**PART 1**

**PART 2**

1) 

2) 

3) 

4) 

**PART 3**

**PART 4**

1) Is breadth-first generally a better search strategy than depth-first for these inputs? Explain why or why not.

2) Describe the heuristic you chose for the directed search.

3) Does you heuristic guarantee that the highest-probability sentence will always be found? Explain why or why not.

4) Is it possible for your heuristic search to have worse run-time performance than a depth-first or breadth-first search? If worse performance is possible, explain what would cause a worse performance to occur. If not, explain why worse performance would never occur.