**VIETNAM NATIONAL UNIVERSITY**

**UNIVERSITY OF SCIENCE**



**TOPIC**

**Project 01**

MEMBERS

Lê Thanh Bình 18127041

Lư Ngọc Liên 18127046

Nguyễn Thị Anh Đào 18127272

Vũ Công Thành 18127218

**Course: Artificial Intelligence**

**Ho Chi Minh City– 2020**

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# Assignment Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tasks | Lê Thanh Bình | Lư Ngọc Liên | Nguyễn Thị Anh Đào | Vũ Công Thành |
| Create text files | No | No | 5 maps for each levels (level 3 and level 4)  5% | 5 maps for each levels (level 1 and level 2)  5% |
| Read files | No | Function to read maze from file  1% | No | No |
| Graphic | Draw map (monster, food and pacman) from file.  5% | Pacman move follow path 4% | No | No |
| Level 1 and level 2 | No | No | A\_star function to find the path for pacman 15% | BFS function to find the path for pacman  15% |
| Report | Write report 15% for each member | | No | No |

***Self rating:***

Project: 80% overall.

For each member:

+ Lê Thanh Bình: 20%

+ Lư Ngọc Liên: 20%

+ Nguyễn Thị Anh Đào: 20%

+ Vũ Công Thành: 20%

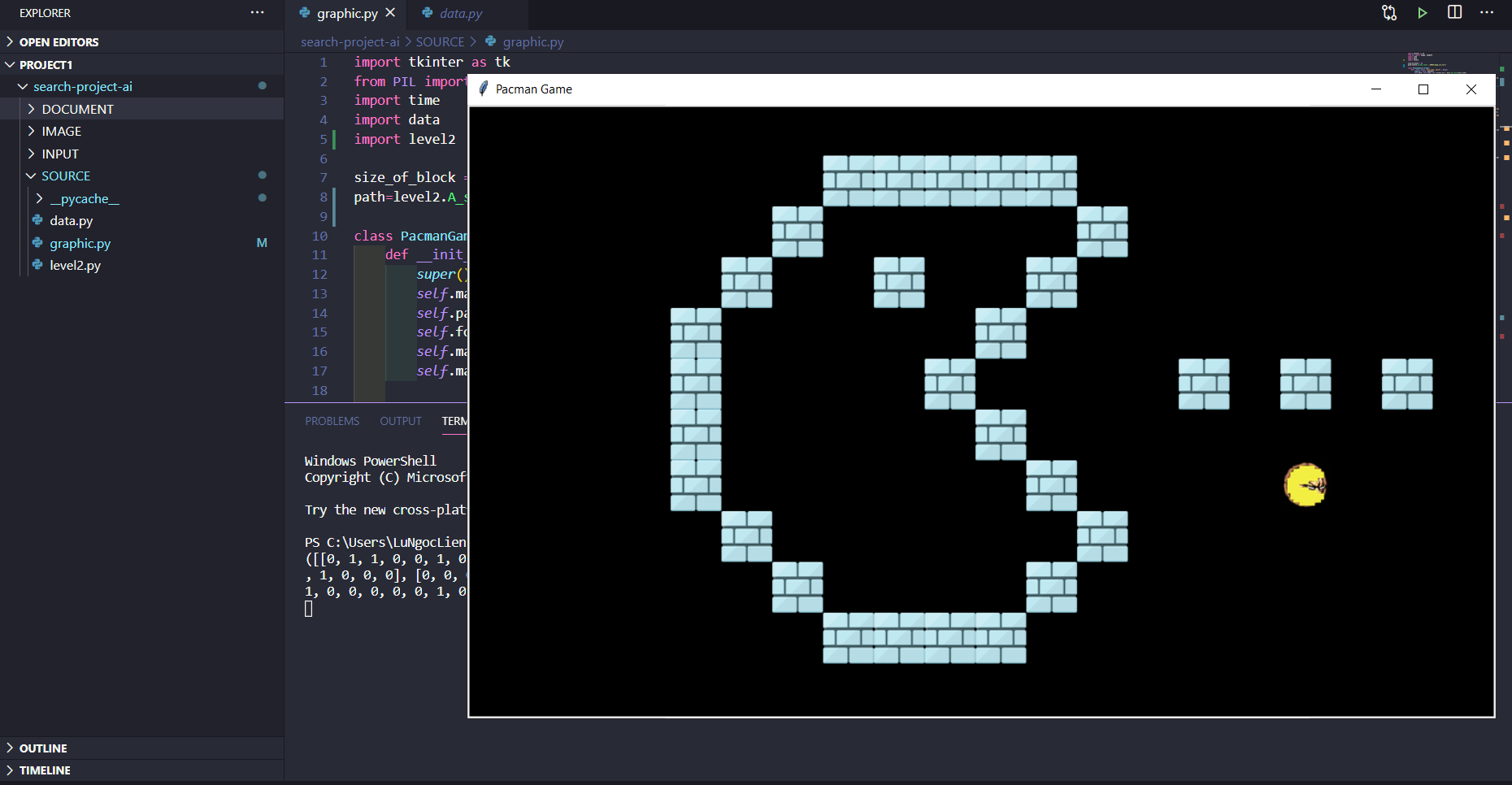
***Uncompleted task:***

+ Level 3

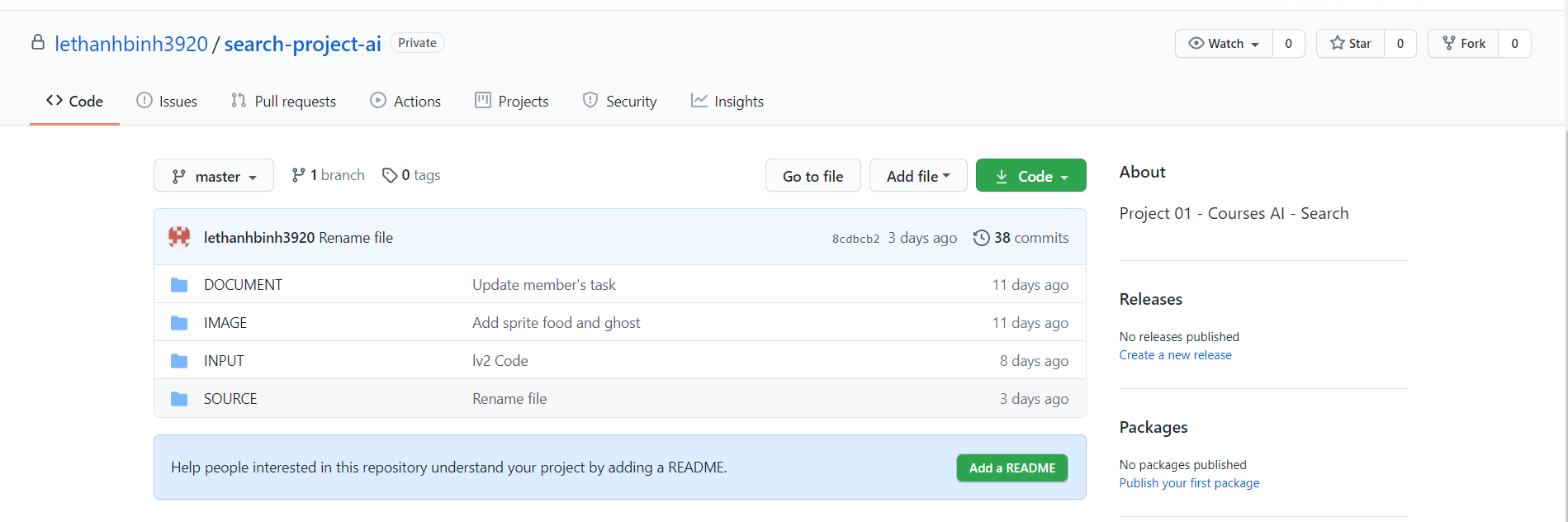
+ Level 4

# Environment to compile and run the program

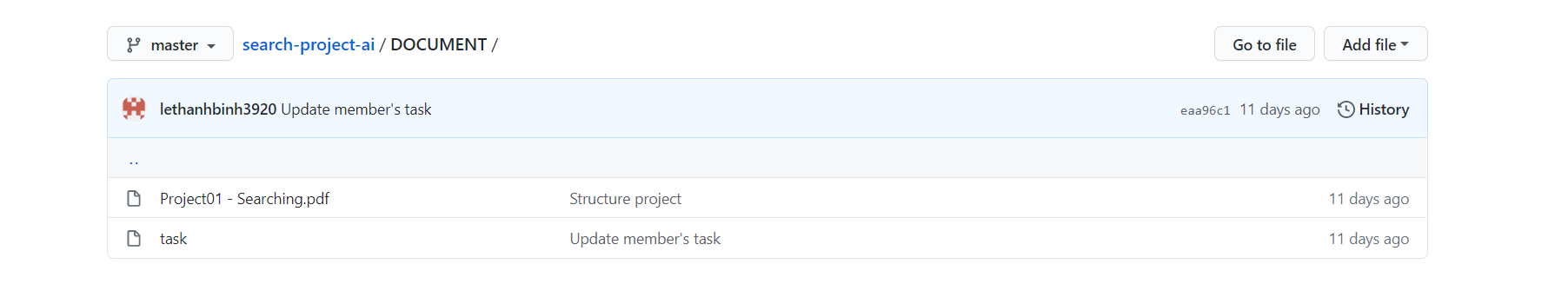
Environment to compile and run the program: Visual Code



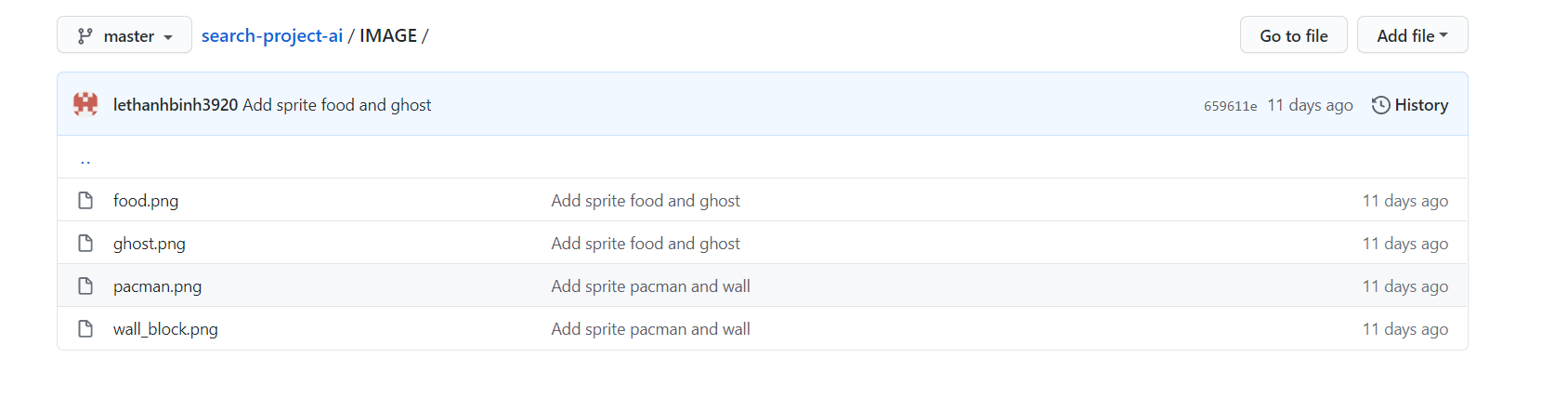
Version control: GitHub



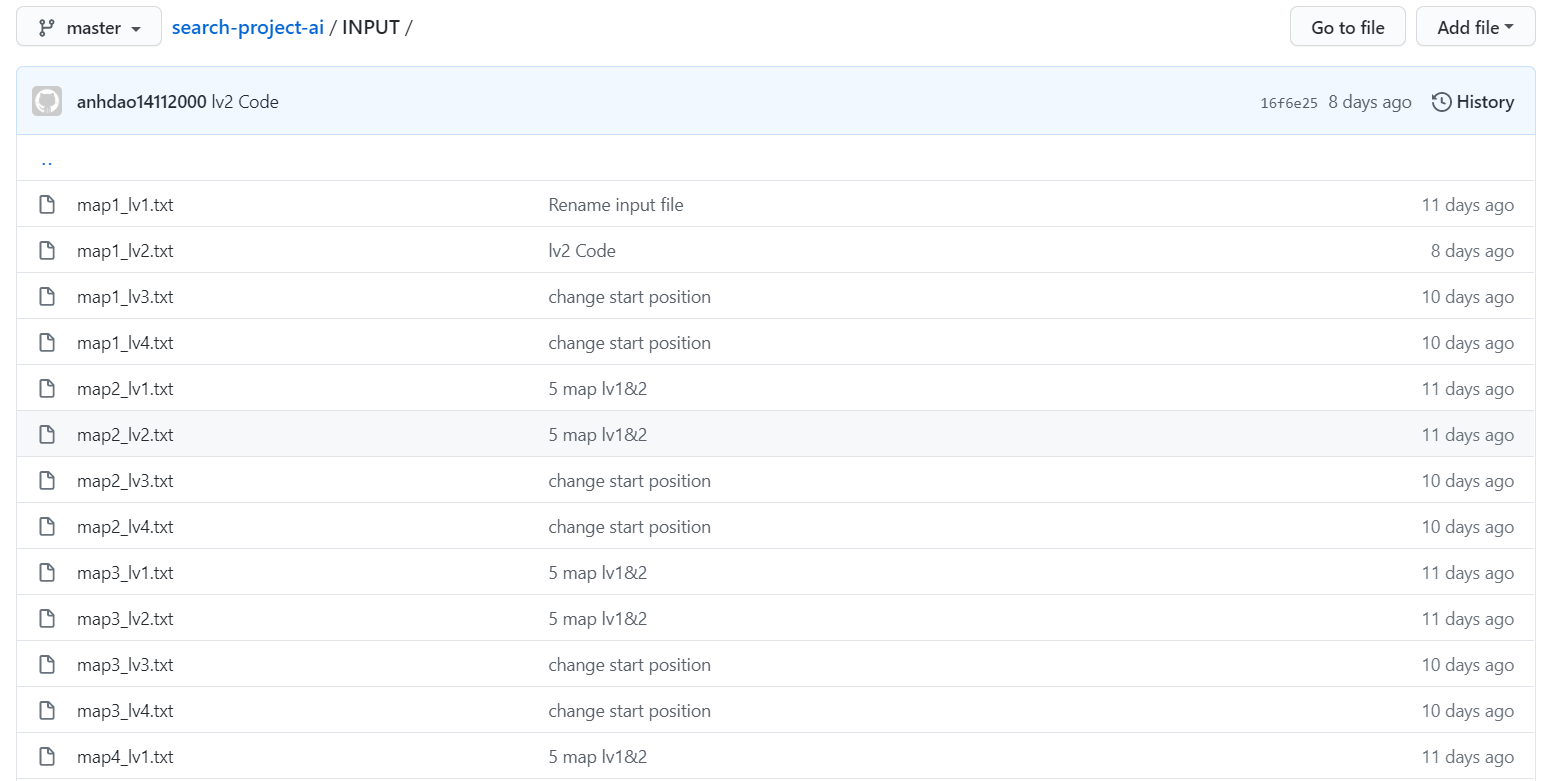
In DOCUMENT folder:



In IMAGE folder:

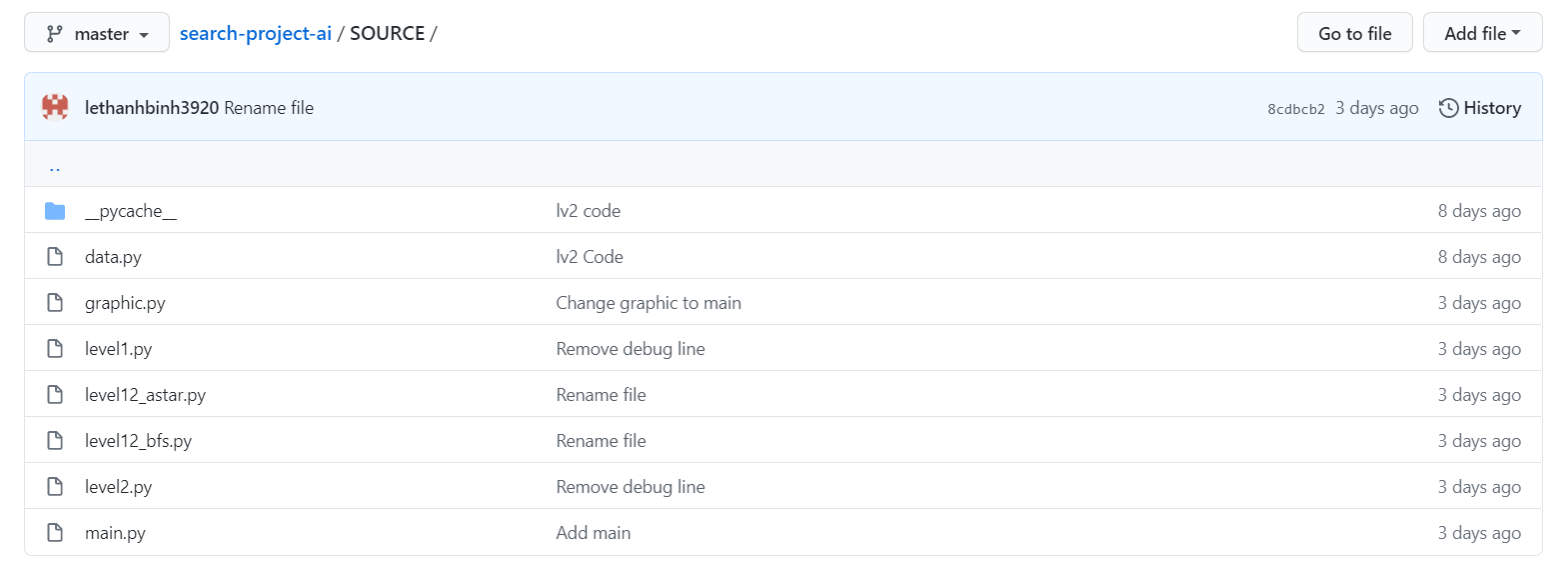


In INPUT folder:





In SOURCE folder:

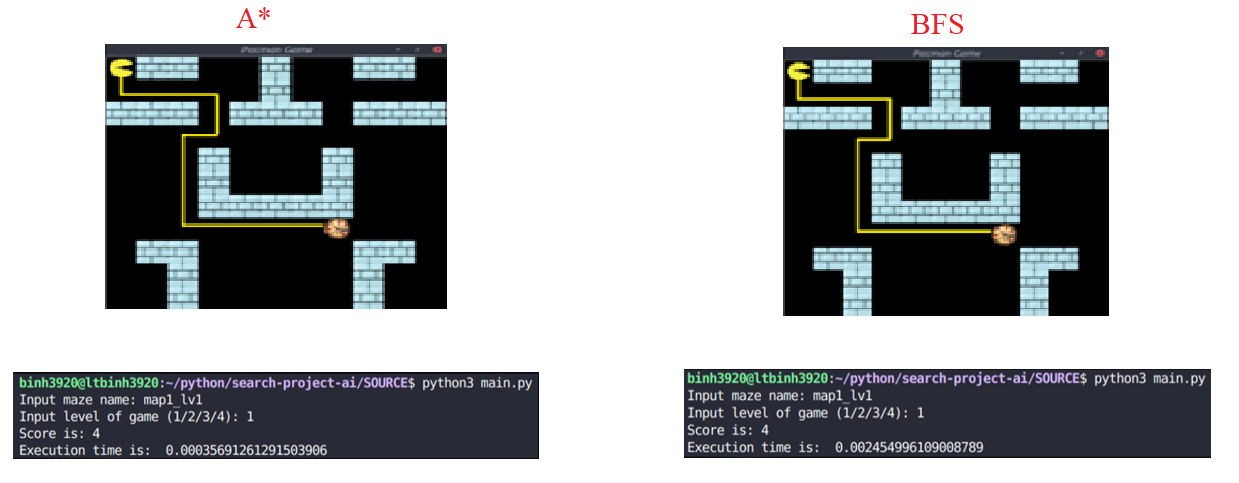
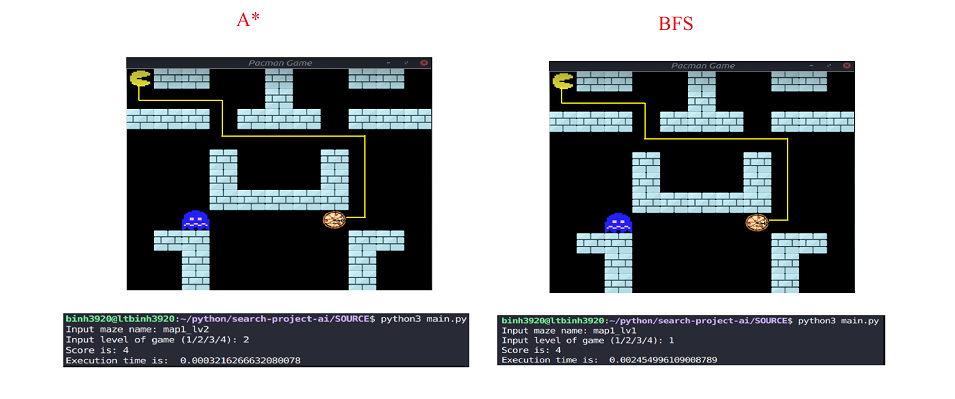
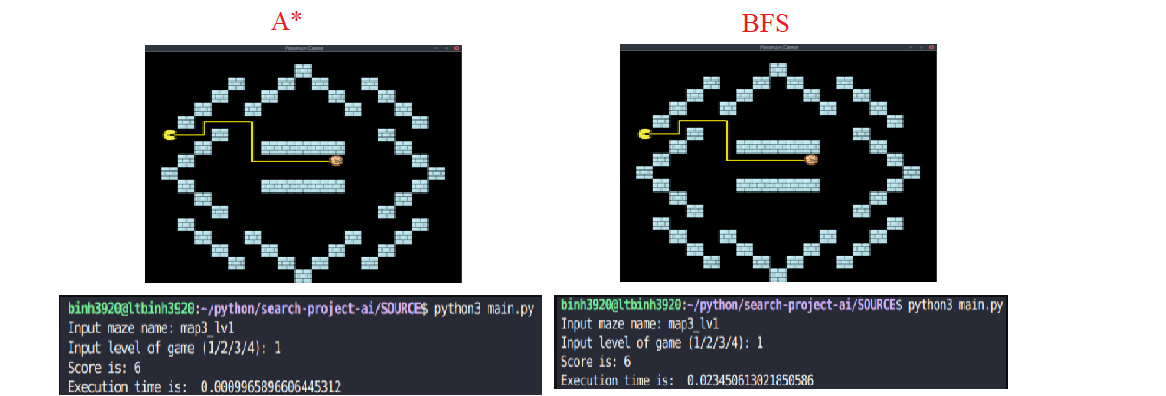


# Estimating the degree of completion level for each requirement

## Level 1 and level 2

The idea of level 1 and level 2 is quite same because at level 2 the monster does not move, the mission is the pacman finds the food. So we consider the monster as the wall.

We use 2 methods of search: A\* search and BFS which always can find the optimal way to get the food if the path exists.

* MAP 1
* LEVEL 1:
* LEVEL 2:
* MAP 2
* LEVEL 1:
* LEVEL 2:



Summary:

In run time implement, A\* is better than BFS. But in some special situations (level 2 map 2) A\* takes long time to get the path than BFS.

Based on what we have done, we achieved these tasks.

## Level 3 and level 4

404 Not found

## Graphical demonstration

We use graphical library included:

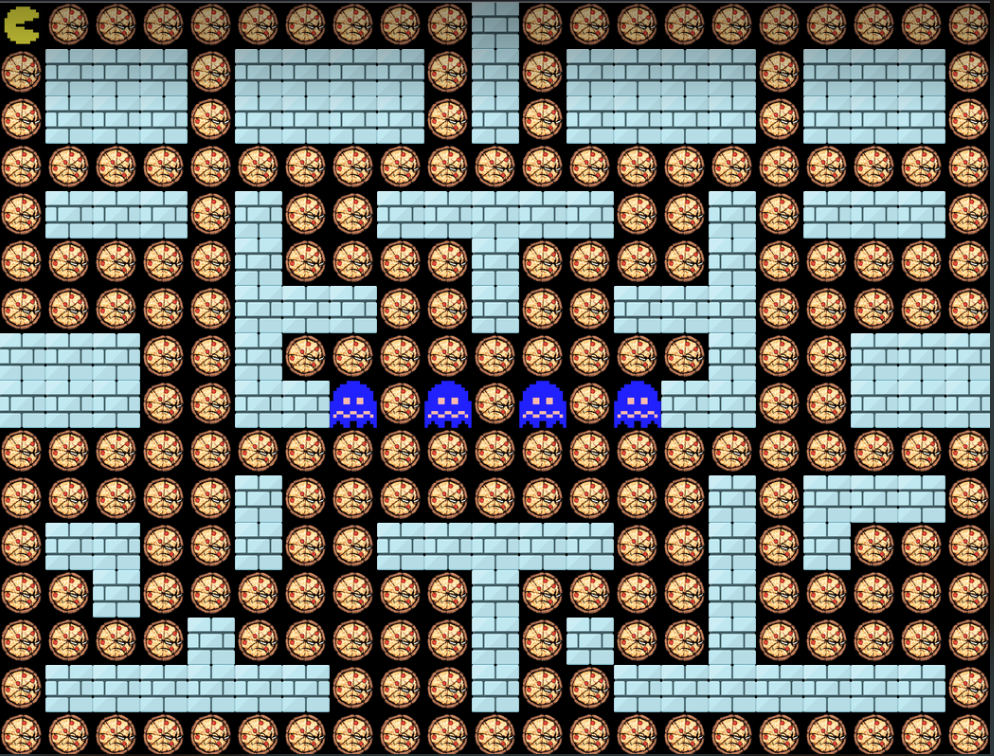
+ Canvas of Tkinter

+ Image of PIL

Images:

|  |  |  |  |
| --- | --- | --- | --- |
| Food | Monster | Pacman | Block |
|  |  |  |  |

Some example maps:



Summary:

We consider 100% achieved for this task.

## Report

We use Microsoft Word to write down what, how we have done the project by using text, image to illustrate.

Summary:

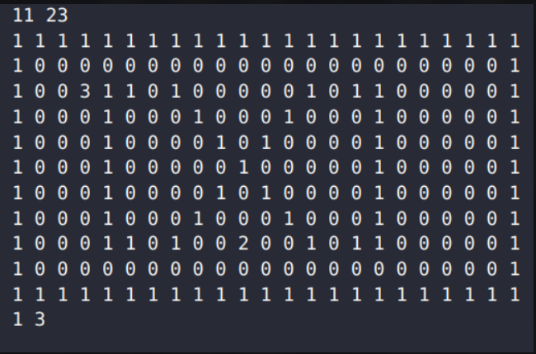
We achieved this task.

## Data

We have 5 different maps for all level 1 and level 2. These are quite the same where we put the food, block and pacman. The different is in level 2, the map has monster.

In level 3 and level 4, we have 5 completely different maps.

For example: the first line is the size of maze, the last line is the start position of pacman, number 1 is block, number 2 is food, number 3 is monster



Summary:

We achieved this task.

# References