Problem 1	**#Actions**	**#Expansions**	**#Goal_Tests**	**#New_Nodes**	**Search Time**	**Length**
breadth_first_search	20	43	56	178	0.0029262530000000037	6
depth_first_graph_search	20	21	22	84	0.0016567629999999917	20
uniform_cost_search	20	60	62	240	0.007453489000000035	6
GBFGS_ h_unmet_goals	20	7	9	29	0.001088892000000008	6
GBFGS_h_pg_levelsum	20	6	8	28	0.134705557	6
GBFGS_h_pg_maxlevel	20	6	8	24	0.09825457200000004	6
GBFGS_h_pg_setlevel	20	6	8	28	0.340763434	6
A*h_unmet_goals	20	50	52	206	0.004913597000000006	6
A*h_pg_levelsum	20	28	30	122	0.303840383	6
A*h_pg_maxlevel	20	43	45	180	0.322063399	6
A*h_pg_setlevel	20	33	35	138	0.78814317	6

Problem 2	**#Actions**	**#Expansions**	**#Goal_Tests**	**#New_Nodes**	**Search Time**	**Length**
breadth_first_search	72	3343	4609	30503	0.9050216589999999	9
depth_first_graph_search	72	624	625	5602	1.182776904	619
uniform_cost_search	72	5154	5156	46618	1.565631534	9
GBFGS_ h_unmet_goals	72	17	19	170	0.010181637999999993	9
GBFGS_h_pg_levelsum	72	9	11	86	2.670606264	9
GBFGS_h_pg_maxlevel	72	27	29	249	4.13739291	9
GBFGS_h_pg_setlevel	72	9	11	84	8.495737499999999	9
A*h_unmet_goals	72	2467	2469	22522	1.005573912	9
A*h_pg_levelsum	72	357	359	3426	70.363990342	9
A*h_pg_maxlevel	72	2887	2889	26594	411.399833124	9
A*h_pg_setlevel	72	1037	1039	9605	770.025661394	9

Problem 3	**#Actions**	**#Expansions**	**#Goal_Tests**	**#New_Nodes**	**search time**	**length**
breadth_first_search	88	14663	18098	129625	4.6743462970000005	12
GBFGS_ h_unmet_goals	88	25	27	230	0.021328787000000002	15
GBFGS_h_pg_levelsum	88	14	16	126	6.370312013	14
A*h_unmet_goals	88	7388	7390	65711	3.639195676	12
A*h_pg_levelsum	88	369	371	3403	135.242610745	12

Problem 4	**#Actions**	**#Expansions**	**#Goal_Tests**	**#New_Nodes**	**search time**	**length**
breadth_first_search	104	99736	114953	944130	41.032656591	14
GBFGS_ h_unmet_goals	104	29	31	280	0.038426099000000005	18
GBFGS_h_pg_levelsum	104	17	19	165	10.935962441000001	17
*A*h_unmet_goals*	104	34330	34332	328509	23.652002343	14
*A*h_pg_levelsum*	104	1208	1210	12210	787.732998287	15

When comparing tables above it is shown that number of expanded nodes increases with increasing domain size. uniform_cost_search and breadth first search had the highest number of expansion. Greedy best first graph search with different heuristics, especially LEVELSUM, had the lower number of expansion. Search time in problem 1 is the shortest time record among all algorithms, while in problem 4 is the longest search time. A*_ h_pg_levelsum, A*h_pg_maxlevel and A*h_pg_setlevel took longer to operate and reach goal state. Also, plan length increases with increasing domain size. Depth-First produced the longest plan for all problems. Plan length for problems 1 is equal to 6 and for problem 2 is equal to 9. For problems 3 and 4, Breadth- First, Uniform-cost, and A*h_unmet_goals produced the shortest plans.

Which algorithm or algorithms would be most appropriate for planning in a very restricted domain (i.e., one that has only a few actions) and needs to operate in real time?

1. Greedy Best First Graph Search h_unmet_goals
2. Greedy Best First Graph Search h_pg_levelsum
3. Greedy Best First Graph Search h_pg_maxlevel
4. Greedy Best First Graph Search h_pg_setlevel

Which algorithm or algorithms would be most appropriate for planning in very large domains (e.g., planning delivery routes for all UPS drivers in the U.S. on a given day)?

1. Greedy Best First Graph Search h_unmet_goals
2. Greedy Best First Graph Search h_pg_levelsum

Which algorithm or algorithms would be most appropriate for planning problems where it is important to find only optimal plans?

1. Greedy Best First Graph Search h_unmet_goals
2. Greedy Best First Graph Search h_pg_levelsum