**Experiment No. 4**

**Aim:** To implement uniform cost search.

**Requirements:** Compatible version of python.

**Theory:**

Uniform cost search is uninformed search in which each edge has some weight or cost and we only know what goal is but how to reach it is not known, we try to find goal node from source node my minimizing the total weight between source node and goal node.

**Uniform cost search algorithm:**

1. Initialize visited, parent and Priority Queue data structure.

2. Enqueue source node into Priority Queue and add it in parent and set parent as Null.

3. While goal is not found repeat below steps.

4. Dequeue a node from Priority Queue and mark it as visited

5. Visit its neighbours and check if it is visited or not if it is visited continue else if it is already has some other parent check if current node has lost cost then current parent node if yes change the current parent node with current node.