- 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?

Greedy_best_first_graph_search with h_unmet_goals

- 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)

Greedy_best_first_graph_search with h_unmet_goals because it is fastest

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

A_star_search with h_unmet_goals because this algorithm will always return a better solution before the best is reached.

- Problem 1

Search	Heuristic	Actions	Expansions	Goal Test	New Nodes	Plan Length	Time
Breadth_first_search		20	43	56	178	6	0.002622
Depth_first_search		20	21	22	84	20	0.001444
Uniform_cost_search		20	60	62	240	6	0.004570
Greedy_best_first_graph_search	H_unmet_goals	20	7	9	29	6	0.000786
Greedy_best_first_graph_search	H_pg_levelsum	20	6	8	28	6	0.064981
Greedy_best_first_graph_search	H_pg_maxlevel	20	6	8	24	6	0.125387
Greedy_best_first_graph_search	H_pg_setlevel	20	5	8	28	6	0.245792

Search	Heuristic	Actions	Expansions	Goal Test	New Nodes	Plan Length	Time
Astar_search	H_unmet_goals	20	50	52	206	6	0.004171
Astar_search	H_pg_levelsum	20	28	30	122	6	0.167317
Astar_search	H_pg_maxlevel	20	43	45	180	6	0.474001
Astar_search	H_pg_setlevel	20	33	35	138	6	0.503014

- Problem 2

Search	Heuristic	Actions	Expansions	Goal Test	New Nodes	Plan Length	Time
Breadth_first_search		72	3343	4609	30503	9	0.962257
Depth_first_search		72	624	625	5602	619	1.371979
Uniform_cost_search		72	5154	5156	46618	9	1.700769
Greedy_best_first_graph_search	H_unmet_goals	72	17	19	170	9	0.008284
Greedy_best_first_graph_search	H_pg_levelsum	72	9	11	86	9	1.543360
Greedy_best_first_graph_search	H_pg_maxlevel	72	27	29	249	9	7.855518
Greedy_best_first_graph_search	H_pg_setlevel	72	9	11	84	9	5.294820
Astar_search	H_unmet_goals	72	2467	2469	22522	9	1.198179
Astar_search	H_pg_levelsum	72	357	359	3426	9	40.757507
Astar_search	H_pg_maxlevel	72	2887	2889	26594	9	586.725026

Astar_search	H_pg_setlevel	72	1037	1039	9605	9	483.184371

- Problem 3

Search	Heuristic	Actions	Expansions	Goal Test	New Nodes	Plan Length	Time
Breadth_first_search		88	14663	18098	129625	12	5.698513
Depth_first_search		88	408	409	3364	392	0.594070
Uniform_cost_search		88	18510	18512	161936	12	8.22737
Greedy_best_first_graph_search	H_unmet_goals	88	25	27	230	15	0.033890
Greedy_best_first_graph_search	H_pg_levelsum	88	14	16	126	14	4.308777
Greedy_best_first_graph_search	H_pg_maxlevel	88	21	23	195	13	11.476776
Greedy_best_first_graph_search	H_pg_setlevel	88	35	37	345	17	29.657052
Astar_search	H_unmet_goals	88	7388	7390	65711	12	4.427601
Astar_search	H_pg_levelsum	88	369	371	3403	12	79.392214
Astar_search	H_pg_maxlevel	88	9580	9582	86312	12	3176.043056
Astar_search	H_pg_setlevel	88	3423	3425	31596	12	3463.244944

- Problem 4

Search	Heuristic	Actions	Expansions	Goal Test	New Nodes	Plan Length	Time

Breadth_first_search		104	99736	114953	944130	14	63.844030
Depth_first_search		104	25174	25175	228849	24132	2270.114392
Uniform_cost_search		104	113339	113341	1066413	14	78.426436
Greedy_best_first_graph_search	H_unmet_goals	104	29	31	280	18	0.032002
Greedy_best_first_graph_search	H_pg_levelsum	104	17	19	165	17	8.394501
Greedy_best_first_graph_search	H_pg_maxlevel	104	56	58	580	17	53.211646
Greedy_best_first_graph_search	H_pg_setlevel	104	107	109	1164	23	182.651837
Astar_search	H_unmet_goals	104	34330	34332	328509	14	38.503299
Astar_search	H_pg_levelsum	104	1208	1210	12210	15	576.485068
Astar_search	H_pg_maxlevel						
Astar_search	H_pg_setlevel						