

# A-MAZE-ING GAME

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USER GUIDE.

## 1 What the program does

The program asks the user to draw a maze, then it will show the shortest path from the starting to the ending point if it exists. In the next section will be explained how to handle the maze.

## 2 How to run the program

Open the project file in DrRacket and press run, the homepage of the program will open, to start the game press the space bar, a maze without any walls will be displayed.

The maze is composed by a starting point (a door), an ending point (a bag) and walls.

What you can do with the maze is: add walls or remove walls: to add walls first press “w” (if you don’t have pressed any other key you can avoid pressing “w”), to remove them first press “d”, then you need to press either the left-mouse button or the right-mouse button and move the cursor, you will place walls or remove them based on the key pressed initially along squares covered by the cursor. You can also remove every wall by pressing “c” move the starting or ending point: to move the starting point first press “b”, to move the ending point first press “e”, then you need to click where you want to move them by pressing “s” the shortest path, if it exist, will be displayed from the starting to the ending point. (a path exist if from moving in the four cardinal directions you can reach the ending point from the starting points, diagonal move isn’t allowed) you can edit the maze while the path from the start to the end is shown the path will update accordingly.

- **Add Wall :** first press “w” (if you don’t have pressed any other key you can avoid pressing “w”), Then you need to press either the left-mouse button or the right-mouse button and move the cursor.
- **Remove Wall:** Same process as Add Wall the only difference is the key, which in this case is "d".
- **Clear:** To remove every wall just click "c"
- **Moving Start Point:** To move the starting point first press “b”, and then click on the new cell to set it.
- **Moving End Point:** To move the ending point first press “e”, and then click on the new cell to set it.
- **Solve the maze:** To solve the maze press "s" and the shortest path, if it exist, will be displayed from the starting to the ending point. a path exist if from moving in the four cardinal directions you can reach the ending point from the starting points, diagonal move isn’t allowed

It’s possible edit the maze while the path from the start to the end is shown the path will update accordingly.

## 3 Limit

How to decrease or increase the number of rows and/or columns: at the top of the file there will be 2 constant: ROWS and “COLUMNS you can change both ROWS and COLUMNS to 10 / 15 / 20 / 25, you can also put different values, that is you can put 10 and 20 / 15 and 20 / 20 and 25 to either ROWS or COLUMNS. if you put an unallowed combination of ROWS and COLUMNS they will be set both to 20

## 4 Developer contact

in case of any doubt, bug or problem contact:

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