User Manual

User Manual
Maze Runner

This program reads in a file containing 1's, 0's, and a single E which represent the walls, empty spaces, and exit of a maze respectively. The program allows the user to input a starting position in the maze and the program either solves the maze by finding a path from the starting position to the exit, or finding that a path to the exit is impossible.

1. Executing the program

Turn on and boot your computer.

Insert the flash drive containing the program file Project3.exe in the appropriate drive. (We will assume it is the A drive, but it could be any drive. Substitute the appropriate letter where you see a:)
Enter the following at the prompt.

a:Project3

The title screen will appear, along with a prompt allowing you to input the name of the file to read into the program.

2. Input

2.1 Input Requirements
The input file must consist of 100 '1's, '0's, and a single E. This creates a 10 X 10 maze with the 1's as walls, the '0's as the empty space, and the E as the exit.
If an input file is not provided, the program can randomly generate a maze for you.

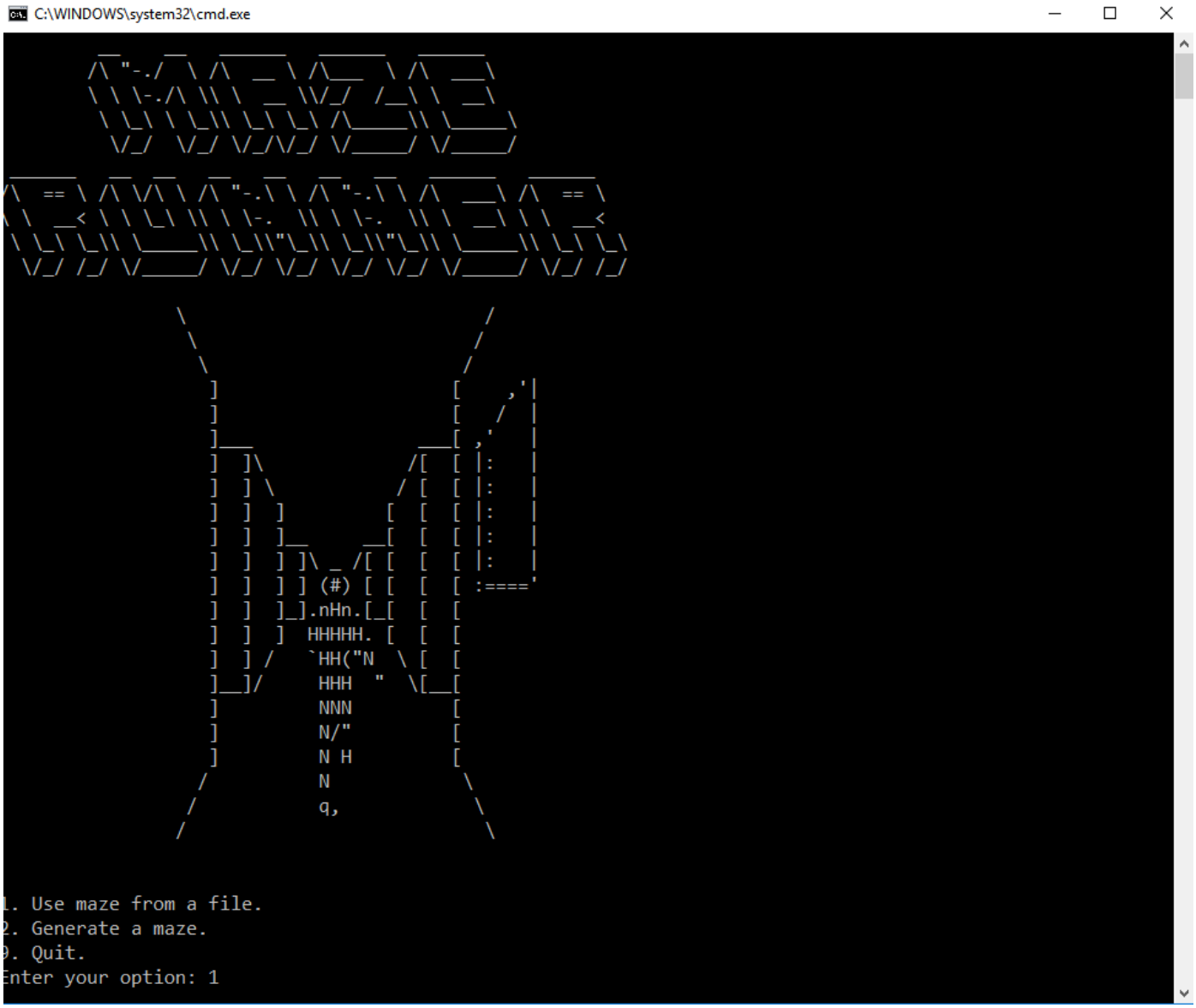
The main menu options require you to enter an integer associated with an option. The number will be next to the option it performs.

The program will ask for a starting position for the maze. Valid input for this is two integers between 0 and 11 not inclusively, assuming a 10 X 10 maze.

2.2 Input Restrictions
A number not associated with an option, or a letter will reprompt you to input the number for an option. A starting position outside of the bounds of the maze, or that is on a wall character, or a letter will reprompt you for the starting position.

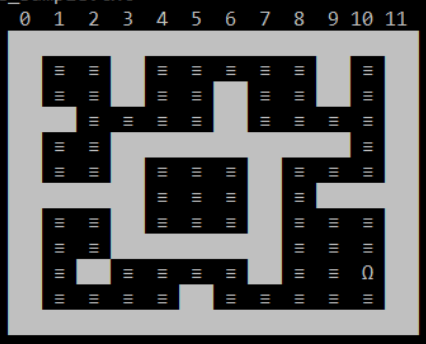
3. Output
The output will be the maze printed out with the path from the starting point to the exit marked if the exit could be reached. No other path looked at will be marked. If the exit cannot be reached from the starting point, the maze will be printed out telling you that it could not find the exit.

Example run


C:\WINDOWS\system32\cmd.exe
1. Use maze from a file.
2. Generate a maze.
9. Quit.
Enter your option: 1

C:\WINDOWS\system32\cmd.exe

```
Enter the name of the file with the maze:
maze_sample.txt
```



```
Legend:
 - Walls
≡ - Empty space
π - Starting position
Ω - Exit
* - Path taken

Enter the starting position coordinates x and y respectively (-1 to cancel): 1 1
```

```
Legend:
```

C:\WINDOWS\system32\cmd.exe

```
Enter the starting position coordinates x and y respectively (-1 to cancel): 1 1
```

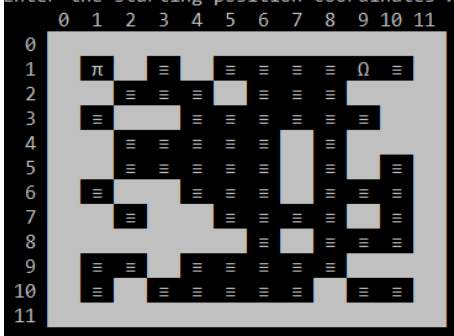
```
Legend:
 - Walls
≡ - Empty space
π - Starting position
Ω - Exit
* - Path taken

I'm free!

Would you like to try a different starting position? (y/n): y
```


C:\WINDOWS\system32\cmd.exe
Enter the starting position coordinates x and y respectively (-1 to cancel): 5 5
0 1 2 3 4 5 6 7 8 9 10 11
0
1
2
3
4
5
6
7
8
9
10
11
Legend:
- Walls
≡ - Empty space
π - Starting position
Ω - Exit
* - Path taken
I'm trapped!
Would you like to try a different starting position? (y/n): y
0 1 2 3 4 5 6 7 8 9 10 11
0
1
2
3
4
5
6
7
8
9
10
11


C:\WINDOWS\system32\cmd.exe
- Empty space
- Starting position
- Exit
- Path taken
nter the starting position coordinates x and y respectively (-1 to cancel): 0 0
nvalid starting location. Please start on an empty tile.
nter the starting position: 12 12
ncorrect input.
lease enter a valid integer 0 to 11 or -1 to cancel
10
0 1 2 3 4 5 6 7 8 9 10 11
0
1
2
3
4
5
6
7
8
9
10
11
egend:
- Walls
- Empty space
- Starting position
- Exit
- Path taken
'm free!
ould you like to try a different starting position? (y/n): n
. Use maze from a file.
. Generate a maze.
. Quit.
nter your option: 2

C:\WINDOWS\system32\cmd.exe

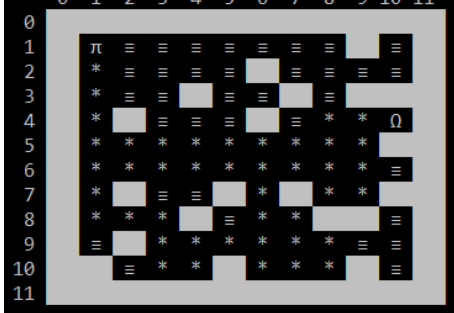
```
Enter the starting position coordinates x and y respectively (-1 to cancel): 1 1
```



```
Legend:
 - Walls
≡ - Empty space
π - Starting position
Ω - Exit
* - Path taken

I'm trapped!

1. Use maze from a file.
2. Generate a maze.
9. Quit.
Enter your option: 2
```

C:\WINDOWS\system32\cmd.exe

```
Enter the starting position coordinates x and y respectively (-1 to cancel): 1 1
```



```
Legend:
 - Walls
≡ - Empty space
π - Starting position
Ω - Exit
* - Path taken

I'm free!

1. Use maze from a file.
2. Generate a maze.
9. Quit.
Enter your option: 9
Press any key to continue . . .
```