**WPI CS4341 Project1**

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**How do the 5 heuristics vary in effectiveness? How much gain is there to using *any* heuristic (#1 vs. #2)?**

The heuristics vary slightly for small worlds or trivial paths. However, they vary greatly when the path is more complex or when the world is very large. There seems to be a lot to gain from using certain heuristics, such as #6 and #5, as some showed to expand less nodes, thus saving space while finding the same optimal path that can be found using the other heuristics find.

**Is #5 noticeably more effective than the other heuristics?**

Yes, based on our graphs of the branching factor and the number of expanded nodes. In some cases, #5 is twice as efficient than other heuristics.

**For heuristic #6: how does its solution quality compare with #5? Is it performing noticeably worse? How much more efficient is it?**

Both seem to produce the same quality solution. However #6 has a much lower branching factor in all the worlds except for the trivial world 1. #6 also expands a third of the nodes #5 does in world 5, thus showing that it is much more efficient than #5 in saving space for large worlds.