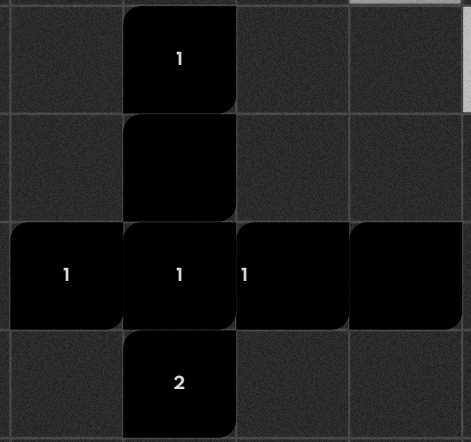
Extra Features

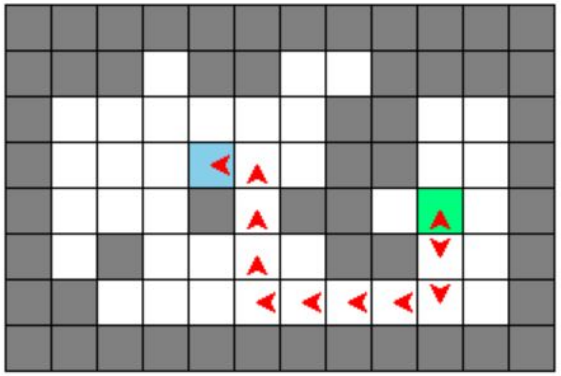


Haaris Bin Sulaiman P2112815

Feature 1 - Maze Generator

Algorithm: Dijkstra's Algorithm, Path Length: 10

PIZZA RUNNERS: Done by Kaung Khant & Haaris Sulaiman, DAAA/FT/2B/01



CONTROLS

Tab - Switch Algorithm
R - Restart
Esc - Exit
G - Generate map
M - Move sprite
D- Default

INFO

Algorithm: Dijkstra's Algorithm
Path Length: 10 Tiles

How to use

- Press ‘G’ key at any point of time and a new maze will load
- It will use Dijkstra’s algorithm by default. Press tab to change to left-hand algorithm.
- Press ‘D ‘ key to go back to the default map.

Description

- Generating a new map and displaying it on turtle every time
- Can still run both algorithms and count the path length
- Can keep on generating a new map and display it on turtle and it the algorithms can still run smoothly
- Increase maze complexity by adding more walls in the maze
- Can go back to default map
- Check directory with OS and make new files using counter

Challenges

- Modifying the map such that it will not generate too many walls or too few walls
- Generating a map that will not be missing a starting and end point
- Ensuring that the algorithm works on the newly generated mazes
- Using the runner class to run the turtle manually on the maze
- Integrating my additional features together with the main programme

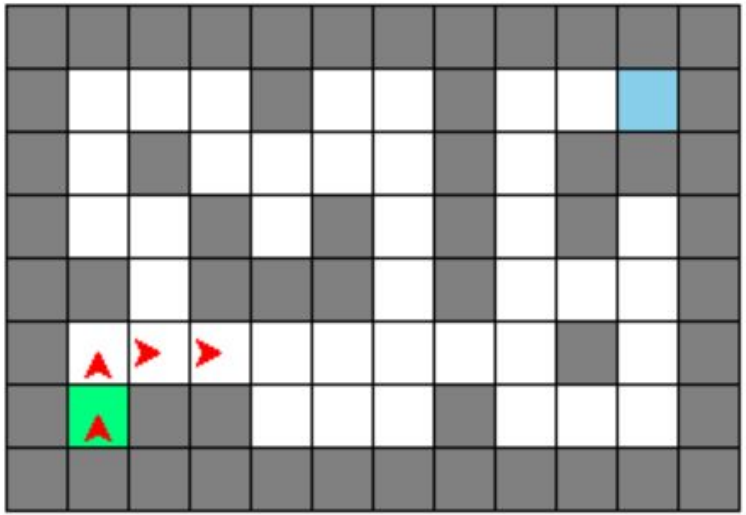
Usefulness

- Can see if the algorithm works on different maze designs
- Since it is a business district, there will be new buildings constructed every time and thus city map will not be the same
- Ensures the drone can still be navigated with the algorithms and deliver pizzas to different houses even with a new city map

Feature 2 - Turtle Free Roaming

Free Roaming Mode

PIZZA RUNNERS: Done by Kaung Khant & Haaris Sulaiman, DAAA/FT/2B/01



CONTROLS

Tab - Switch Algorithm

R - Restart

Esc - Exit

G - Generate map

M - Move sprite

D- Default

How to use

- User just have to press ‘M’ key and will go to free roaming mode
- Can change back to using algorithm using Tab key
- Can restart by pressing R
- Use up,right,left,down arrow keys to move

Description

- Turtle sprite can move up,down,right,left when user uses the keyboard arrow keys
- Can only implement after the turtle sprite is done with the left-hand when the maze just loaded in turtle.
- Can start over again and again

Challenges

- Integrating this movements into the main program
- Making use of OOP and to make the turtle sprite move
- Making the turtle sprite avoid walls when manually moving it

Usefulness

- In the event that there are some flaws with the navigation system or the algorithm, the drone can be controlled manually to deliver

- If drone is lost or trapped, it can be controlled manually to deliver to the delivery location

THANKS!

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