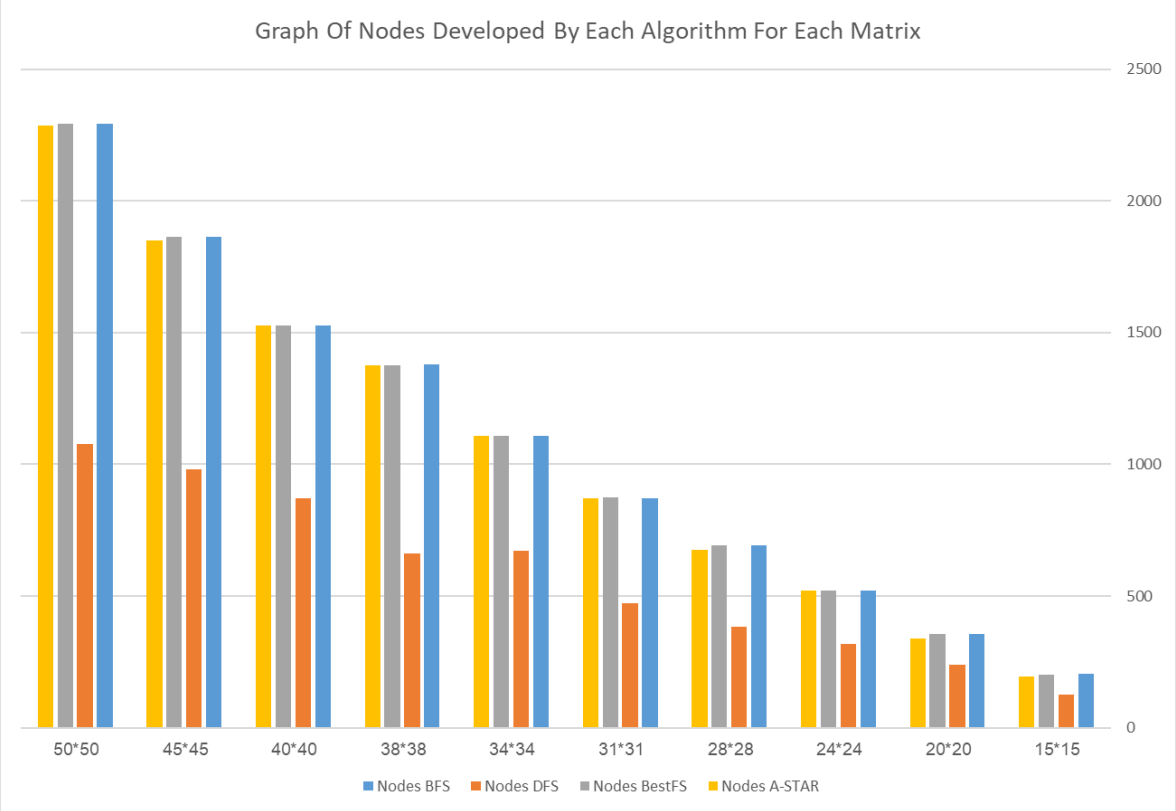
Empiric Experiment Results

We used 10 randomly generated matrices and ran each one of the following algorithms: BFS, DFS, BestFS, A-STAR, on each one of the matrices.

Figure 1 : chart of results:

N*N	Cost	Nodes	Cost	Nodes	Cost	Nodes	Cost	Nodes
	BFS		DFS		BestFS		A-STAR	
15*15	121	205	391	127	71	202	73	196
20*20	172	357	951	239	93	355	93	337
24*24	174	520	949	318	132	520	132	520
28*28	254	691	1464	382	156	692	156	676
31*31	292	872	1925	474	174	873	174	871
34*34	302	1106	2259	673	190	1106	190	1106
38*38	326	1379	2862	660	189	1377	189	1374
40*40	324	1528	3165	872	206	1528	207	1528
45*45	388	1863	3852	979	224	1863	224	1848
50*50	472	2292	4538	1076	245	2292	246	2287

Figure 2: graph of the results:



Explanations and Conclusions:

In this experiement we took 4 search algorithms and checked a shortest path on a grid (Matrix) from initial point to goal point. We were told to check wich one of the 4 algorithms is the best by comparing the number of nodes it has evaluated for each solution. In such case, It is obvious that DFS number of nodes is not relevant for the battle due the fact it is not working on witdh of the graph just goes as long as it can.

With no dought it is very clear that bestFS and Astar are very close to each other. But if we put them on the test comparing our parameter the a * is the winner. In 7/10 matrices its outcome of the number of nodes evaluated was the smallest.