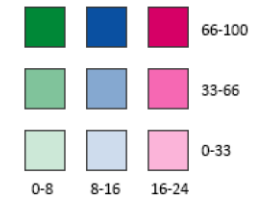


Training Task

Take your time and prepare yourself for a new group of tasks.

On the right you see 3x3 images of time series. In each image, a colored tick marks a certain point in time, where a green tick represents the hours 0-8, a blue tick the hours 8-16, and a purple tick the hours 16-24.

Task: Please click on the time series, which has the highest value at the marked point in time.

**Legend**[Answer](#)[Skip](#)[Explain Visualization](#)

Evaluation > Session 4 of 5 > Task 1 of 20

Training Task

Take your time and prepare yourself for a new group of tasks.

On the right you see 3x3 images of time series. In each image, a colored tick marks a certain point in time, where a green tick represents the hours 0-8, a blue tick the hours 8-16, and a purple tick the hours 16-24.

Task: Please click on the time series, which has the highest value at the marked point in time.

Answer

Skip

Explain Visualization

0-8

8-16

16-24

Legend

| | | | |
|--|--|--|--------|
| | | | 66-100 |
| | | | 33-66 |
| | | | 0-33 |

The task was solved correctly!

Correct Answer: 77.0

Given Answer: 77.0

Time needed: 0 min, 4 sec, 721 msec

Do you want to take another **training** task?

Continue to Test

More Training

Training Task

Take your time and prepare yourself for a new group of tasks.


On the right you see 3x3 images of time series. In each image, a colored tick marks a certain point in time, where a green tick represents the hours 0-8, a blue tick the hours 8-16, and a purple tick the hours 16-24.

Task: Please click on the time series, which has the highest value at the marked point in time.

[Answer](#)[Skip](#)[Explain Visualization](#)

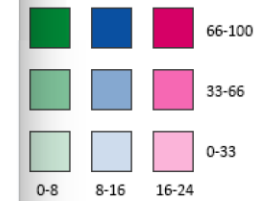
The task was not solved correctly!

Correct Answer:  63.0

Given Answer:  52.0

Time needed: 2 min, 34 sec, 467 msec

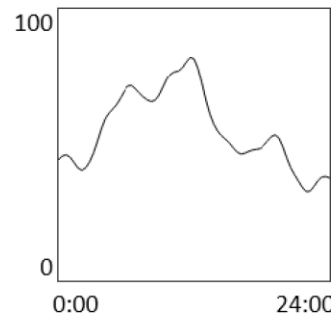
Do you want to take another **training** task?

[Continue to Test](#)[More Training](#)**Legend**

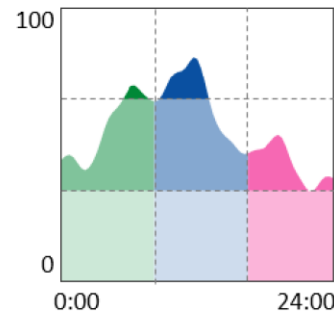
Braided collapsed horizon graphs are based on braided graphs. They reduce the horizontal and vertical space of a line graph without losing precision when reading out the actual data values.

A simple line graph (a) is first split into a grid of non-overlapping colored *squares* of equal height and width and colored (b). The colored squares are then overlayed on top of each other (c). In order to generate a braided graph, we then find all the intersection points between the line graphs (f). The filled areas below the line graphs are then split at the intersection points. Segments with a higher value are drawn behind the segments with a lower value.

Braided Collapsed Horizon Graphs (1 of 2)



(a) Original time series/line graph showing the time between 0:00 and 24:00. The value range is between 0 and 100.



(b) Split the vertical value range into colored squares of equal height and width and apply a 2D colormap



(c) The 9 colored tiles are overlayed.



(d) Search for intersections between the curves and generate braided graph.

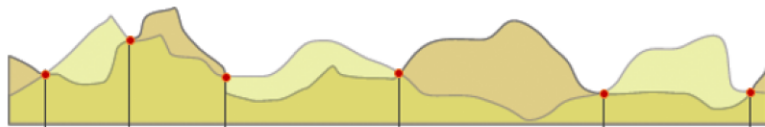


Continue

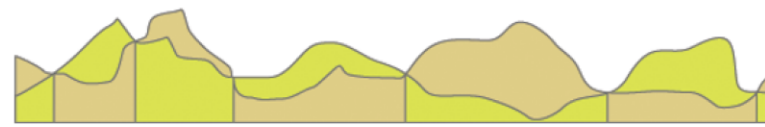
Braided Graphs (2 of 2)

Braided graphs show multiple colored line graphs by sorting their filled areas for each position along the time axis.

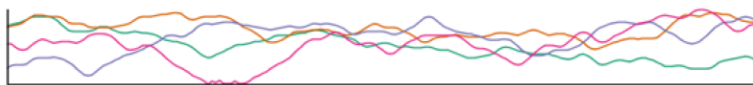
They first find all the intersection points between line graphs (a). The filled areas below the line graphs are then split into different segments at the intersection points. Segments with a higher value are then drawn behind the segments with a lower value (b). This guarantees that all segments are visible. A braided graph that is based on four line graphs is shown in (c).



(a) Find all intersection points between two line graphs.



(b) Split the filled areas below the line graphs at the intersection points and draw segments with the lower value in the front.

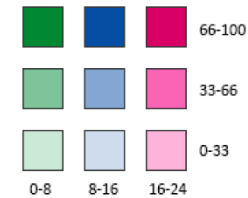


(c) Four colored line graphs and their braided graph visualization.

Continue

On the right you see 3x3 images of time series. In each image, a colored tick marks a certain point in time, where a green tick represents the hours 0-8, a blue tick the hours 8-16, and a purple tick the hours 16-24.

Task: Please click on the time series, which has the highest value at the marked point in time.

[Answer](#)[Skip](#)[Explain Visualization](#)**Legend**

How was your own experience of the previous group of tasks.

Task: Rate their difficulty and your confidence.

Overall, this task was:

very difficult ☐ ☐ ☐ ☐ ☐ ☐ ☐ very easy

You were ... that you answered correctly:

very unsure ☐ ☐ ☐ ☐ ☐ ☐ ☐ very confident

Answer

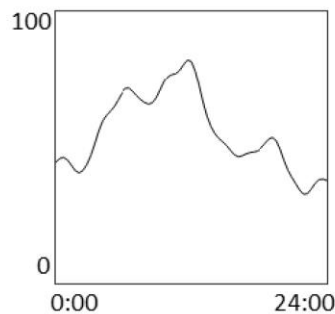
Skip

Explain Visualization

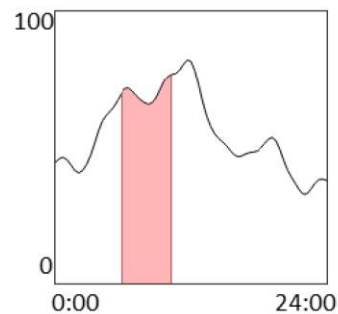
Boxplotted Line Graph

Boxplotted line graphs reduce the overall size of a line graph by computing summary statistics.

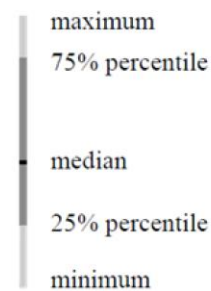
They first split a line graph (a) into non-overlapping time intervals of equal duration. Summary statistics are then computed for each time interval. This includes minimum and maximum value, median, as well as the 25% and 75% percentile (c). The summary statistics are then shown instead of the original line graph (d).



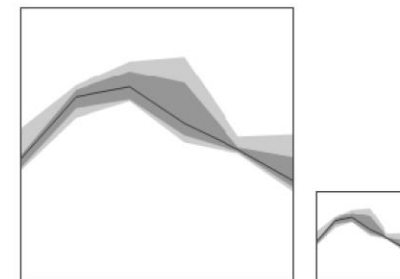
(a) Original time series/line graph showing the time between 0:00 and 24:00. The value range is between 0 and 100.



(b) Compute summary statistics of the values in a time interval



(c) Given the values in a certain time interval, 25% of values are below the 25% percentile, 50% of them are above/below the median, and 25% are above the 75% percentile.



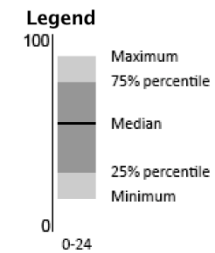
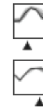
(d) Show the summary statistics instead of the original line graph and scale down.

Continue

On the right you see 2 images of time series. In each image, a tick marks a certain point in time between 0-24 hours.

Task: Please estimate the absolute difference between the values given at the two points in time.

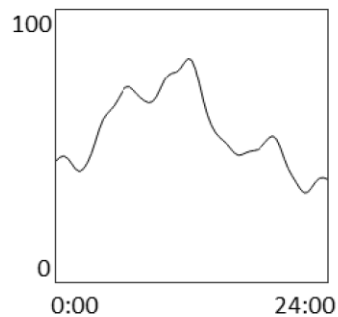
Difference:

[Answer](#)[Skip](#)[Explain Visualization](#)

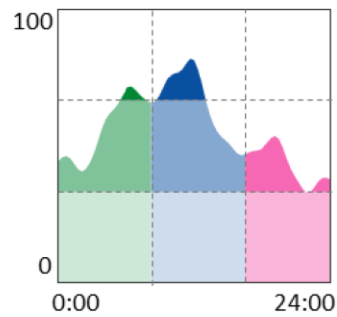
Collapsed horizon graphs reduce the horizontal and vertical space of a line graph without losing precision when reading out the actual data values.

They first split a line graph (a) into a grid of non-overlapping colored *squares* of equal height and width (b-d). The squares are then placed on top of each other (e) and are also collapsed horizontally (f). If parts of the line graph are thereby occluded they “shine through” as colored contour lines.

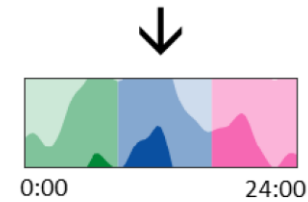
Collapsed Horizon Graphs



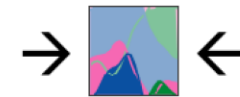
(a) Original time series/line graph showing the time between 0:00 and 24:00. The value range is between 0 and 100.



(b) Split the vertical value range into colored bands of equal height.
(c) Additionally, split the time axis into layers of equal width.
(d) Apply a 2D colormap.



(e) Place the vertical bands on top of each other.



(f) Collapse layers also horizontally from left to right.

Continue

On the right you see 3x3 images of time series, with one time series highlighted.

Task: At what time does the highlighted time series have its maximum?



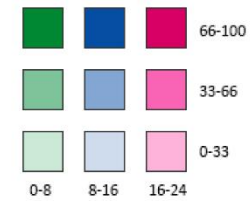
Answer

Skip

Explain Visualization

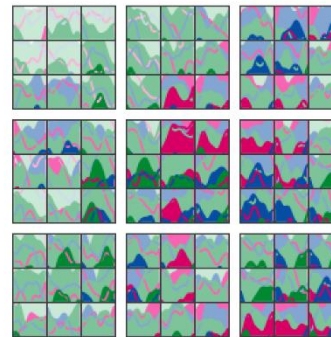
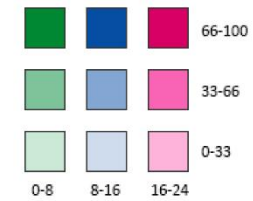


Legend



On the right you see 81 images of time series, where groups of 3x3 images form a so-called quadrant. (Note that the time interval may change).

Task: Please click on the quadrant where the time series rise most on average between **0:00** and **8:00**.

[Answer](#)[Skip](#)[Explain Visualization](#)**Legend**

Evaluation > Session 4 of 5 > Task 1 of 20

Training Task

Take your time and prepare yourself for a new group of tasks.

On the right you see 3x3 images of time series. In each image, a colored tick marks a certain point in time, where a green tick represents the hours 0-8, a blue tick the hours 8-16, and a purple tick the hours 16-24.

Task: Please click on the time series, which has the highest value at the marked point in time.

Answer

Skip


Explain Visualization

Training Task correct

i


The task was solved correctly!

Correct Answer:



77.0

Given Answer:



77.0

Time needed:










0 min, 4 sec, 721 msec

Do you want to take another **training** task?

Continue to Test

More Training

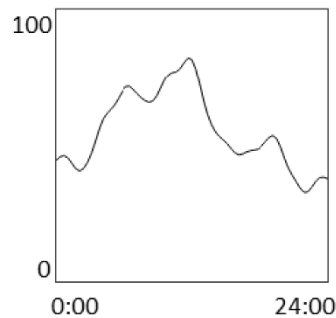
Legend

| | | | |
|---|---|---|--------|
|  |  |  | 66-100 |
|  |  |  | 33-66 |
|  |  |  | 0-33 |
| 0-8 | 8-16 | 16-24 | |

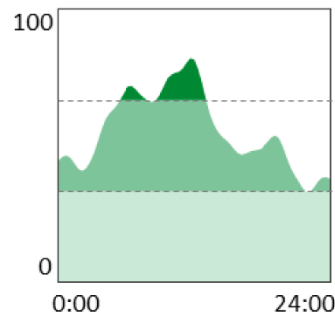
Horizon Graphs

Horizon graphs reduce the vertical space of a line graph without losing precision when reading out the actual data values.

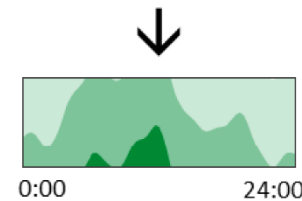
They first split a line graph (a) into 3 non-overlapping colored *bands* of equal height (b-c), and layer these bands on top of each other (d). Finally, the graphic is also shrunk horizontally (e).



(a) Original time series/line graph showing the time between 0:00 and 24:00. The value range is between 0 and 100.



(b) Split the vertical value range into 3 colored bands of equal height.
(c) Apply a sequential color map (from light to dark color).



(d) Layer the bands on top of each other.

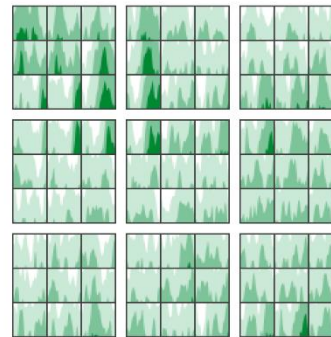
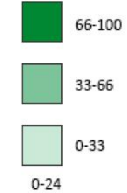


(e) Shrink horizontally.

Continue

On the right you see 81 images of time series, where groups of 3x3 images form a so-called quadrant.

Task: Please click on the quadrant which is most homogenous, i.e. the time series are most similar to each other.

[Answer](#)[Skip](#)[Explain Visualization](#)**Legend**

On the right you see 5x5 images of time series, with one time series highlighted.

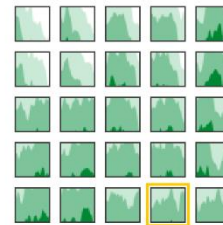
Task: Please look at the highlighted time series. Does the values of the time series stay in a range of ± 10 compared to the value at the start?

☐ Yes ☐ No

Answer

Skip

Explain Visualization



Legend

