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**LAB 2**

1. Table

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Depth-First Search** | | | **Breadth-First Search** | | | **Uniform-Cost Search** | | |
| **Maze** | **#nodes explored** | **Solution length** | **Is it optimal?** | **#nodes explored** | **Solution length** | **Is it optimal?** | **#nodes explored** | **Solution length** | **Is it optimal?** |
| **tiny** | 15 | 10 | Yes | 16 | 8 | Yes | 15 | 8 | Yes |
| **medium** | 146 | 130 | Yes | 270 | 68 | Yes | 269 | 68 | Yes |
| **big** | 390 | 210 | Yes | 610 | 210 | Yes | 620 | 210 | Yes |

2. Remark:

**Using depthFirstSearch() and breathFirstSearch() functions:**

* Pac-Man does not go to all the explored squares on its way to the goal.
* It does not go wrong, but the way it has gone is not the least cost one.
* breadthFirstSearch() returns better results with shorter paths than that of depthFirstSearch().

**breathFirstSearch() and uniformCostSearch() functions return the same result.**