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Mile Stone 2:

In this project, we are using four different algorithms in order to find the shortest path of a single pair:

1. Best First Search
2. Breadth First Search
3. Depth First Search
4. A* (A Star)

After creating these four algorithms, we conducted an empiric experiment:
we generated 10 matrixes. Then, for each matrix, we solved the single pair shortest path problem one time, per algorithm (Total of 40 runs, we used our own-written python client to do so).
Afterwards, we analyzed the results in order to determine which algorithm was better. The race was a close, but we found that Best First Search algorithm is the best among the four algorithms above, nevertheless we notice that A* and best First Search was very close and A* evaluated only a few more (Around 1-5 more nodes).

It is important to mention that in DFS and BFS algorithms are returning the evaluate node number taking care until arrived to first shortest path.

Please have a look at the following diagram:

50	48	45	40	35	30	25	20	15	10	
2419	2221	1960	1536	1158	866	591	379	222	96	Astar
2419	2221	1960	1536	1158	865	591	379	222	96	BestFirst
1902	1383	1687	1371	891	857	426	397	171	95	BFS
100	96	94	78	70	58	93	45	28	20	DFS