**Report Requirements**

Your submission for review **must** include a report named "report.pdf" that includes all of the figures (charts or tables) and written responses to the questions below. You may plot multiple results for the same topic on the same chart or use multiple charts. (Hint: you may see more detail by using log space for one or more dimensions of these charts.)

* Use a table or chart to analyze the number of nodes expanded against number of actions in the domain
* Use a table or chart to analyze the search time against the number of actions in the domain
* Use a table or chart to analyze the length of the plans returned by each algorithm on all search problems

Use your results to answer the following questions:

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

## Rubric

**Experimental Results & Report**

| **Criteria** | **Meets Specifications** |
| --- | --- |
| Analyze the search complexity as a function of domain size, search algorithm, and heuristic. | Report includes a table or chart to analyze the number of nodes expanded against number of actions in the domain.   * The chart or table includes data for all search & heuristic combinations for air cargo problems 1 and 2 * The chart or table includes data **at least** one uninformed search, two heuristics with greedy best first search, and two heuristics with A\* on air cargo problems 3 and 4 * Report includes at least a one paragraph discussion of these results that analyzes the growth trends as the problem size increases |
| Analyze search time as a function of domain size, search algorithm, and heuristic. | Report includes a table or chart to analyze the search time against the number of actions in the domain.   * The chart or table includes data for all search & heuristic combinations for air cargo problems 1 and 2 * The chart or table includes data **at least** one uninformed search, two heuristics with greedy best first search, and two heuristics with A\* on air cargo problems 3 and 4 * Report includes at least a one paragraph discussion of these results that analyzes the growth trends as the problem size increases |
| Analyze the optimality of solution as a function of domain size, search algorithm, and heuristic. | Report includes a table or chart to analyze the length of the plans returned by each algorithm on all search problems.   * The chart or table includes data for all search & heuristic combinations for air cargo problems 1 and 2 * The chart or table includes data **at least** one uninformed search, two heuristics with greedy best first search, and two heuristics with A\* on air cargo problems 3 and 4 |
| Report answers all required questions | Submission includes a short answer to each of the following questions. (A short answer should be at least 1-2 sentences at most a small paragraph.)   * 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? * 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) * Which algorithm or algorithms would be most appropriate for planning problems where it is important to find only optimal plans? |