**Alexandria University Faculty of Engineering**

**Computer and Communication Department**

**Subject**

**Artificial Intelligence**

**Project 1 Report**

|  |  |
| --- | --- |
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# 

**BFS Sample runs:**

**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **8** | **7** | **6** |
| **5** | **4** | **3** |
| **2** | **1** |  |

**Calendar

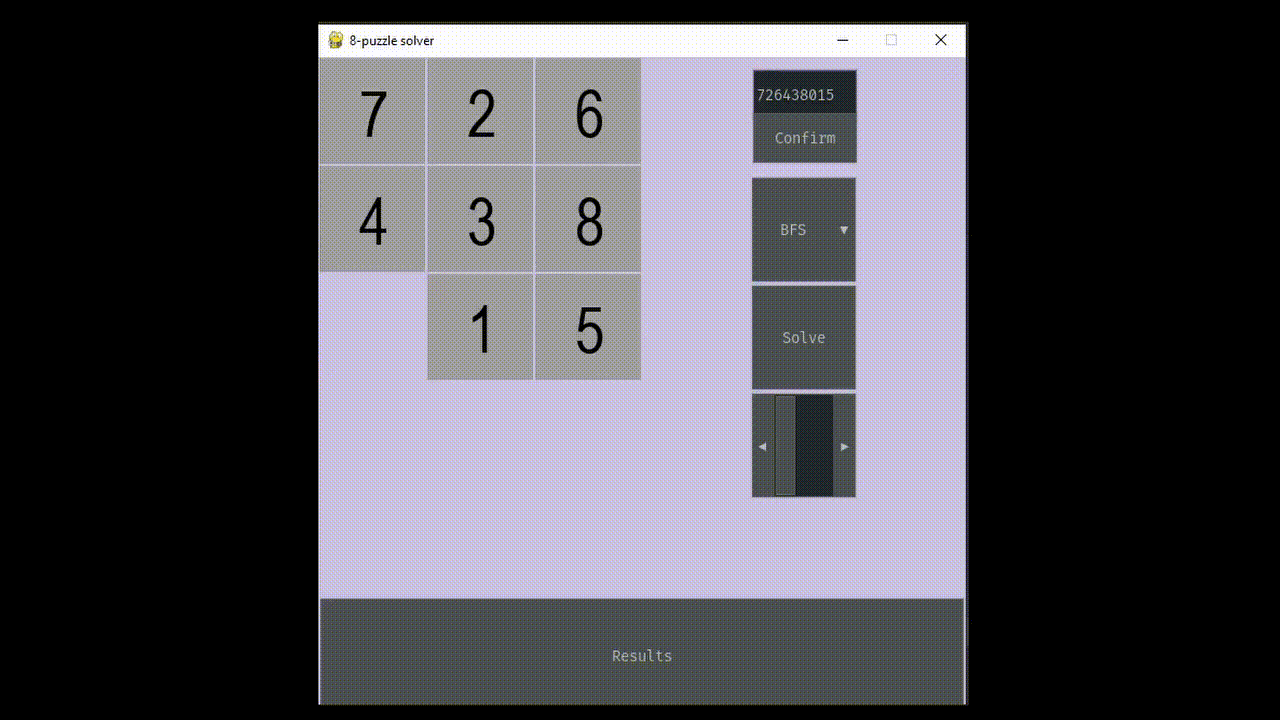
Description automatically generated with medium confidence**

A screenshot of a computer

Description automatically generated with medium confidence

**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **7** | **2** | **3** |
| **4** | **6** | **8** |
|  | **1** | **5** |

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A screenshot of a computer

Description automatically generated with medium confidence

**A\* using Manhattan heuristic function sample run 1:**

**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **8** | **7** | **6** |
| **5** | **4** | **3** |
| **2** | **1** |  |

A computer screen capture

Description automatically generated with medium confidence**A screenshot of a computer

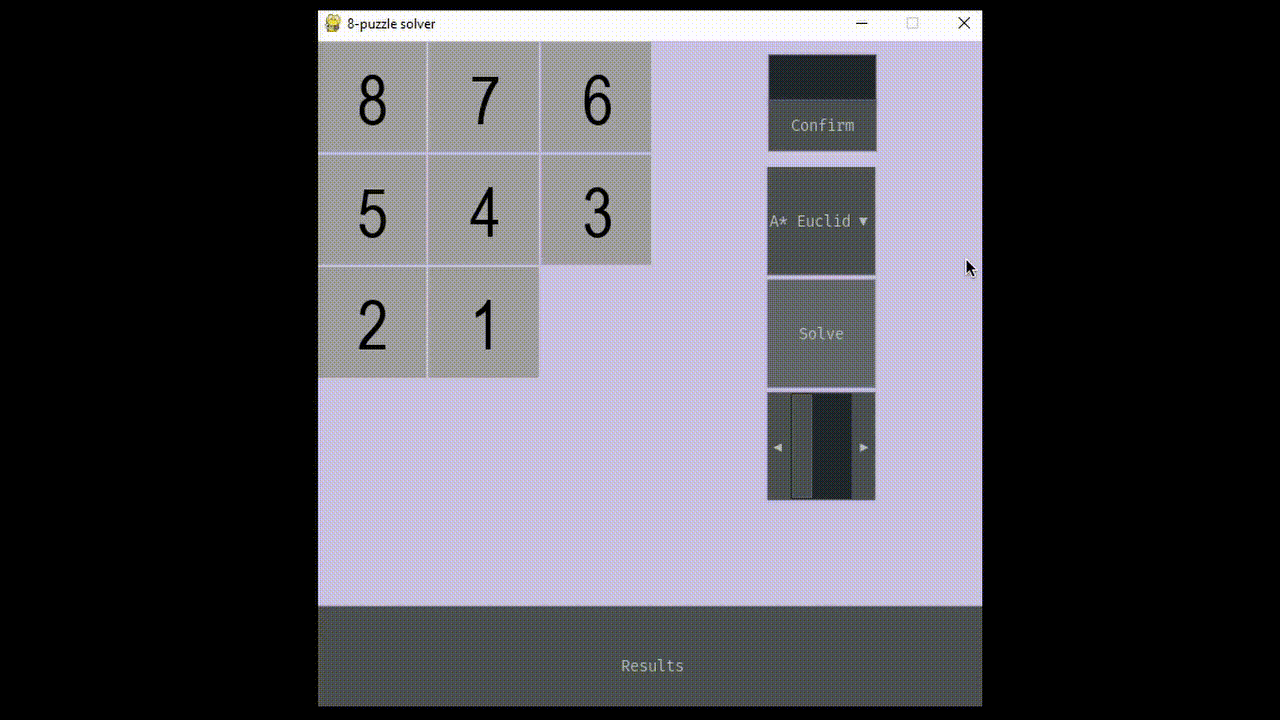
Description automatically generated with medium confidence**

**A\* using Euclidean heuristic function sample run 1:**

**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **8** | **7** | **6** |
| **5** | **4** | **3** |
| **2** | **1** |  |

A screenshot of a computer

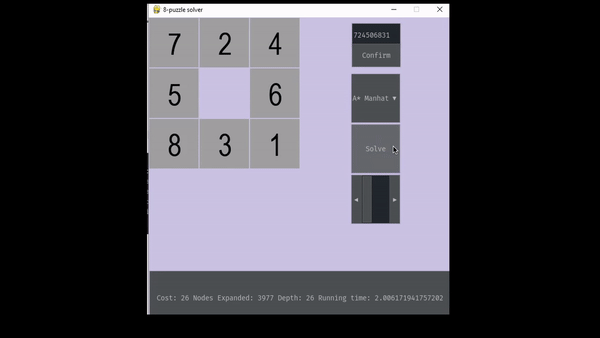
Description automatically generated with medium confidence

**A\* using Manhattan heuristic function sample run 2:**

**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **7** | **2** | **4** |
| **5** |  | **6** |
| **8** | **3** | **1** |

A screenshot of a computer

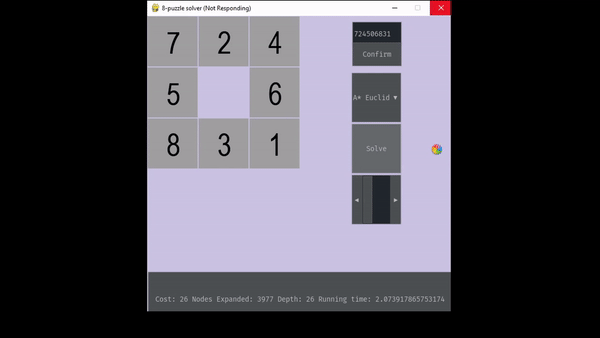
Description automatically generated with medium confidence

**A\* using Euclidean heuristic function sample run 2:**

**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **7** | **2** | **4** |
| **5** |  | **6** |
| **8** | **3** | **1** |

A screenshot of a computer

Description automatically generated with medium confidence

**We can deduce that the Manhattan heuristic is more admissible as h(n) is closer to the real solution but still less than or equal to it. It’s also faster in execution.**

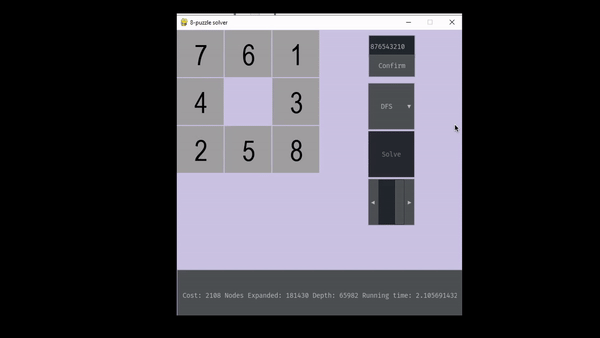
**DFS Sample runs:**

**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **8** | **7** | **6** |
| **5** | **4** | **3** |
| **2** | **1** |  |

A screenshot of a computer

Description automatically generated with medium confidence



**Initial Puzzle State:**

|  |  |  |
| --- | --- | --- |
| **7** | **2** | **4** |
| **5** |  | **6** |
| **8** | **3** | **1** |

A computer screen capture

Description automatically generated with medium confidence

**Test Case minute 1:20 in our video:**

