Report: Super Vector Mario

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1 Results

The following table summarizes our result:

Input file	MST total weight
USA-highway-miles.txt	16598.0
tinyEWG-alpha.txt	181

The MST we found in tinyEWG-alpha.txt can be drawn like this:

2 Implementation details

We consider a map, where the coordinates come from loading the strings form the in-file into a String array.

We talked about two ways to implement a solution:

- starting in an S-field and pushing all legal fields from there to a queue and then pop the fields from the queue and push legal fields from these to the queue until a F-field is reached, counting each move and saving the smallest value for print in the end.
- doing a recursive method that starts in a S-field and calls itself on all legal fields.

Pros and cons on each method made us decide on the first.

The argument is as follows:

If we store all visited fields with the speed we have visited them with in a simple table, we can check if we have been in a specific position with a specific speed (given by two coordinates) - if this is the case we do not go to this field again. This works because the algorithm gets us to a specific field in the shortes posible route.