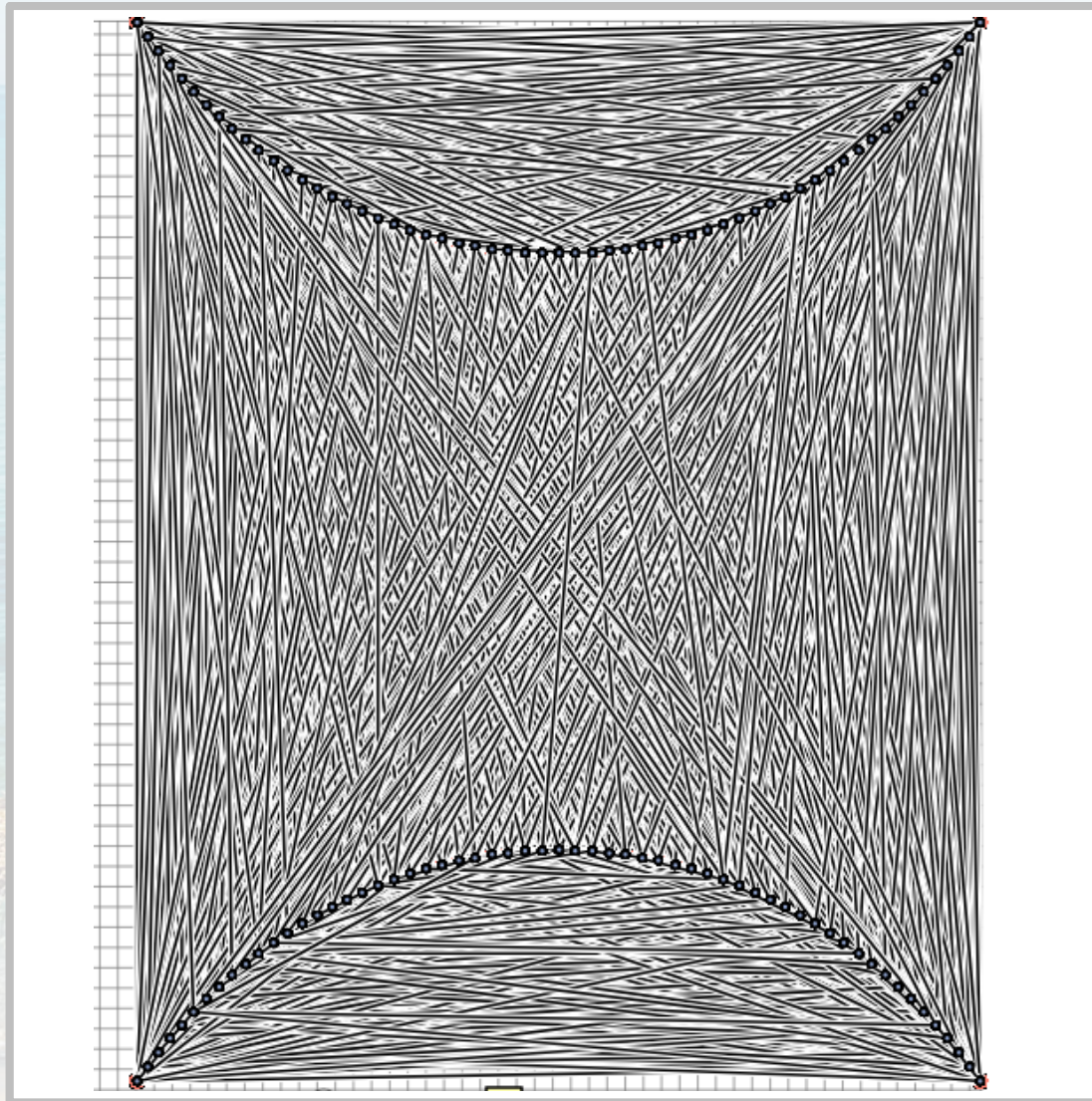
graph **11**



best automatic

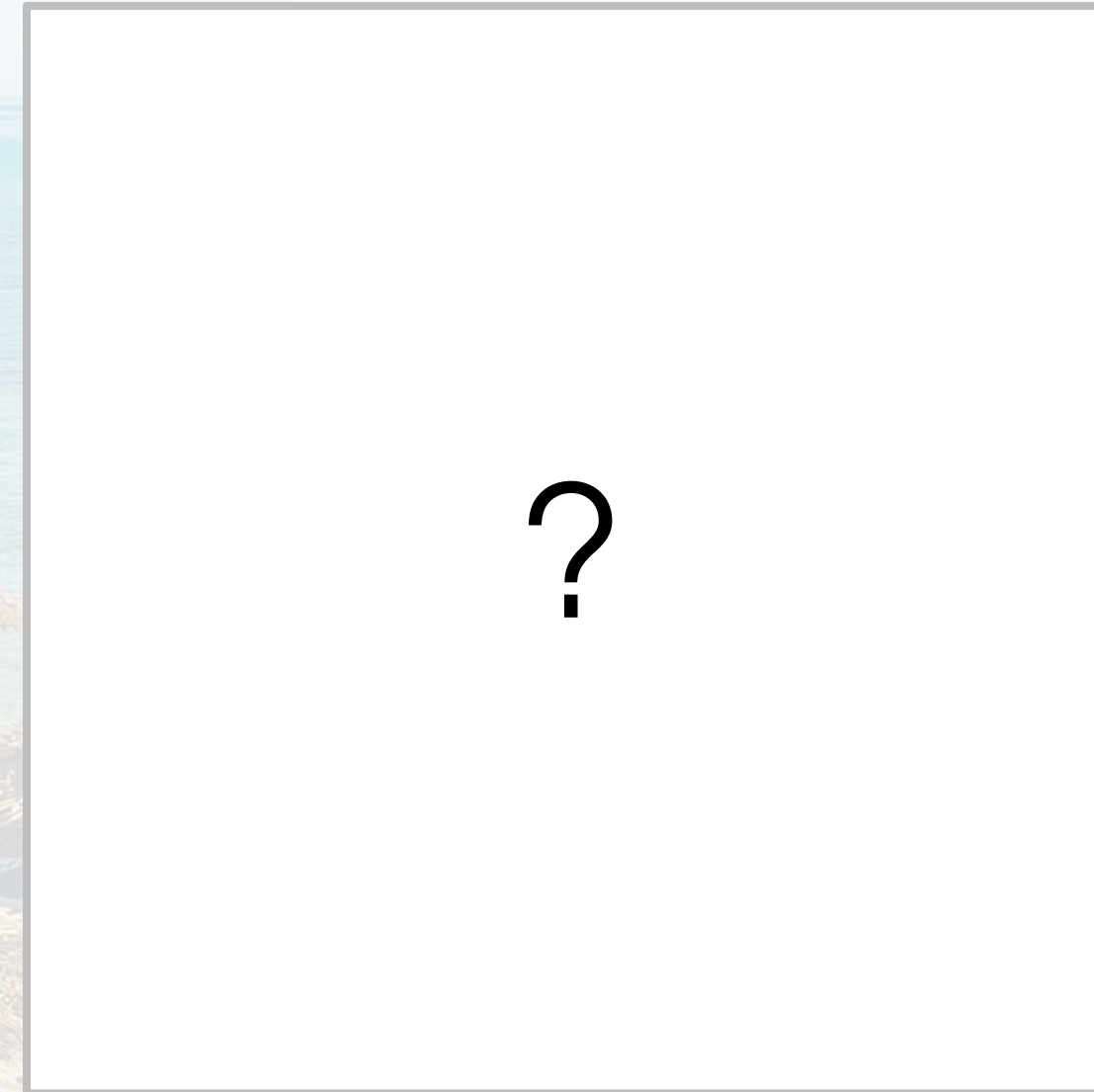
LIVE CHALLENGE

The Graphs



input

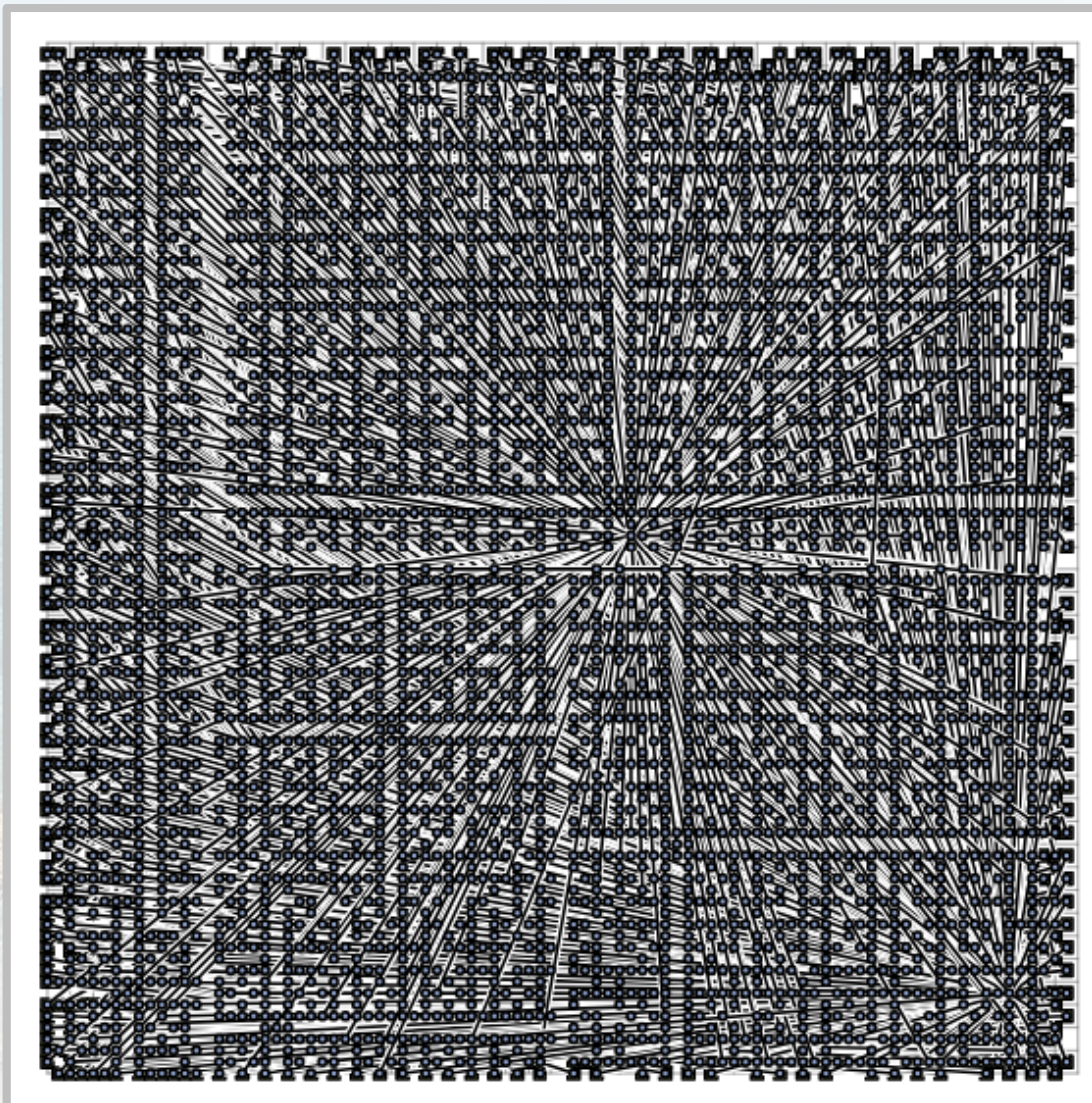
graph **11**



best automatic

LIVE CHALLENGE

The Graphs



input

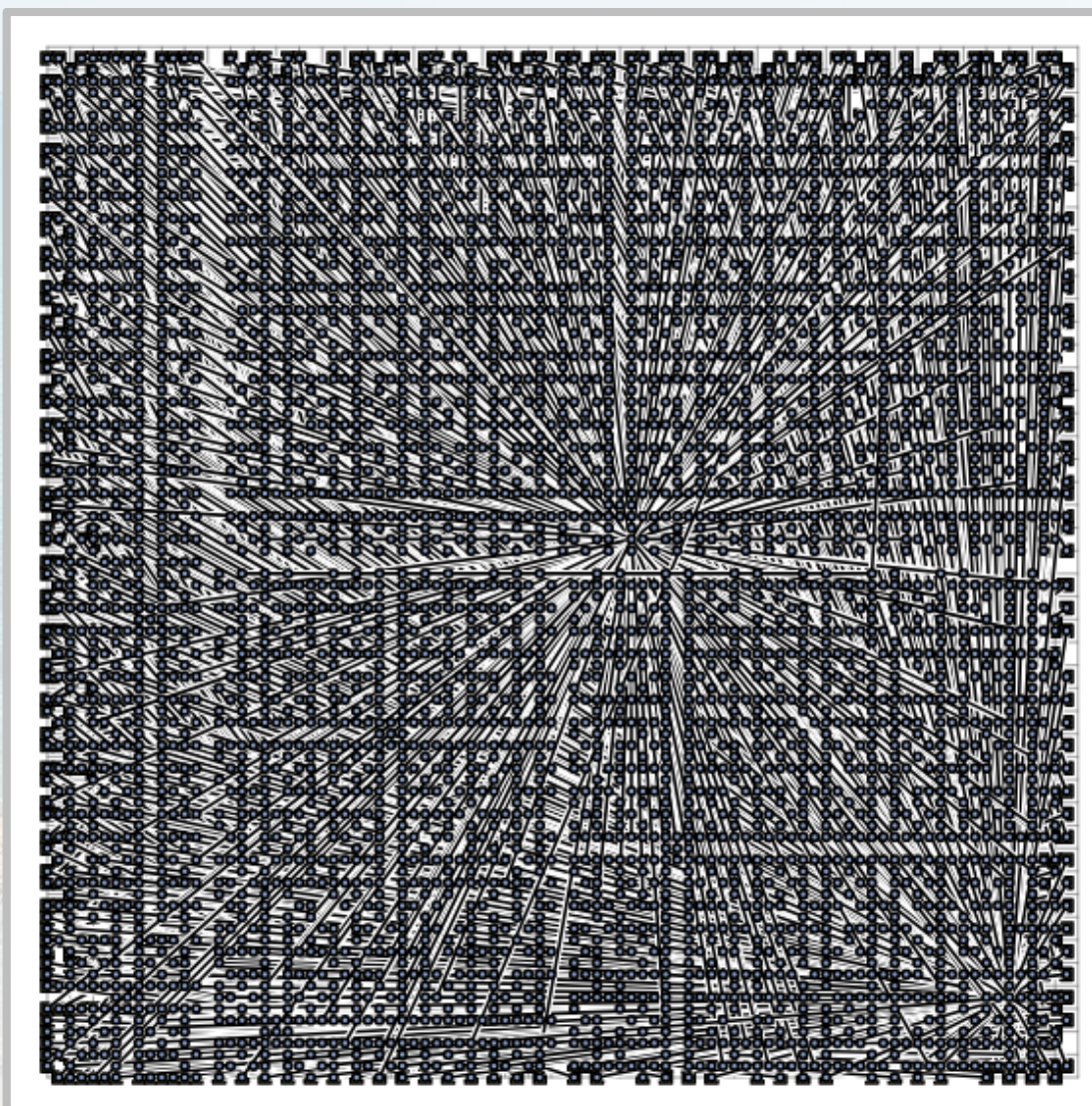
graph **12**



best automatic

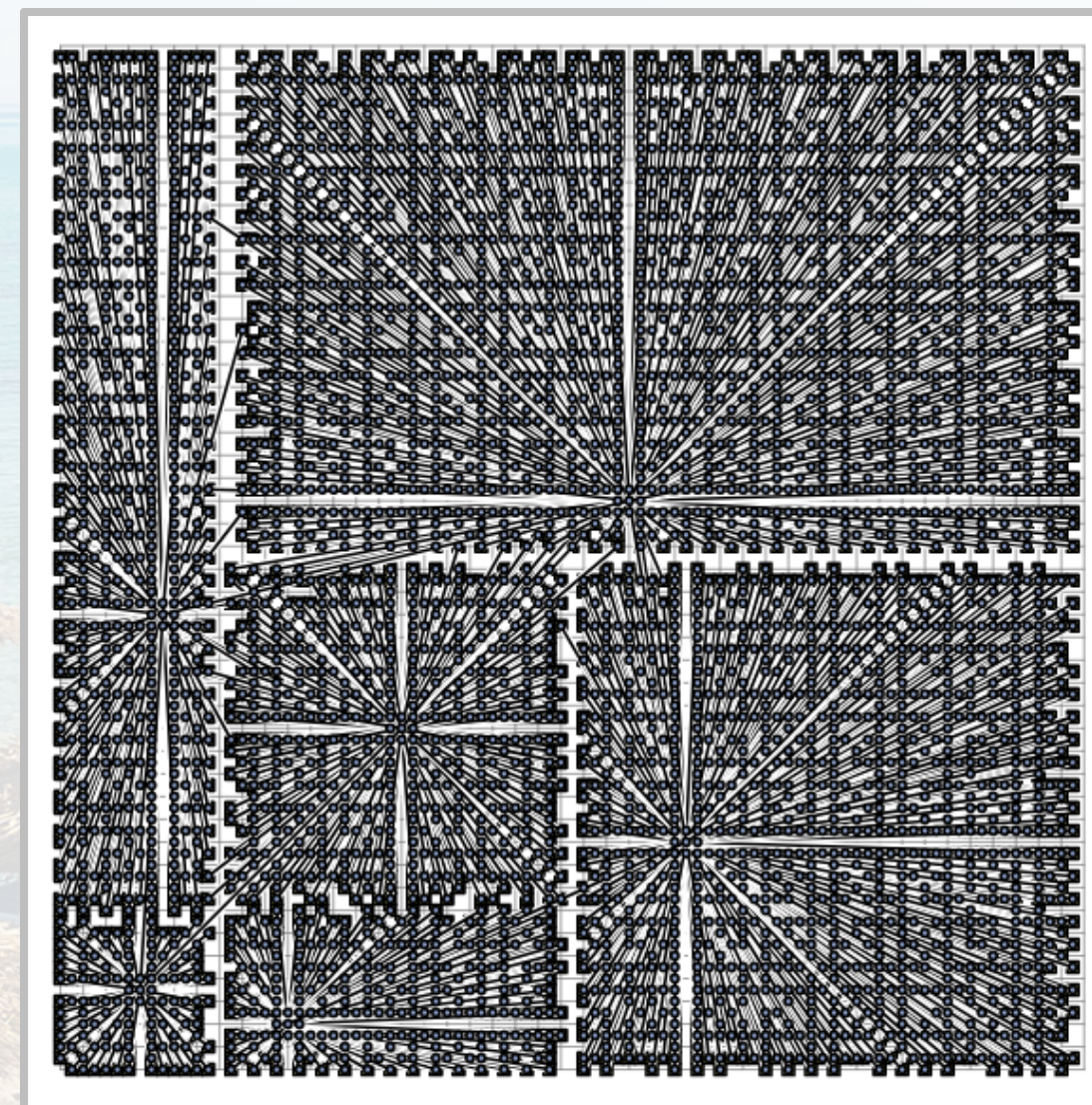
LIVE CHALLENGE

The Graphs



input

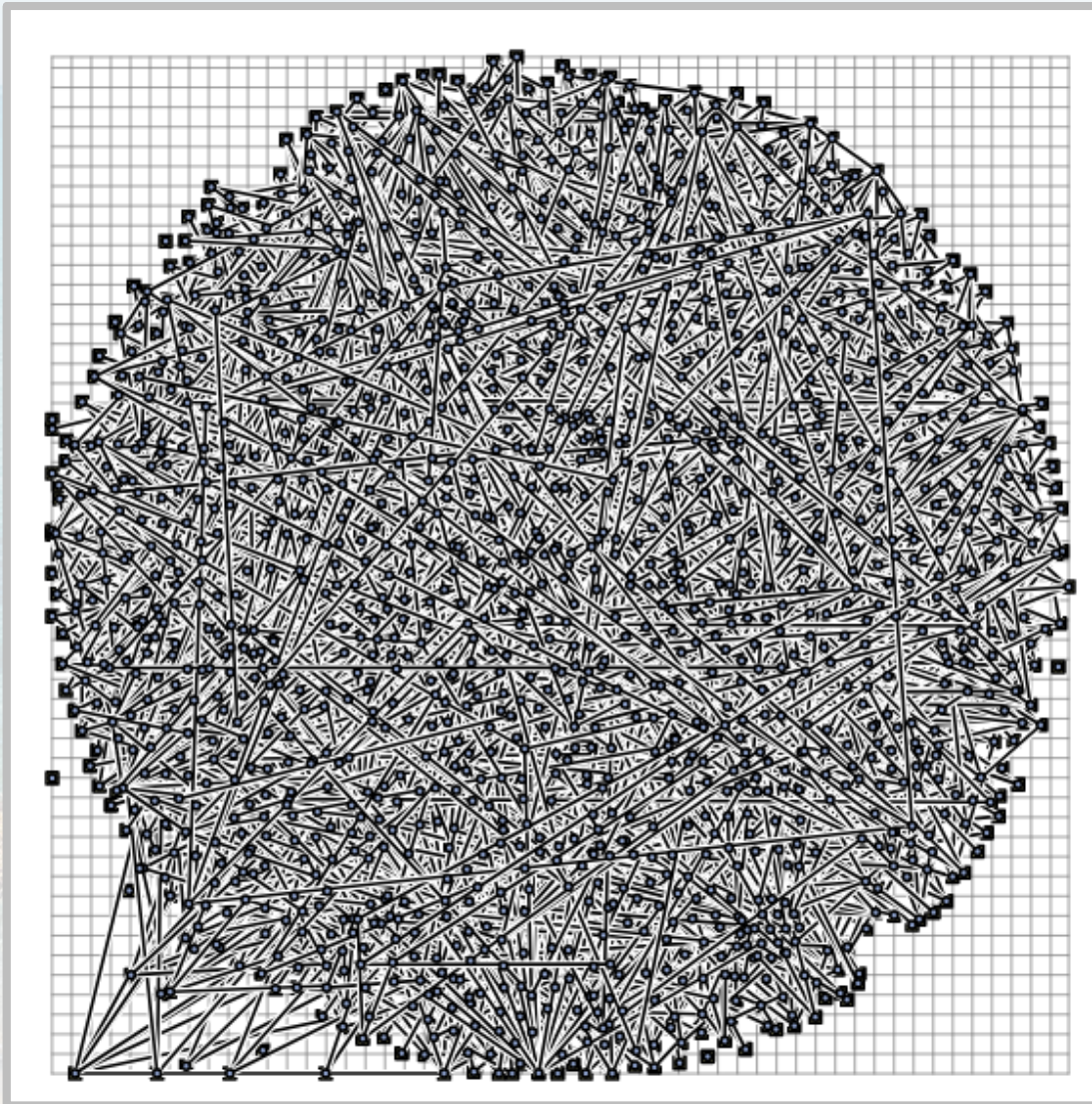
graph **12**



best automatic
OMeGA
14288 crossings

LIVE CHALLENGE

The Graphs



input

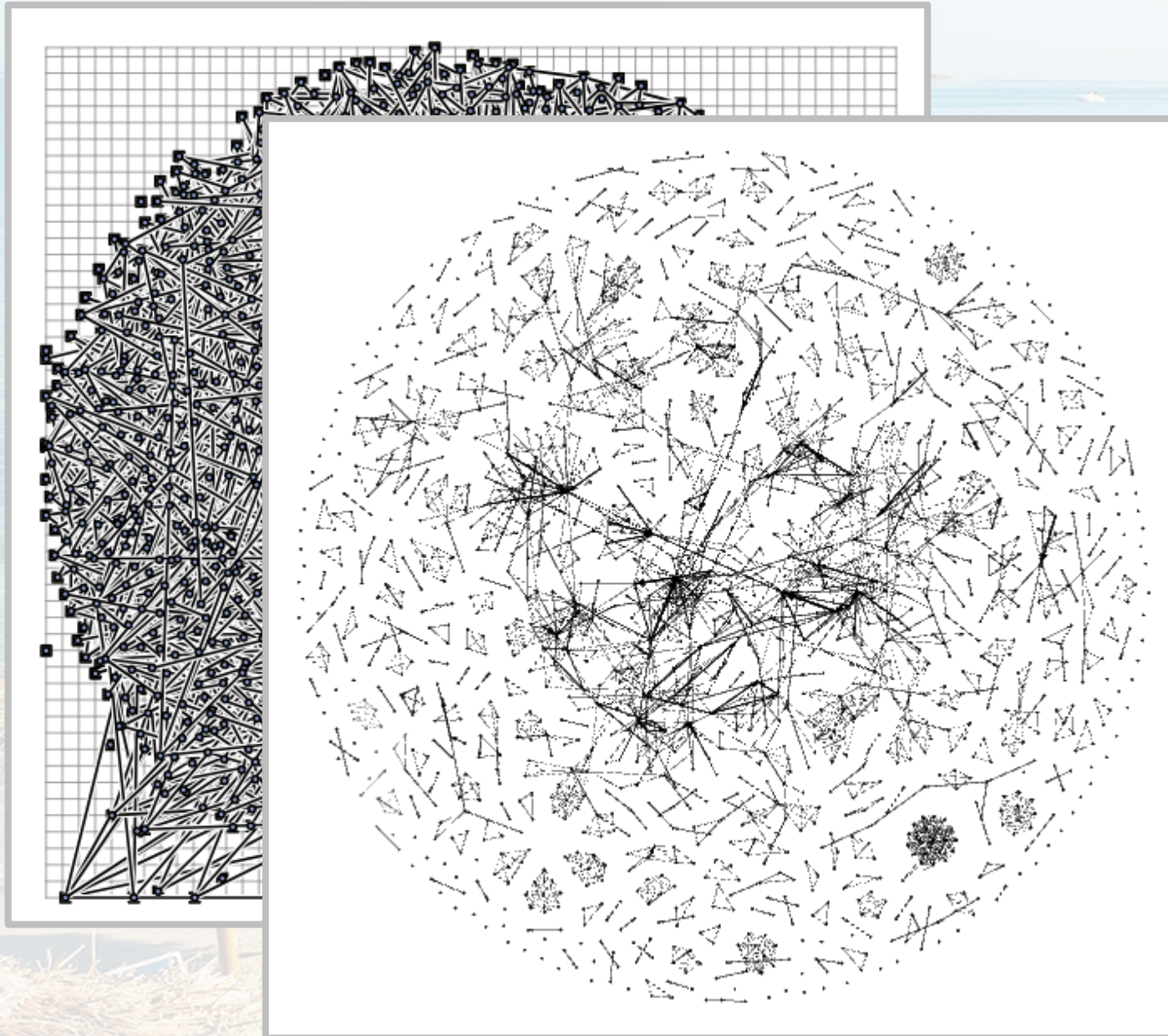
graph **13**



best automatic

LIVE CHALLENGE

The Graphs

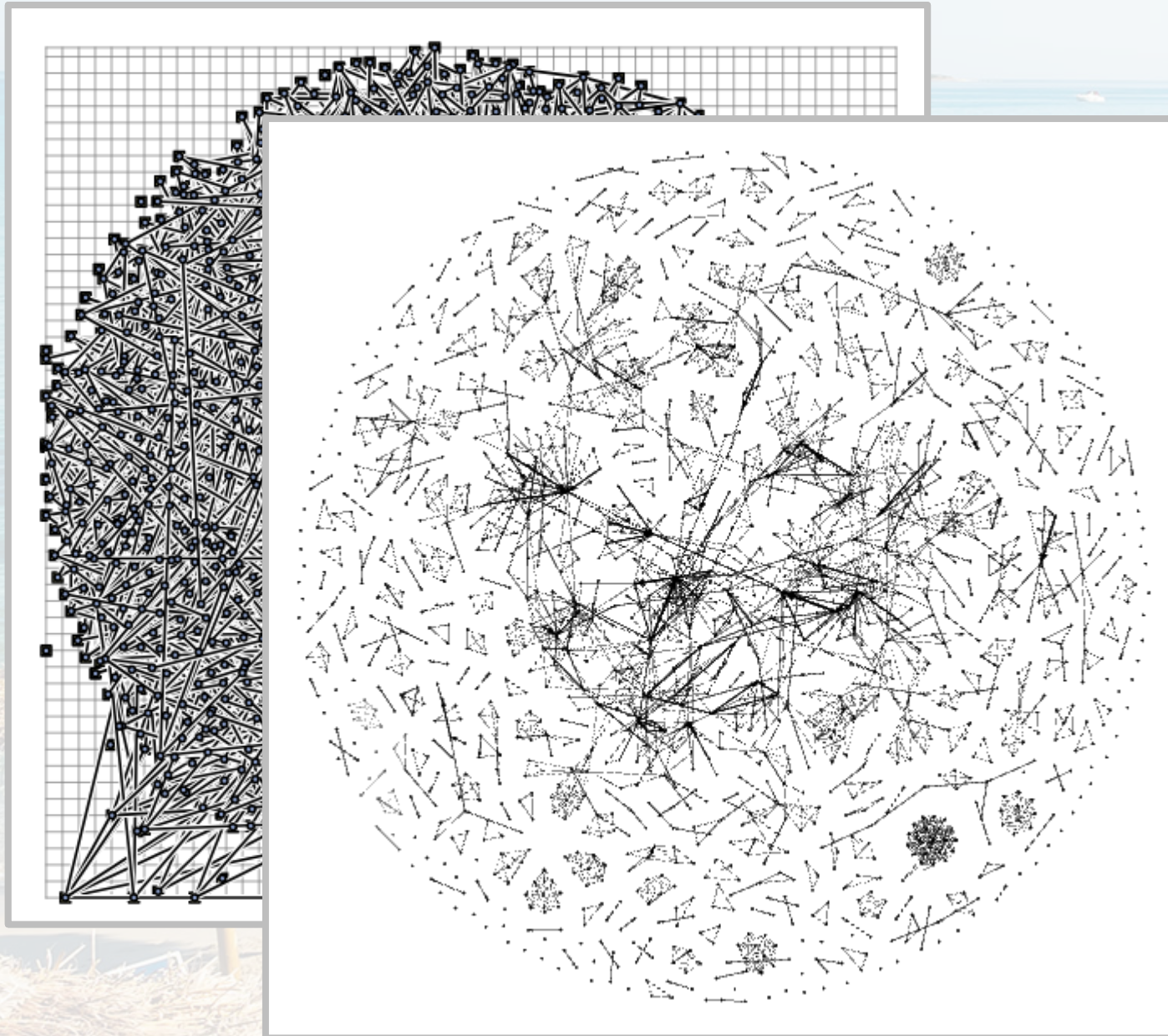


best automatic

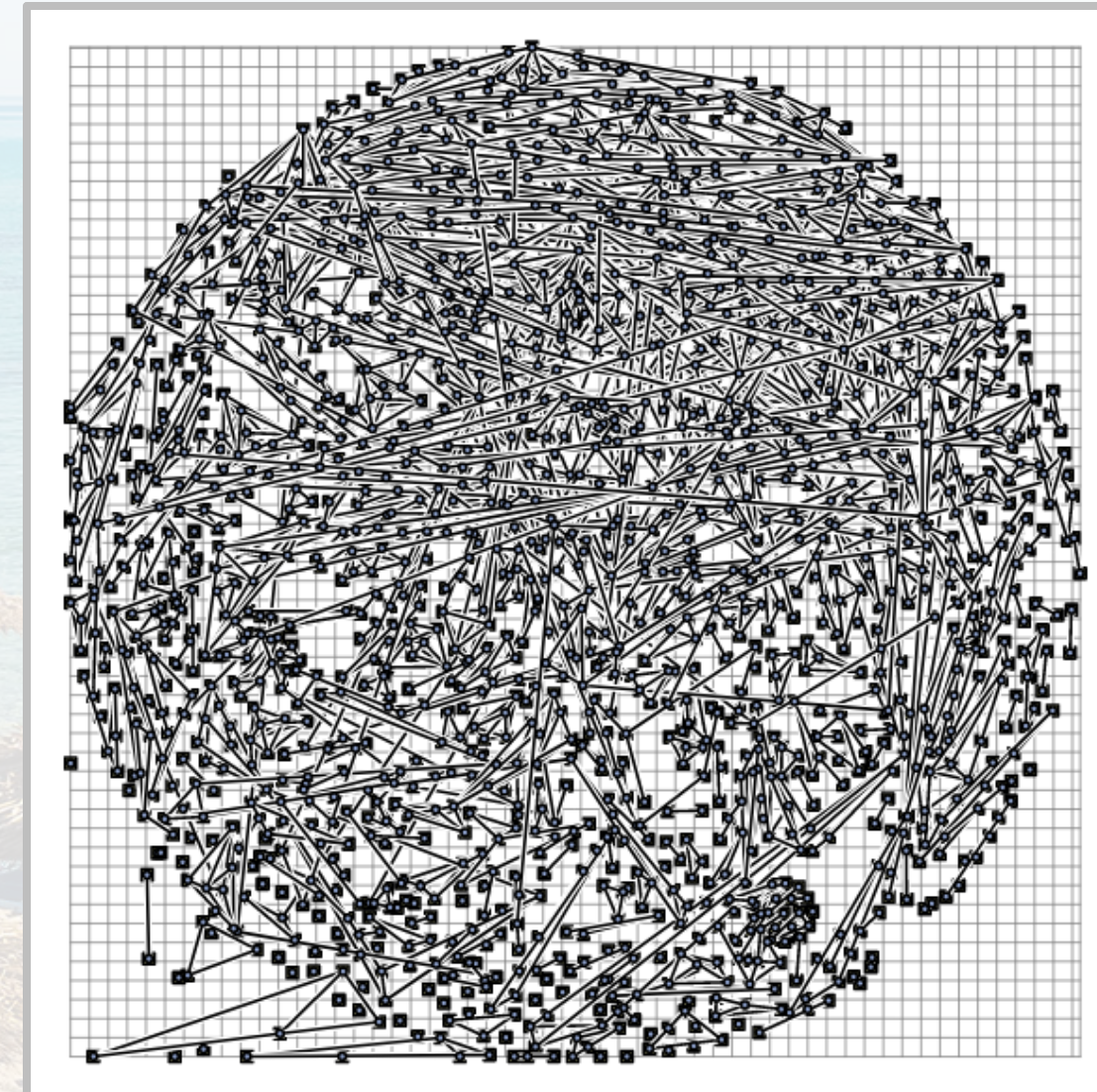
graph **13**

LIVE CHALLENGE

The Graphs



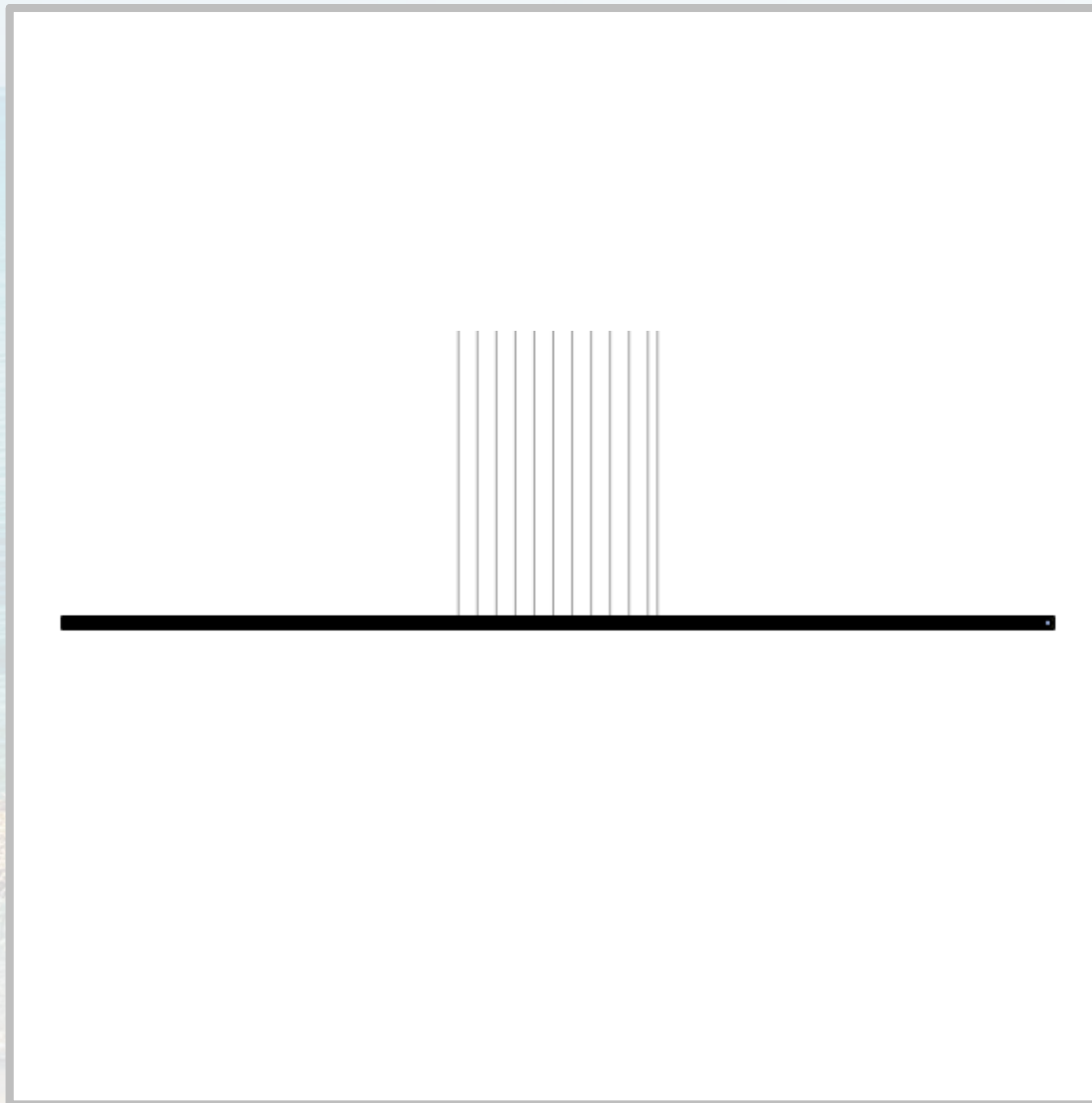
graph **13**



best automatic
Minamo
18943 crossings

LIVE CHALLENGE

The Graphs



input

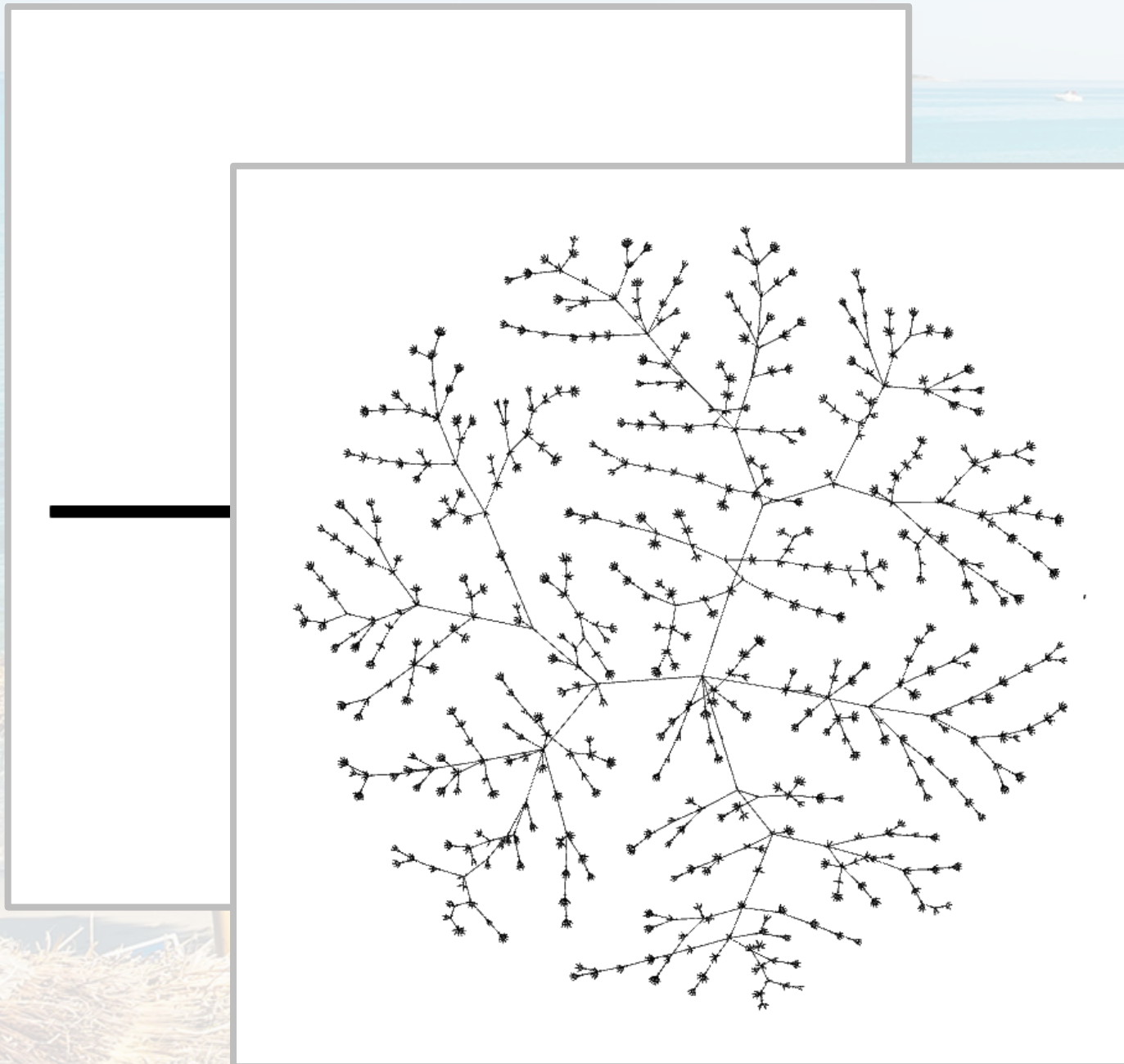


best automatic

graph **14**

LIVE CHALLENGE

The Graphs



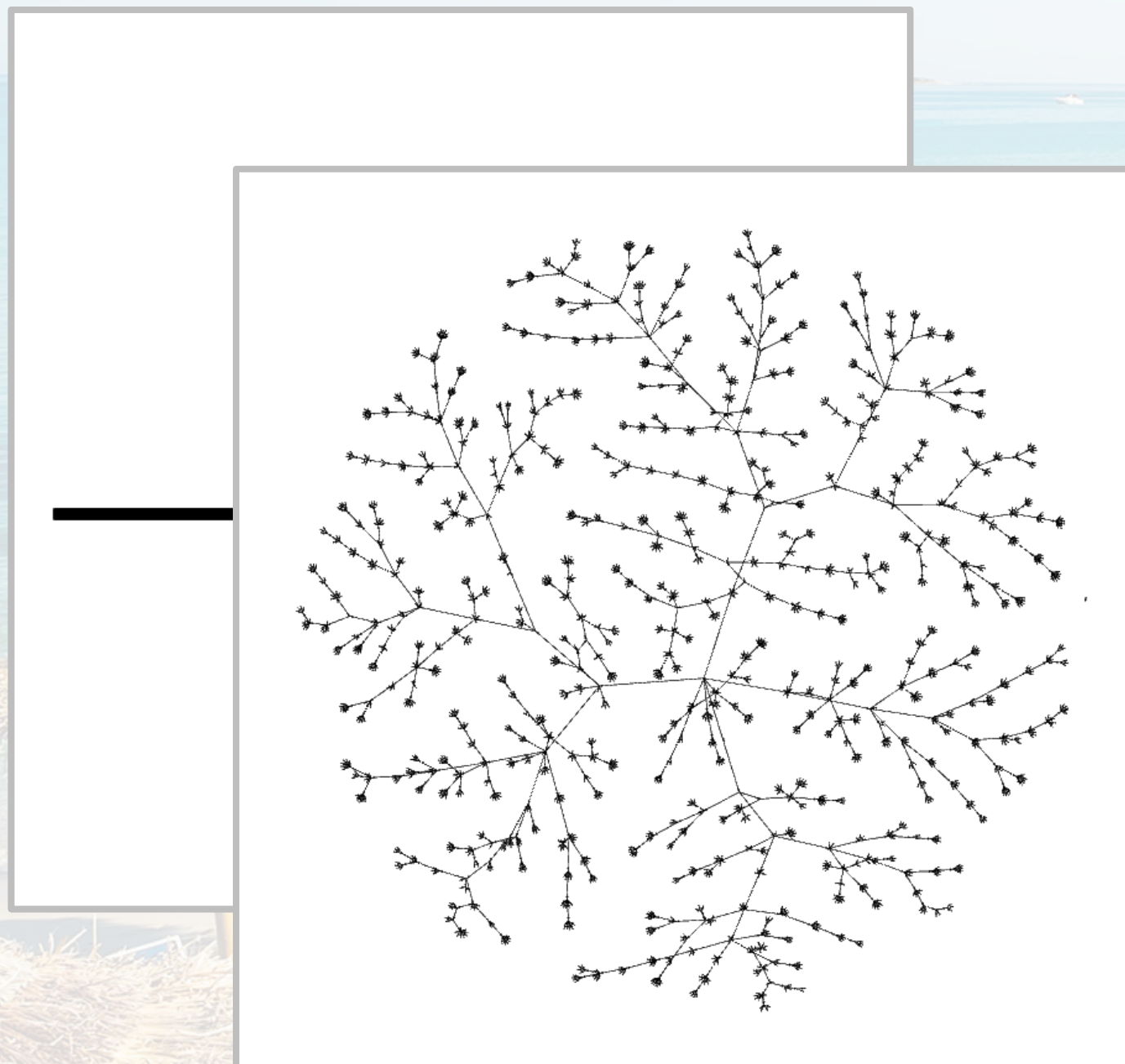
graph 14



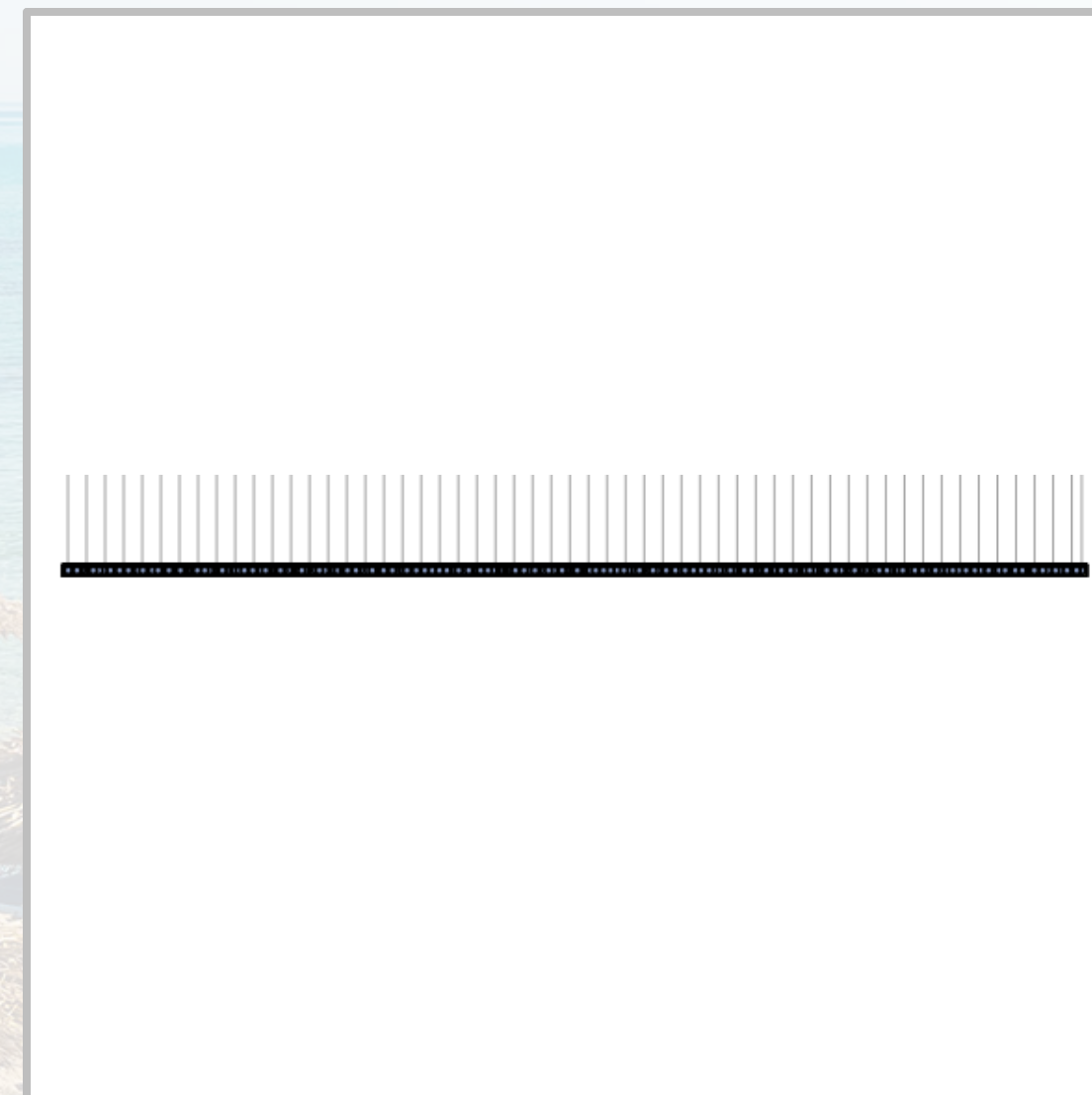
best automatic

LIVE CHALLENGE

The Graphs



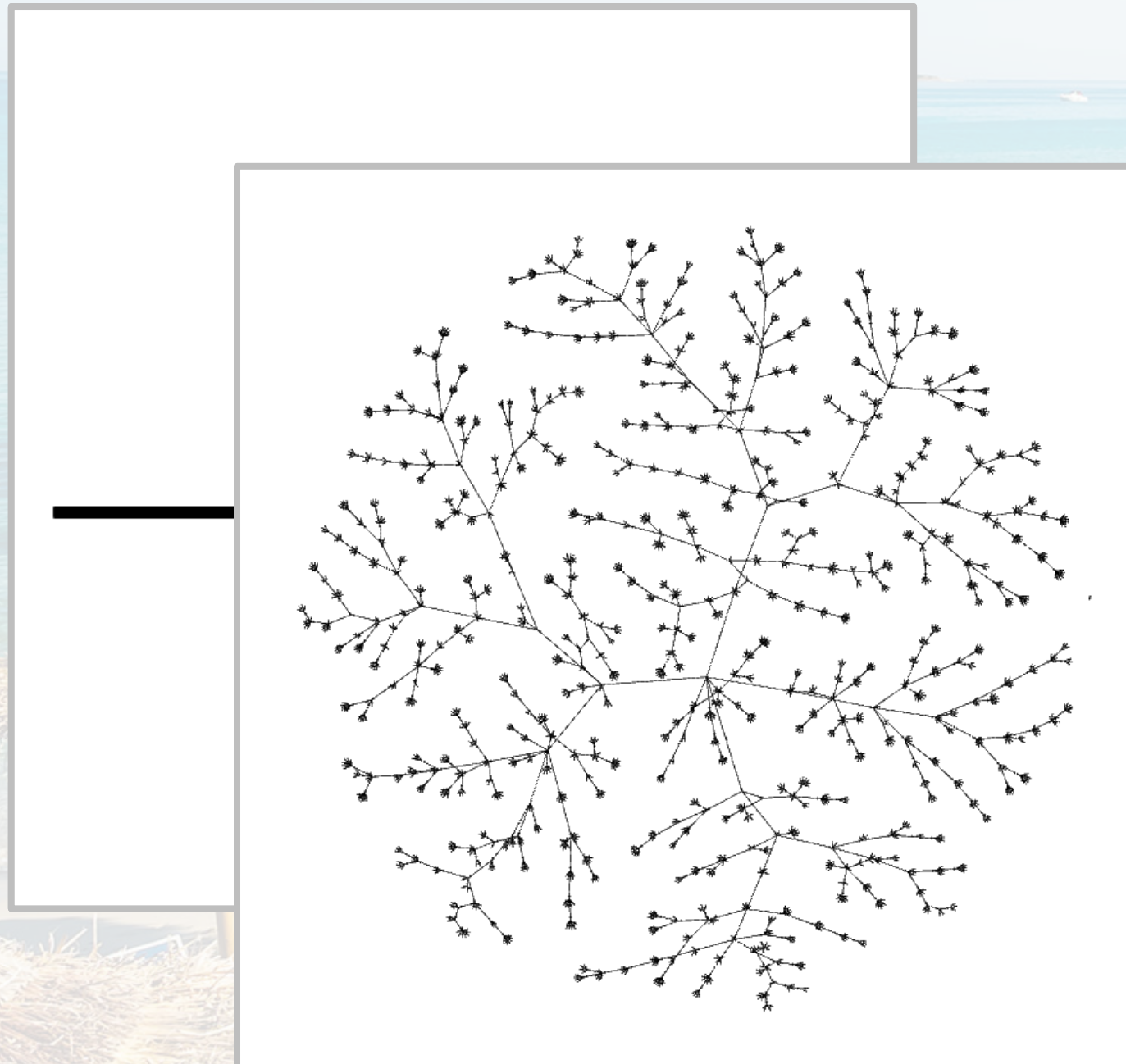
graph 14



best automatic
OMeGA
209532000 "crossings"

LIVE CHALLENGE

The Graphs



graph 14



best automatic
OMeGA
209,532,000 "crossings"

LIVE CHALLENGE
automatic category



LIVE CHALLENGE

automatic category



graph

Crossing Crushers

Baseline

GKLAJER

Minamo

OMeGA

12345

LookMumNoCrossing



LIVE CHALLENGE

automatic category



graph

1

Crossing Crushers

3

Baseline

3

GKLAJER

3

Minamo

3

OMeGA

3

12345

6

LookMumNoCrossing

3

LIVE CHALLENGE

automatic category



graph	1	2
Crossing Crushers	3	25
Baseline	3	25
GKLAJER	3	25
Minamo	3	25
OMeGA	3	25
12345	6	25
LookMumNoCrossing	3	25

LIVE CHALLENGE

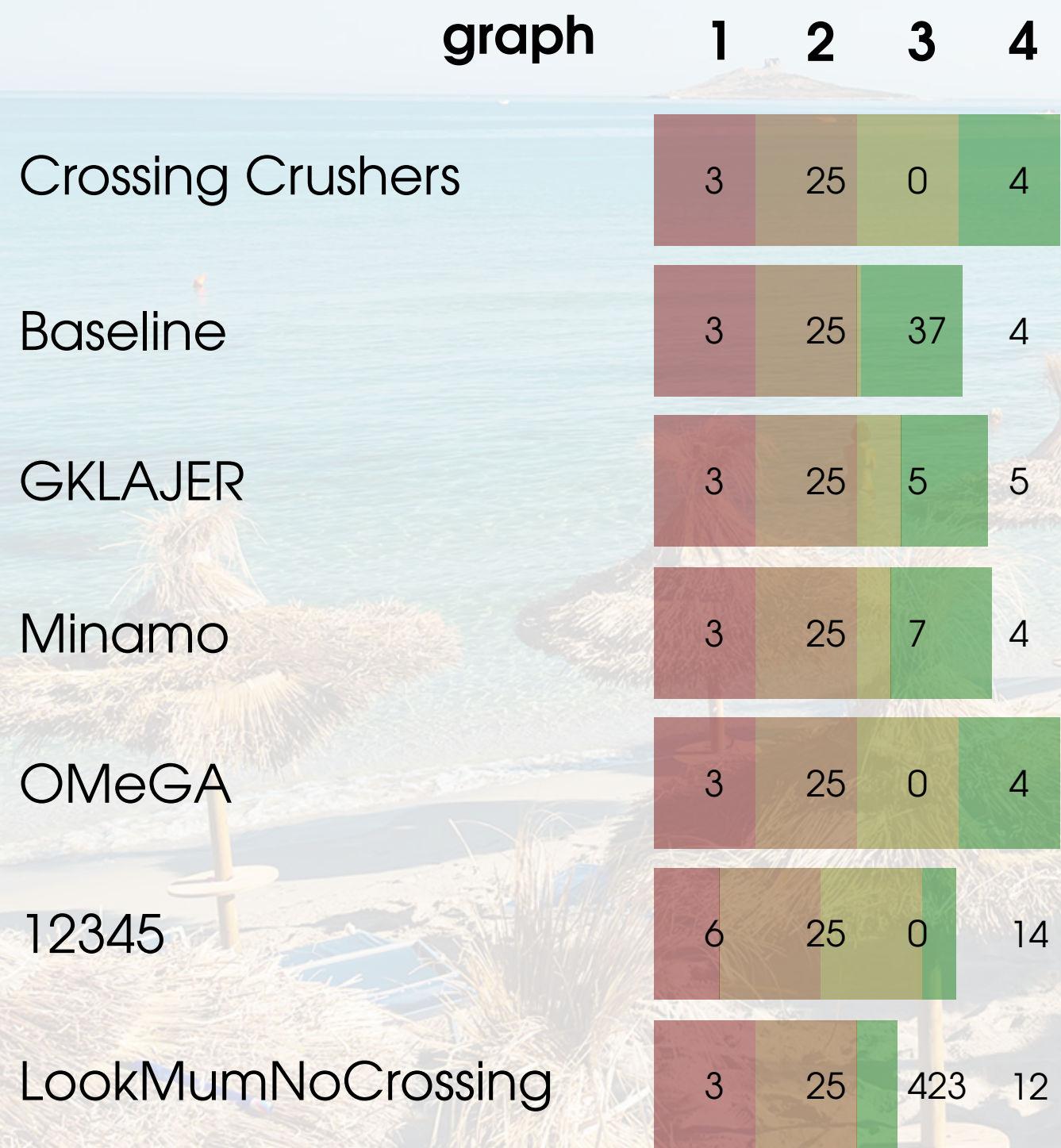
automatic category



graph	1	2	3
Crossing Crushers	3	25	0
Baseline	3	25	37
GKLAJER	3	25	5
Minamo	3	25	7
OMeGA	3	25	0
12345	6	25	0
LookMumNoCrossing	3	25	423

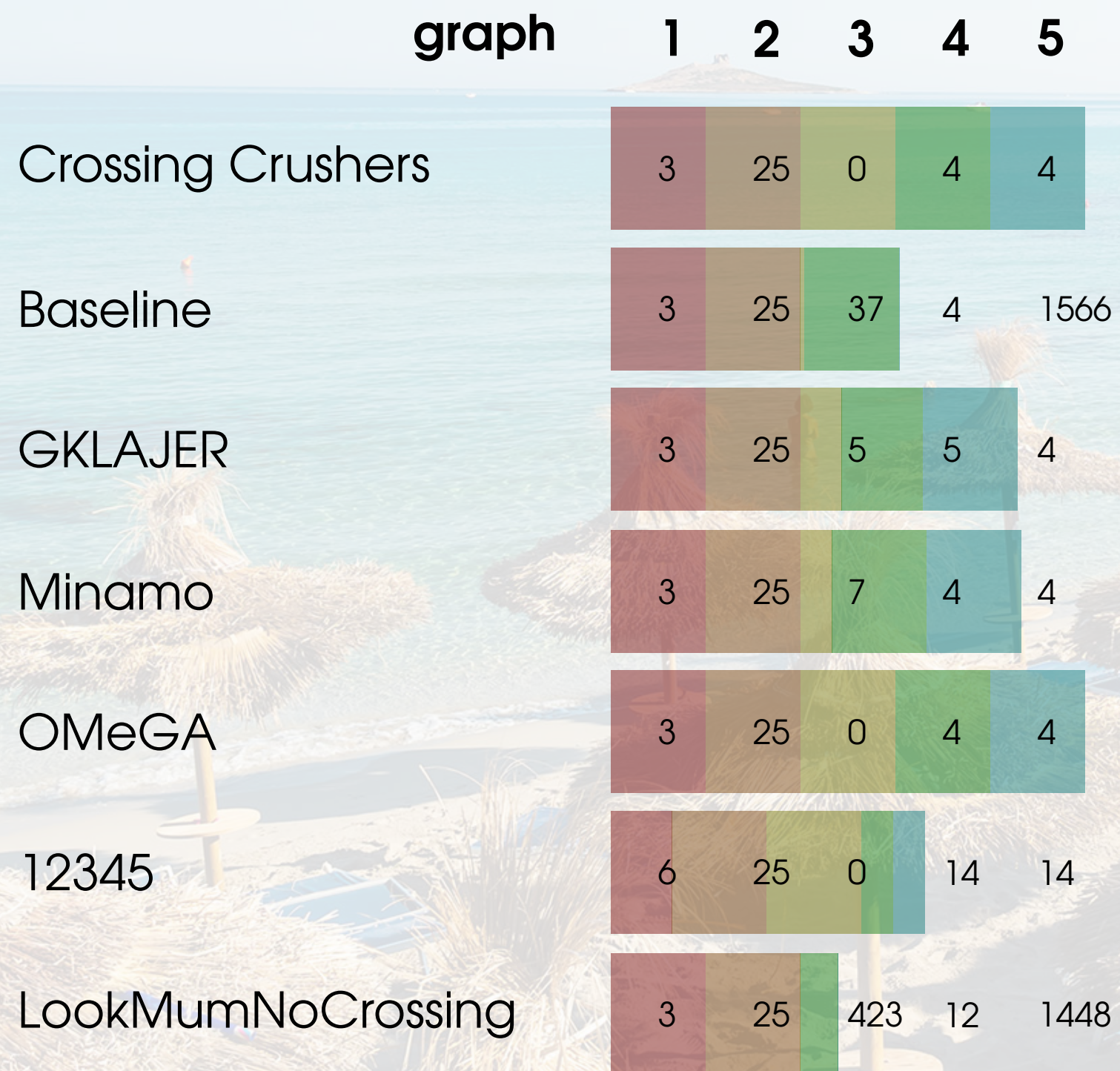
LIVE CHALLENGE

automatic category



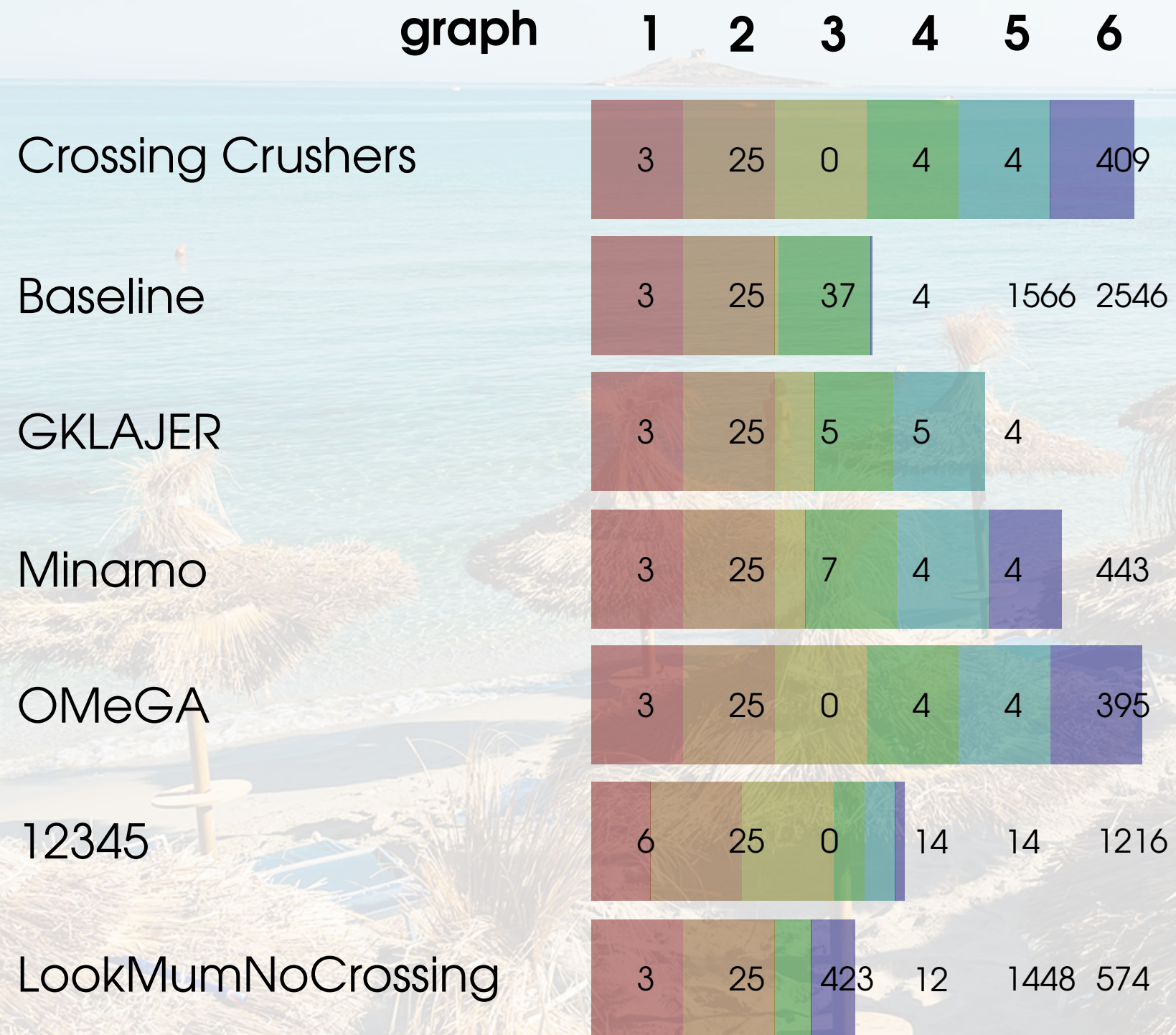
LIVE CHALLENGE

automatic category



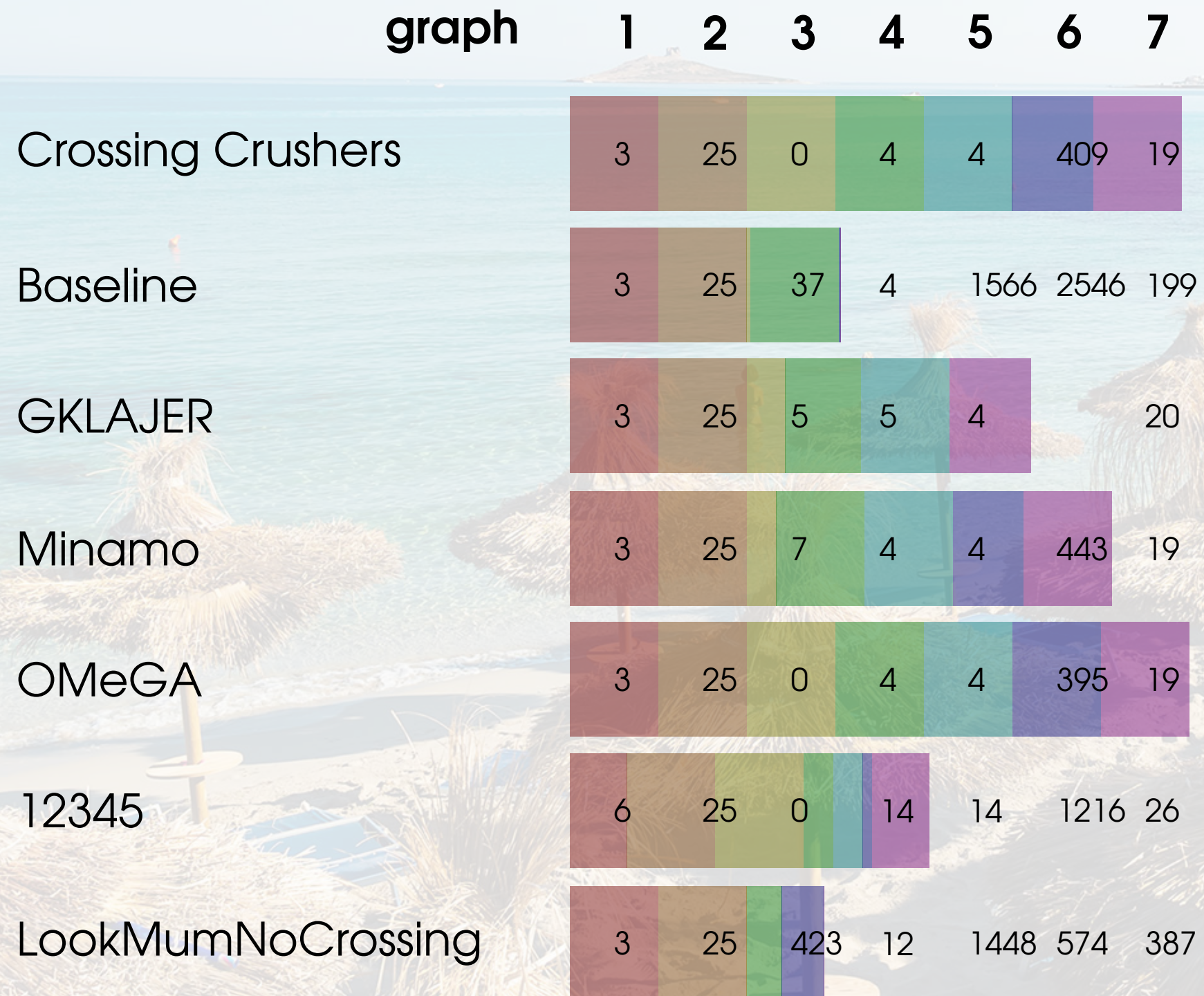
LIVE CHALLENGE

automatic category



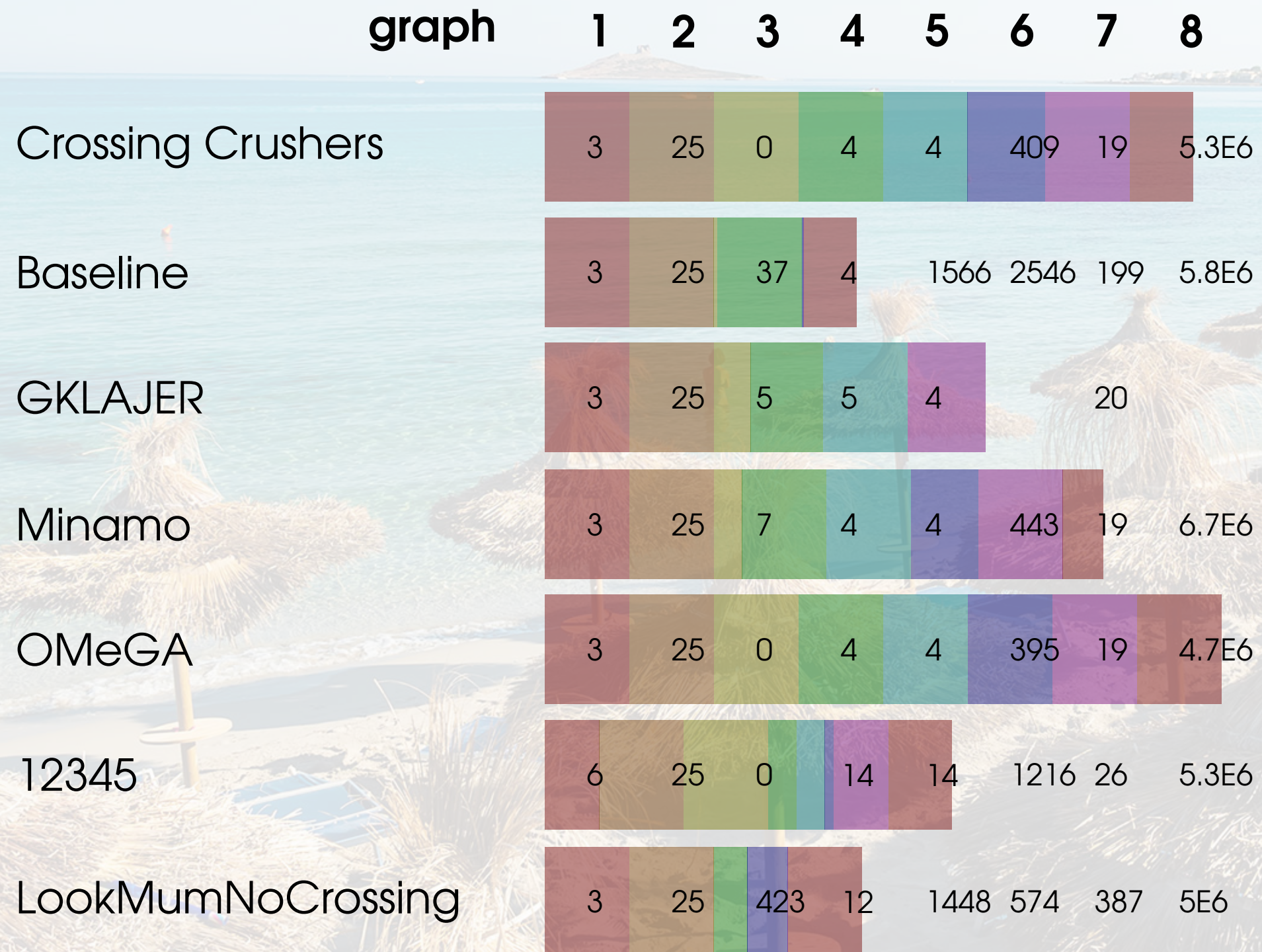
LIVE CHALLENGE

automatic category



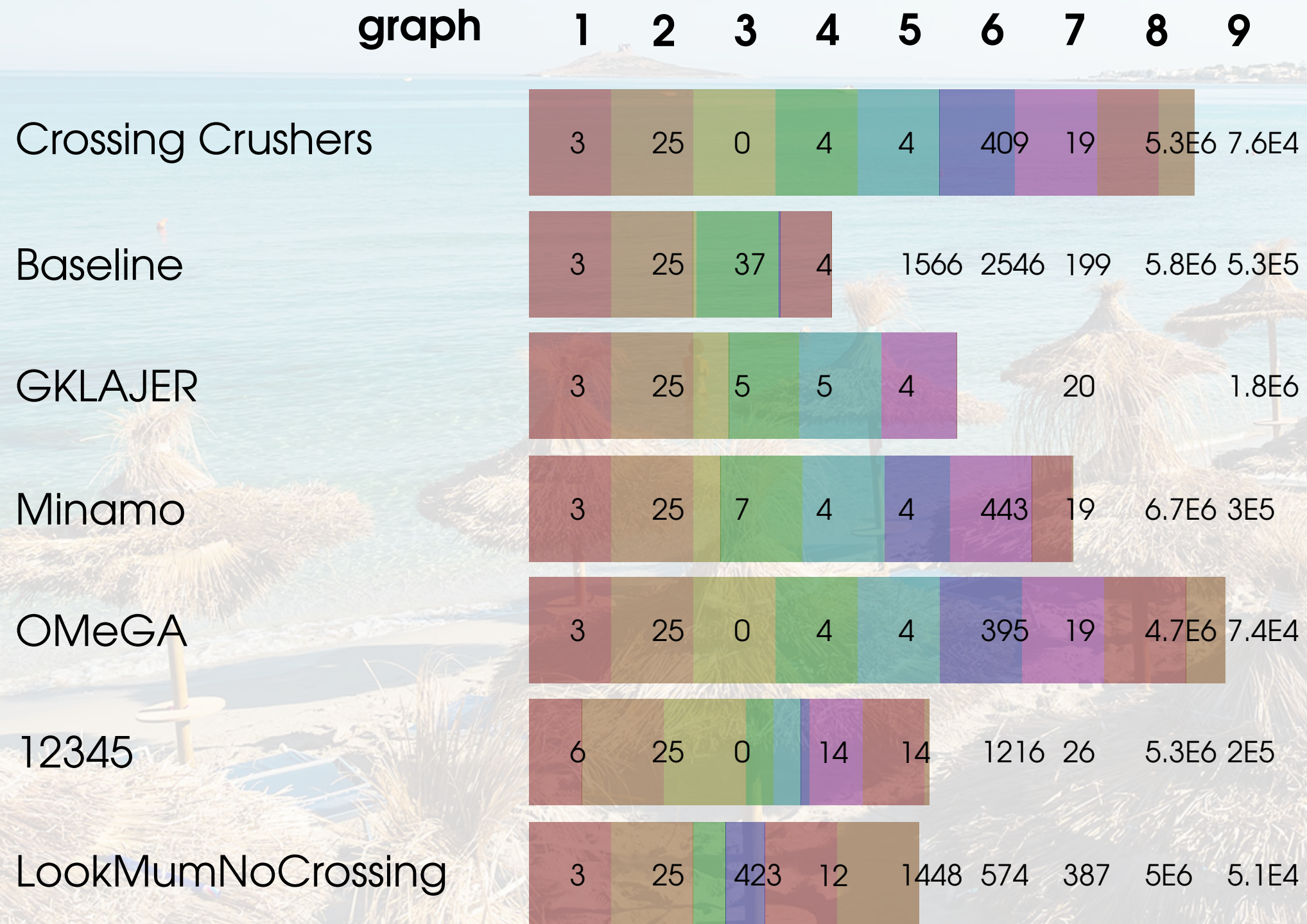
LIVE CHALLENGE

automatic category



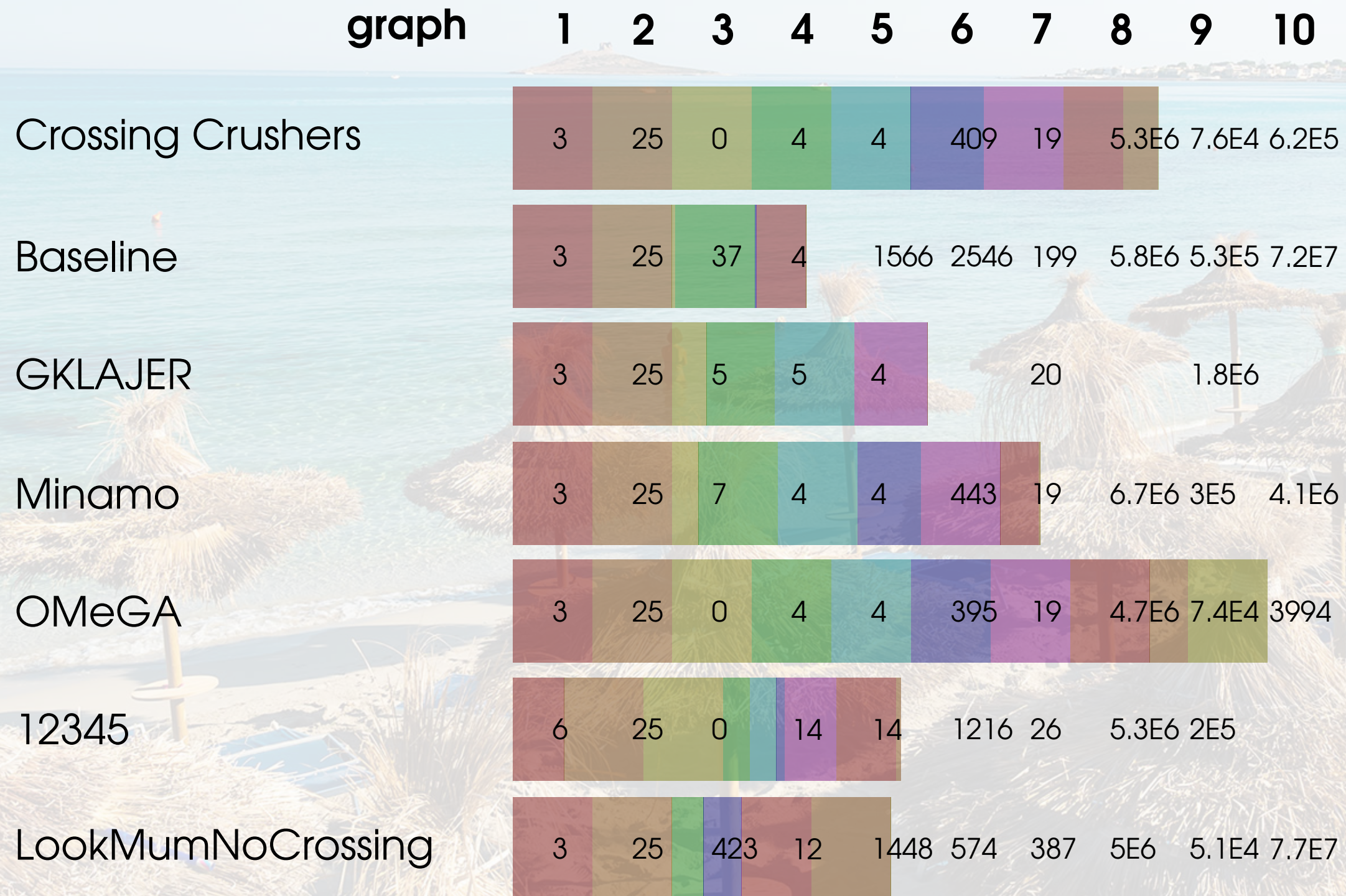
LIVE CHALLENGE

automatic category



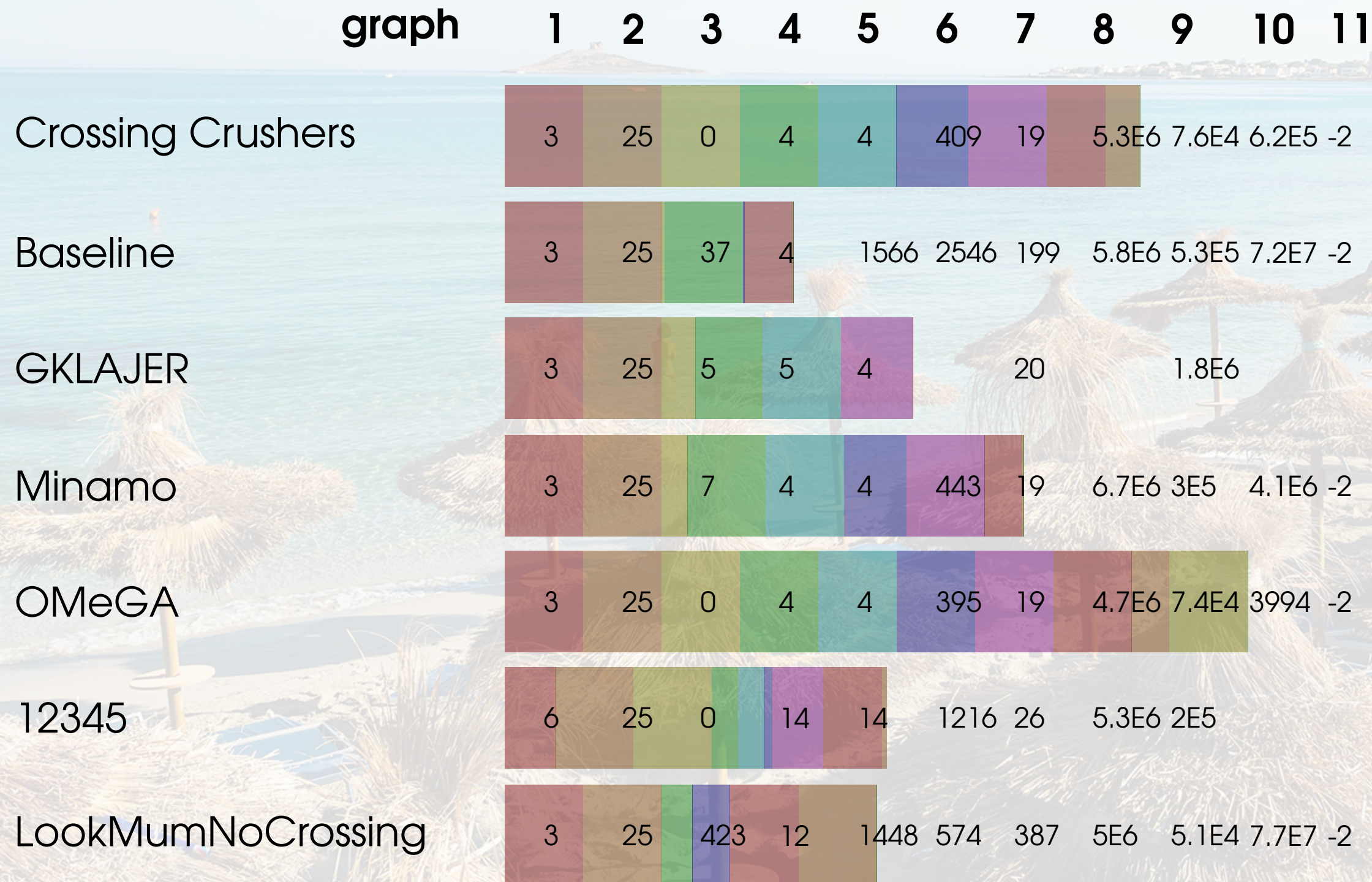
LIVE CHALLENGE

automatic category



LIVE CHALLENGE

automatic category



LIVE CHALLENGE

automatic category



graph	1	2	3	4	5	6	7	8	9	10	11	12
Crossing Crushers	3	25	0	4	4	409	19	5.3E6	7.6E4	6.2E5	-2	4.6E7
Baseline	3	25	37	4	1566	2546	199	5.8E6	5.3E5	7.2E7	-2	
GKLAJER	3	25	5	5	4		20	1.8E6				
Minamo	3	25	7	4	4	443	19	6.7E6	3E5	4.1E6	-2	1.5E4
OMeGA	3	25	0	4	4	395	19	4.7E6	7.4E4	3994	-2	1.4E4
12345	6	25	0	14	14	1216	26	5.3E6	2E5			
LookMumNoCrossing	3	25	423	12	1448	574	387	5E6	5.1E4	7.7E7	-2	4.1E7

LIVE CHALLENGE

automatic category



graph	1	2	3	4	5	6	7	8	9	10	11	12	13
Crossing Crushers	3	25	0	4	4	409	19	5.3E6	7.6E4	6.2E5	-2	4.6E7	8.2E5
Baseline	3	25	37	4	1566	2546	199	5.8E6	5.3E5	7.2E7	-2		
GKLAJER	3	25	5	5	4		20	1.8E6					
Minamo	3	25	7	4	4	443	19	6.7E6	3E5	4.1E6	-2	1.5E4	1.9E4
OMeGA	3	25	0	4	4	395	19	4.7E6	7.4E4	3994	-2	1.4E4	9.1E5
12345	6	25	0	14	14	1216	26	5.3E6	2E5				
LookMumNoCrossing	3	25	423	12	1448	574	387	5E6	5.1E4	7.7E7	-2	4.1E7	9E5

LIVE CHALLENGE

automatic category



graph	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Crossing Crushers	3	25	0	4	4	409	19	5.3E6	7.6E4	6.2E5	-2	4.6E7	8.2E5	3.9E8
Baseline	3	25	37	4	1566	2546	199	5.8E6	5.3E5	7.2E7	-2			
GKLAJER	3	25	5	5	4		20		1.8E6					
Minamo	3	25	7	4	4	443	19	6.7E6	3E5	4.1E6	-2	1.5E4	1.9E4	3.9E8
OMeGA	3	25	0	4	4	395	19	4.7E6	7.4E4	3994	-2	1.4E4	9.1E5	2.1E8
12345	6	25	0	14	14	1216	26	5.3E6	2E5					
LookMumNoCrossing	3	25	423	12	1448	574	387	5E6	5.1E4	7.7E7	-2	4.1E7	9E5	3.6E8

LIVE CHALLENGE

automatic category



graph	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Crossing Crushers	3	25	0	4	4	409	19	5.3E6	7.6E4	6.2E5	-2	4.6E7	8.2E5	3.9E8




Martin Siebenhaller and Benjamin Niedermann
Crossing Crushers

Minamo	3	25	7	4	4	443	19	6.7E6	3E5	4.1E6	-2	1.5E4	1.9E4	3.9E8
OMeGA	3	25	0	4	4	395	19	4.7E6	7.4E4	3994	-2	1.4E4	9.1E5	2.1E8
12345	6	25	0	14	14	1216	26	5.3E6	2E5					
LookMumNoCrossing	3	25	423	12	1448	574	387	5E6	5.1E4	7.7E7	-2	4.1E7	9E5	3.6E8

LIVE CHALLENGE

automatic category




graph	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Crossing Crushers	3	25	0	4	4	409	19	5.3E6	7.6E4	6.2E5	-2	4.6E7	8.2E5	3.9E8
 Saman Miran, Jakub Nawrocki, Hesham Morgan <i>Minamo</i>	3	25	7	4	4	443	19	6.7E6	3E5	4.1E6	-2	1.5E4	1.9E4	3.9E8
OMeGA	3	25	0	4	4	395	19	4.7E6	7.4E4	3994	-2	1.4E4	9.1E5	2.1E8
12345	6	25	0	14	14	1216	26	5.3E6	2E5					
LookMumNoCrossing	3	25	423	12	1448	574	387	5E6	5.1E4	7.7E7	-2	4.1E7	9E5	3.6E8

LIVE CHALLENGE

automatic category



graph	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Crossing Crushers	3	25	0	4	4	409	19	5.3E6	7.6E4	6.2E5	-2	4.6E7	8.2E5	3.9E8
 Laurent Moalic, Dominique Schmitt, Julien Bianchetti <i>OMeGA</i>														
Minamo	3	25	7	4	4	443	19	6.7E6	3E5	4.1E6	-2	1.5E4	1.9E4	3.9E8
OMeGA	3	25	0	4	4	395	19	4.7E6	7.4E4	3994	-2	1.4E4	9.1E5	2.1E8
12345	6	25	0	14	14	1216	26	5.3E6	2E5					
LookMumNoCrossing	3	25	423	12	1448	574	387	5E6	5.1E4	7.7E7	-2	4.1E7	9E5	3.6E8

GRAPH DRAWING CONTEST

2023 Announcement



Announcement of Tasks



GRAPH DRAWING CONTEST

2023 Creative Topic



GRAPH DRAWING CONTEST

2023 Creative Topic



Medal winning countries at Olympia



GRAPH DRAWING CONTEST

2023 Creative Topic



Medal winning countries at Olympia



GRAPH DRAWING CONTEST

2023 Creative Topic



Medal winning countries at Olympia

nodes: countries and sport-types



GRAPH DRAWING CONTEST

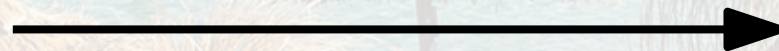
2023 Creative Topic



Medal winning countries at Olympia

nodes: countries and sport-types

edge: country won a medal at some olympics in its sport



GRAPH DRAWING CONTEST

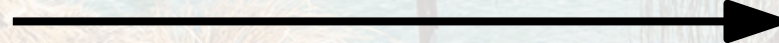
2023 Creative Topic



Medal winning countries at Olympia

nodes: countries and sport-types

edge: country won a medal at some olympics in this sport



We loosely categorized the 68 sports into 11 categories

GRAPH DRAWING CONTEST

2023 Creative Topic



Medal winning countries at Olympia

nodes: countries and sport-types

edge: country won a medal at some olympics in this sport



Edge-metadata is list with records containing:

year of medal

medal type

sex of athlete

...

GRAPH DRAWING CONTEST

2023 Creative Topic



Medal winning countries at Olympia

nodes: countries and sport-types

edge: country won a medal at some olympics in this sport



Edge-metadata is list with records containing:

- year of medal
- medal type
- sex of athlete
- ...

You will need to use some!

GRAPH DRAWING CONTEST

2023 Creative Topic



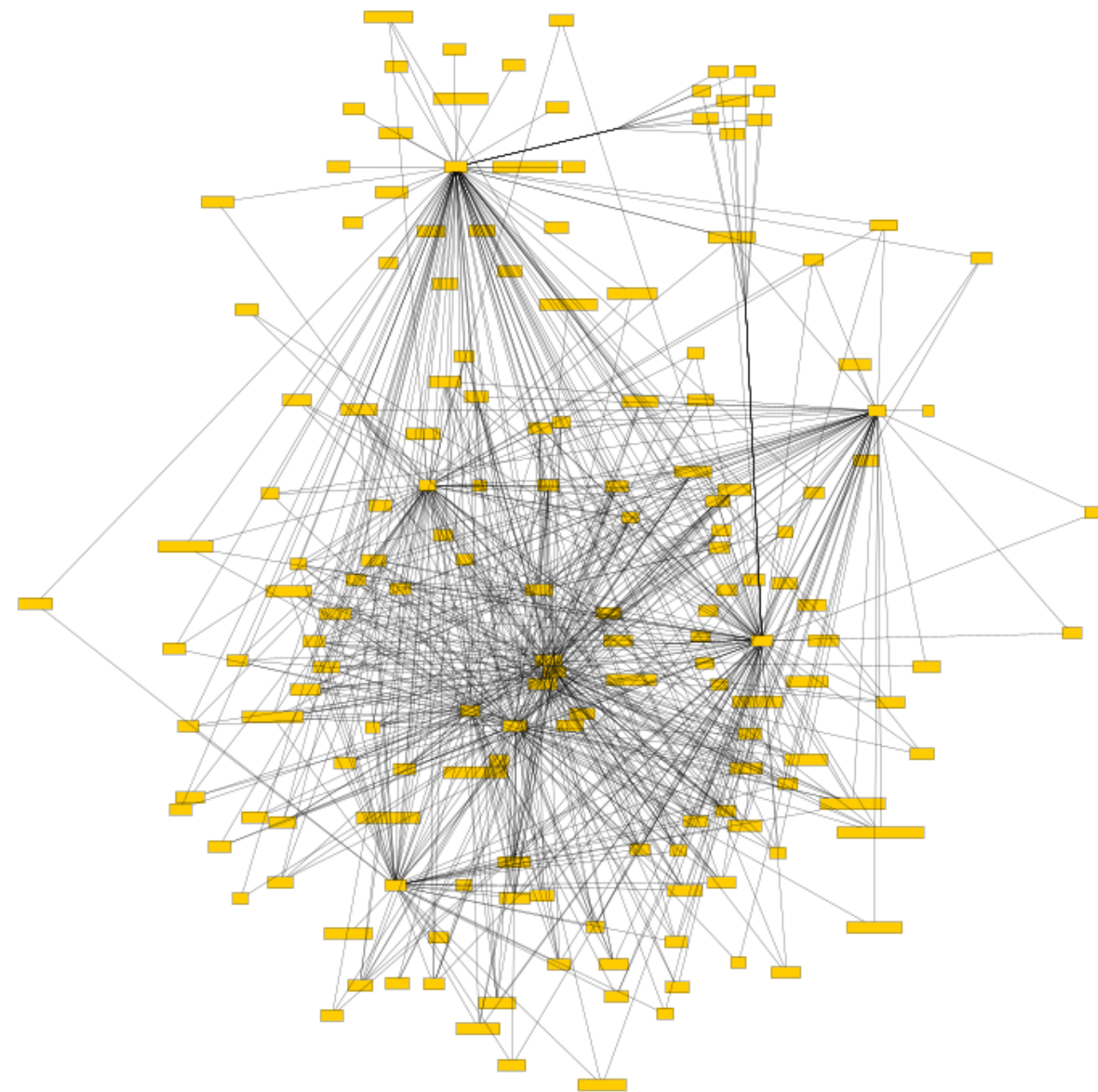
Medal winning countries

Nodes: Countries and sports
Edge: Country won a medal



Edge-metadata is list with relevant information

- year of medal
- medal type
- sex of athlete
- ...



GRAPH DRAWING CONTEST

2023 Live Challenge



GRAPH DRAWING CONTEST

2023 Live Challenge



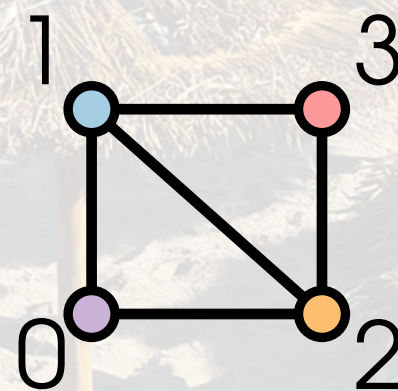
Crossing-Minimal Point-Set Embedding

- input: a graph and a point set (possibly more points than vertices)

output: drawing of the graph with vertices on the point set

objective: minimize #crossings

points are on integer grid, but not necessarily in general position



GRAPH DRAWING CONTEST

2023 Announcement



Committee Announcement



GRAPH DRAWING CONTEST *2023 Announcement*



Philipp and Tamara are leaving
the committee



Thank you for all your work!

GRAPH DRAWING CONTEST *2023 Announcement*



Call for Committee Member



GRAPH DRAWING CONTEST

2023 Announcement



Call for Committee Member

- Select, prepare and evaluate Creative Topics



GRAPH DRAWING CONTEST

2023 Announcement



Call for Committee Member

- Select, prepare and evaluate Creative Topics
- Run the Live Challenge (new topic every 2 years)

GRAPH DRAWING CONTEST

2023 Announcement



Call for Committee Member

- Select, prepare and evaluate Creative Topics
- Run the Live Challenge (new topic every 2 years)
- Bring new ideas to the contest

GRAPH DRAWING CONTEST

2023 Announcement



Call for Committee Member

- Select, prepare and evaluate Creative Topics
- Run the Live Challenge (new topic every 2 years)
- Bring new ideas to the contest
- Expected time in committee: ≈ 4 years

GRAPH DRAWING CONTEST

2023 Announcement



Call for Committee Member

- Select, prepare and evaluate Creative Topics
- Run the Live Challenge (new topic every 2 years)
- Bring new ideas to the contest
- Expected time in committee: \approx 4 years
- Send us an E-Mail until September 30th:
gdnvcontest@gmail.com

GRAPH DRAWING CONTEST

2023 Announcement



Website remodeled

Graph Drawing Contest

[Hall of Fame](#) [History](#) [Contest 2023](#)

[Go directly to the latest contest](#)

[Go directly to the Live Challenge system](#)

What is Graph Drawing

Graph Drawing is the art to produce a picture of a graph. A graph is a mathematical model of entities and relationships, or objects and connections, or vertices and links, or nodes and edges. Graphs and its graph theory have a wide range of applications, many of which require visual representation of graphs.

Graph drawing is the mathematical theory how to produce a diagram, that is, how to calculate coordinates fully or semi-automatic from the topology of a graph. The derived diagram should be aesthetically pleasing (balanced, symmetric, avoiding overlaps and crossings) and should follow the layout conventions of the corresponding application domain (telecom networks, flow charts, UML diagrams, and so on).

There is an annual conference, the Symposium on Graph Drawing, together with an annual Graph Drawing Contest. The purpose of the contest is to monitor and challenge the current state of the graph-drawing technology and to stimulate new research directions for graph layout algorithm. Information about past and current contests can be found on this site, while information about past and current conferences can be found on <http://www.graphdrawing.org>.

GRAPH DRAWING CONTEST
FOLLOW US ON TWITTER



@gdnvccontest



GRAPH DRAWING CONTEST
FOLLOW US ON TWITTER



 @gdnvccontest

