**AI Assignment**

## **BFS**

* **Path ['Arad']**
* **Queue []**
* **Path ['Arad']**
* **Queue [('Sibiu', ['Arad', 'Sibiu'])]**
* **Path ['Arad']**
* **Queue [('Sibiu', ['Arad', 'Sibiu']), ('Timisoara', ['Arad', 'Timisoara'])]**
* **Path ['Arad', 'Sibiu']**
* **Queue [('Timisoara', ['Arad', 'Timisoara']), ('Zerind', ['Arad', 'Zerind'])]**
* **Path ['Arad', 'Sibiu']**
* **Queue [('Timisoara', ['Arad', 'Timisoara']), ('Zerind', ['Arad', 'Zerind']), ('Oradea', ['Arad', 'Sibiu', 'Oradea'])]**
* **Path ['Arad', 'Sibiu']**
* **Queue [('Timisoara', ['Arad', 'Timisoara']), ('Zerind', ['Arad', 'Zerind']), ('Oradea', ['Arad', 'Sibiu', 'Oradea']), ('Fagaras', ['Arad', 'Sibiu', 'Fagaras'])]**
* **Path ['Arad', 'Timisoara']**
* **Queue [('Zerind', ['Arad', 'Zerind']), ('Oradea', ['Arad', 'Sibiu', 'Oradea']), ('Fagaras', ['Arad', 'Sibiu', 'Fagaras']), ('Rimnicu', ['Arad', 'Sibiu', 'Rimnicu'])]**

**BFS = ['Arad', 'Sibiu', 'Fagaras', 'Bucharest'] cost=450**

## **IDDFS**

|  |
| --- |
| **--------------- States Visited at Depth 0 ---------------** |

|  |  |
| --- | --- |
|  | **Arad** |
|  | **--------------- States Visited at Depth 1 ---------------** |
|  | **Arad** |
|  | **Sibiu** |
|  | **Timisoara** |
|  | **Zerind** |
|  | **--------------- States Visited at Depth 2 ---------------** |
|  | **Arad** |
|  | **Sibiu** |
|  | **Fagaras** |
|  | **RimnicuVilcea** |
|  | **Oradea** |
|  | **Timisoara** |
|  | **Lugoj** |
|  | **Zerind** |
|  | **Oradea** |
|  | **--------------- States Visited at Depth 3 ---------------** |
|  | **Arad** |
|  | **Sibiu** |
|  | **Fagaras** |
|  | **Bucharest** |
|  | **-- Solution for: Arad to Bucharest-------------------** |
|  | **['Arad', 'Sibiu', 'Fagaras', 'Bucharest']**  **Visited Nodes:**  {'Timisoara', 'Sibiu', 'Zerind', 'Arad'} {'Arad', 'Timisoara', 'Sibiu', 'Oradea', 'Zerind'} {'Arad', 'Timisoara', 'Sibiu', 'Oradea', 'Zerind'} {'Arad', 'Timisoara', 'Sibiu', 'Oradea', 'Lugoj', 'Zerind'} {'Mehadia', 'Arad', 'Timisoara', 'Sibiu', 'Oradea', 'Lugoj', 'Zerind'} {'Dobreta', 'Mehadia', 'Arad', 'Timisoara', 'Sibiu', 'Oradea', 'Lugoj', 'Zerind'} {'Dobreta', 'Craiova', 'Mehadia', 'Arad', 'Timisoara', 'Sibiu', 'Oradea', 'Lugoj', 'Zerind'} {'Dobreta', 'Craiova', 'Mehadia', 'Arad', 'Pitesti', 'Timisoara', 'Sibiu', 'Oradea', 'Lugoj', 'Zerind'} **UCS** |