I quickly run out of heap space when generating the graph at 2^13. I tried to come up with a regression line to predict the maximum weight for a given number of vertices in the two-dimensional case. I incremented the number of vertices by 100 to get a better approximation for finding out about the maximum weight. I run 20 trials for each number of vertices and computed the average for the trials.

I got this best fitting line running the experiment once for 26 data points for the two-dimensional case starting from 2 up to 2602 incremented by 100.

Chart, scatter chart

Description automatically generated

I got this best fitting line running the experiment once again for 26 data points for the two dimensional case starting from 2 up to 2602 incremented by 100.

Chart, scatter chart

Description automatically generated

I got this best fitting line running the experiment once for 23 data points for the three-dimensional case starting from 2 up to 2302 incremented by 100.

Chart, scatter chart

Description automatically generated

I got this best fitting line running the experiment once again for 23 data points for the three-dimensional case starting from 2 up to 2302 incremented by 100.

Chart, scatter chart

Description automatically generated

I got this best fitting line running the experiment once for 23 data points for the four-dimensional case starting from 2 up to 2302 incremented by 100.

Chart, scatter chart

Description automatically generated

I got this best fitting line running the experiment once again for 23 data points for the four-dimensional case starting from 2 up to 2302 incremented by 100.

Chart, scatter chart

Description automatically generated

I then compared if throwing edges have any effect. I compared the data points I had before throwing out the edges and after to check if there is any significant difference between the weight of the spanning trees.

Seeding