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Description: For this assignment we created a program that runs 3 separate algorithms to find the optimal path from a vacuum to clean a space of 20 rooms. The algorithms were uniform cost tree search, uniform cost graph search, and iterative deepening tree search. Each of the algorithms follow the provided pseudocode.

Language: Python 3.12

Hardware: The following results were produced on a laptop with an “AMD Ryzen 7 4800HS with Raedon Graphics” CPU with 48 GB of RAM

Uniform Cost Tree Search

A computer screen with many lines and text

Description automatically generated with medium confidence

Uniform Cost Graph Search

A screenshot of a computer program

Description automatically generated

Iterative Deepening Search

A screen shot of a computer program

Description automatically generated