Part 1:
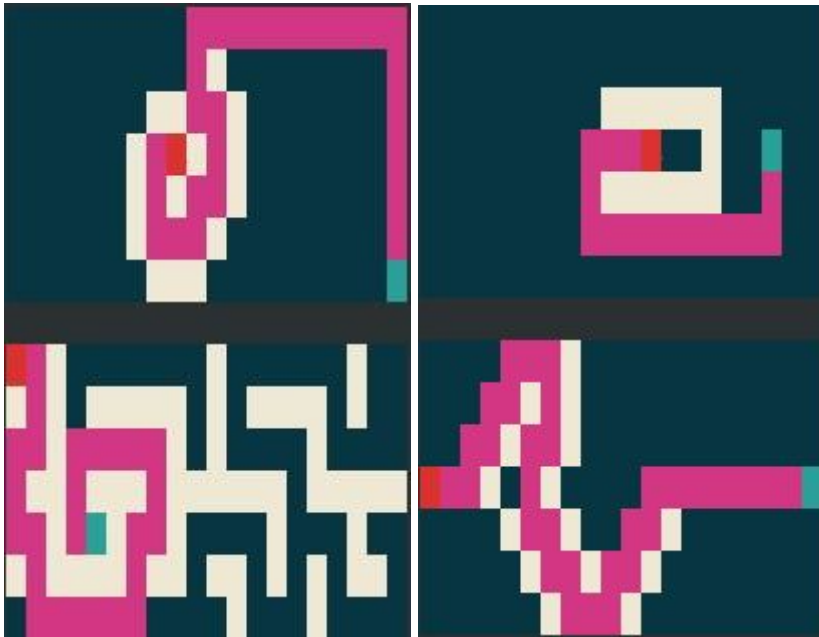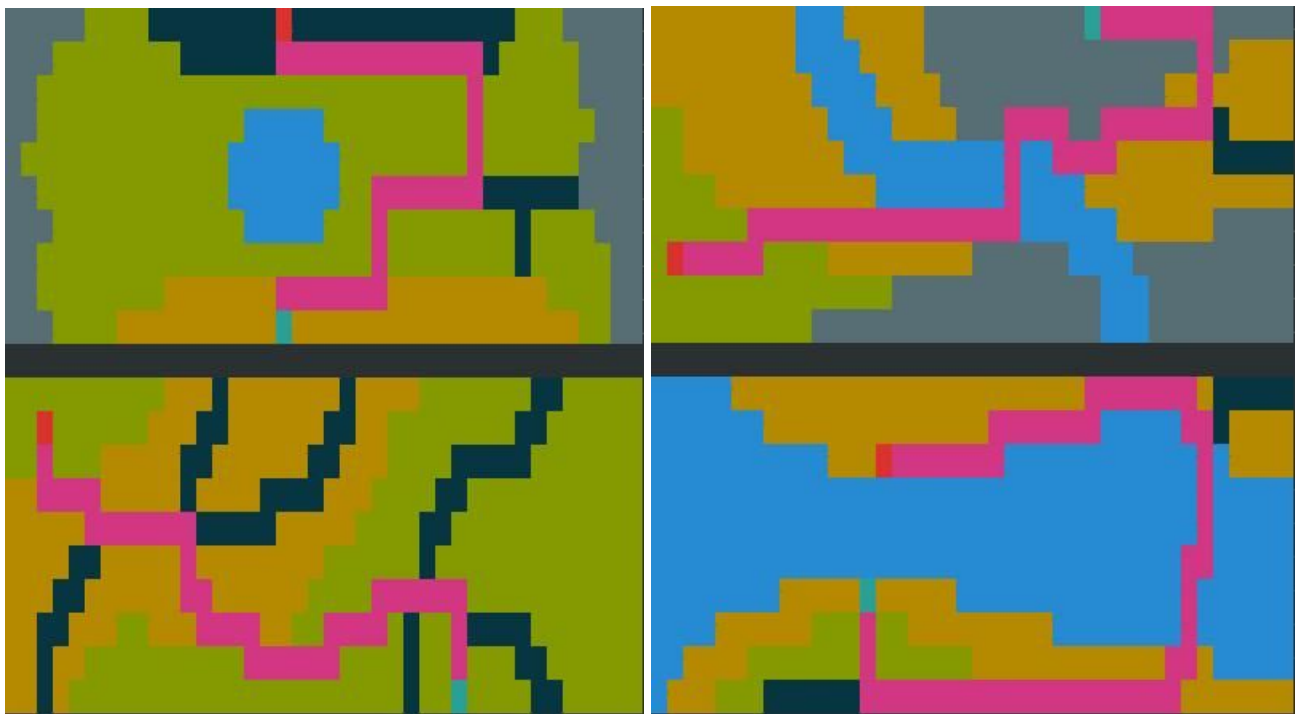

-- Color Legend --
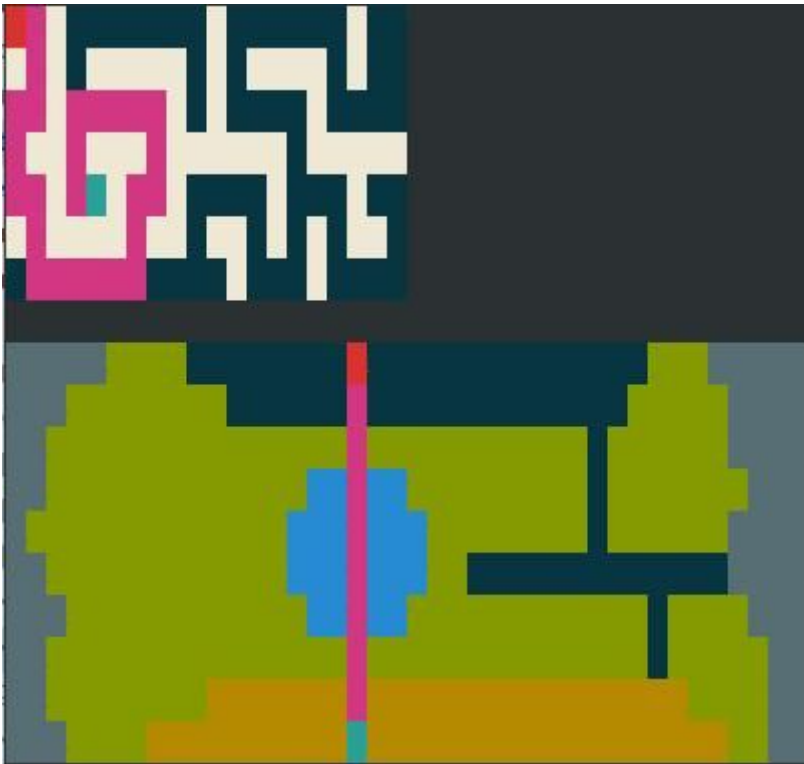- Water
- Mountain
- Forest
- Grassland
- Road
- Start
- End
- Optimal path
- Wall

Part 2:

Part 3:

	A*								
Costs	14	15	32	27	25	78	71	595	160
Closed	33	38	61	71	34	241	212	303	172
Discovered	2	30	18	5	2	41	62	32	72
DJIKSTRA									
Costs	14	15	32	27	25	78	71	595	160
Closed	35	114	106	124	41	266	283	323	186
Discovered	0	6	6	0	2	38	40	37	77
BFS									
Costs	14	15	32	27	25	426	203	895	305
Closed	35	117	106	124	42	99	332	318	50
Discovered	0	6	6	0	2	20	10	10	16

The overall conclusion is that A* and Djikstra will both produce the optimal path when it comes to cost , while BFS will simply choose the shortest path geometrically. All algorithms will produce the optimal path when all nodes have the same cost (the introduction board + the 4 first boards). However, BFS and Djikstra (they are the same in this scenario) tend to explore and close more nodes, since they has no clue about which nodes to explore first, resulting in a slower algorithm.

BFS fails when some nodes are more expensive than others (the last 4 boards), but Djikstra and A* will both find the most cost-effective path. As we can see from the table above, BFS will process fewer nodes than the others when the goal is close to the start, thus provides a (bad) path faster. We can also see that A* strictly outperforms Djikstra in regards to closed and discovered nodes for all boards.