**ACI Assignment 1**

**Course:** Artificial and Computational Intelligence

**Group No:** 8

**Group members and contributions:**

1. Harsha K 2023cs04018 25%
2. A N Srinivasan 2023cs04010 25%
3. Santosh V Bhat 2023cs04041 25%
4. Yash Lodha 2023cs04007 25%

**PEAS Environment for the problem:**

*<Copy of the same contents present in python notebook is added here>*

**Performance Measure:**

Minimized communication lines with un-interrupted network.

**Environment:**

Shared and distributed servers placed at various locations in the city. Communication lines that connects all these servers.

**Actuators (O/P):**

The agent's actions responsible for displaying optimum path between servers by activating or deactivating communication lines.

**Sensors (I/P):**

Sensors in this environment provide information about the current network topology at given instance, also the start and goal node of the distributed server.

**Screenshot of the Output:**

1. **Setting Initial state (Getting start & goal node from user)**

A screenshot of a computer program

Description automatically generated

1. **Setting Transition Cost Matrix:**

A screen shot of a computer

Description automatically generated

1. **Heuristic Calculation:**

A computer screen shot of a computer code

Description automatically generated

1. **BFS Result:**

A screenshot of a computer program

Description automatically generated

1. **RBFS Result:**

A screen shot of a computer

Description automatically generated

1. **Time and Space complexities results:**

A black rectangular object with a white border

Description automatically generated

**Other details:**

1. PDF attached includes the BFS & RBFS algorithm’s detailed:
   1. Description
   2. Implementation details
   3. Time & Space complexities details
2. Python notebook attached has the outputs included.
3. Git Link: <https://github.com/HarshaK1997/Sem2-ACI-1>