

FINAL PROJECT

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THE BASIC PROBLEM

Write a maze game which the player runs away from monsters, collects gold and searches for a way out.

PROBLEM - A

When inputting with key arrows, m loop in playGame function, worked twice for each input (worked an extra time)

I tried different functions thinking that the `_getch()` function might be causing a jump, but it hasn't worked.

Finally, using the 'flag' variable, I checked if the move () function return null and then by moving the flag value to the playGame function, I made it a condition.

```
void playGame(char matrix[][max], int row, int column)
{
    bool flag = true;
    int countOfGold = 0, i = 0, j = 0, turn = 0;

    for (int t = 0; t < row*column; t++)
    {
        system("cls");
        if (flag)
            printMatrix(matrix, i, j, row, column);
        flag = true;
        int a = i, b = j;
        move(&i, &j, &flag);
    }
}
```

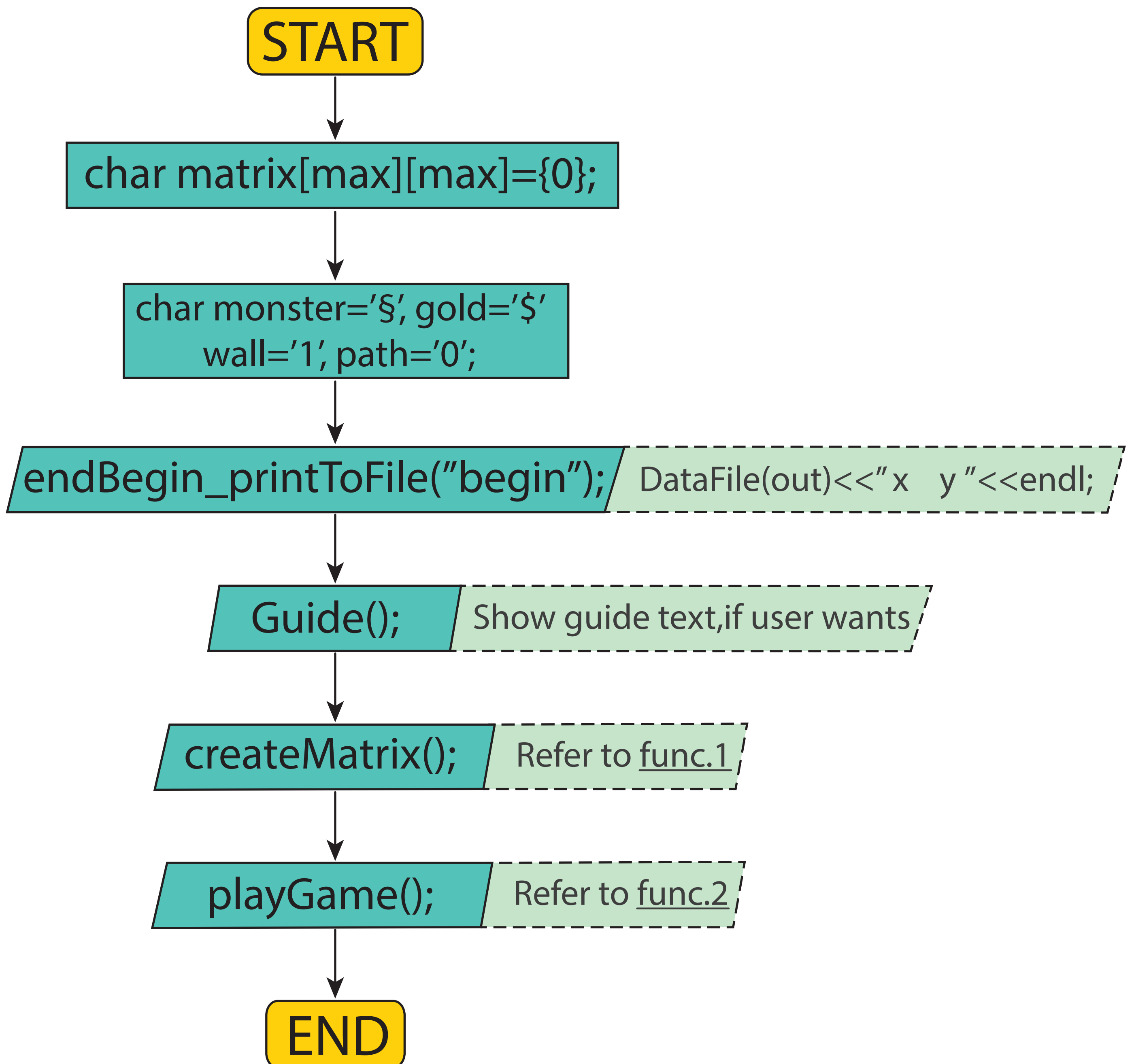
```
void move(int*i, int*j, bool*flag)
{
    int key = _getch();

    switch (key)
    {
        case 'a':
        case 'A': *j = *j - 1; break; //LEFT
        case 'd':
        case 'D': *j = *j + 1; break; //RIGHT
        case 'w':
        case 'W': *i = *i - 1; break; //UP
        case 's':
        case 'S': *i = *i + 1; break; //DOWN
        default: *flag = false; break;
    }
}
```

```
void playGame(char matrix[][max], int row, int column)
{
    bool flag = true;
    int countOfGold = 0, i = 0, j = 0, turn = 0;

    for (int t = 0; t < row*column; t++)
    {
        system("cls");
        if (flag)
            printMatrix(matrix, i, j, row, column);
        flag = true;
        int a = i, b = j;
        move(&i, &j, &flag);
    }
}
```

BASIC FLOW CHART



FUNC.1

createMatrix();

START

prompt user, get row,column and difficulty

for i= 0 to row

for j= 0 to column

matrix[i][j]=rand()%2

NEXT

NEXT

add("monsters",difficulty); and add("golds",4-difficulty);

m=(row + column)/4 *(difficulty); for i= 0 to m

**i = rand() % (row);
j = rand() % (column);**

matrix[i][j]=gold

str

matrix[i][j]=monster

NEXT

createSafePath();

i=0;j=0; for t= 0 to (row+column)

flag=rand()%2

DOWN

i++; matrix[i][j]=0

flag=1?

RIGHT

j++; matrix[i][j]=0

no

i=(row-1)?

yes

for a= j to column

matrix[i][a] = 0;

||

for a= i to row

matrix[a][j] = 0;

yes

j=(column-1)?

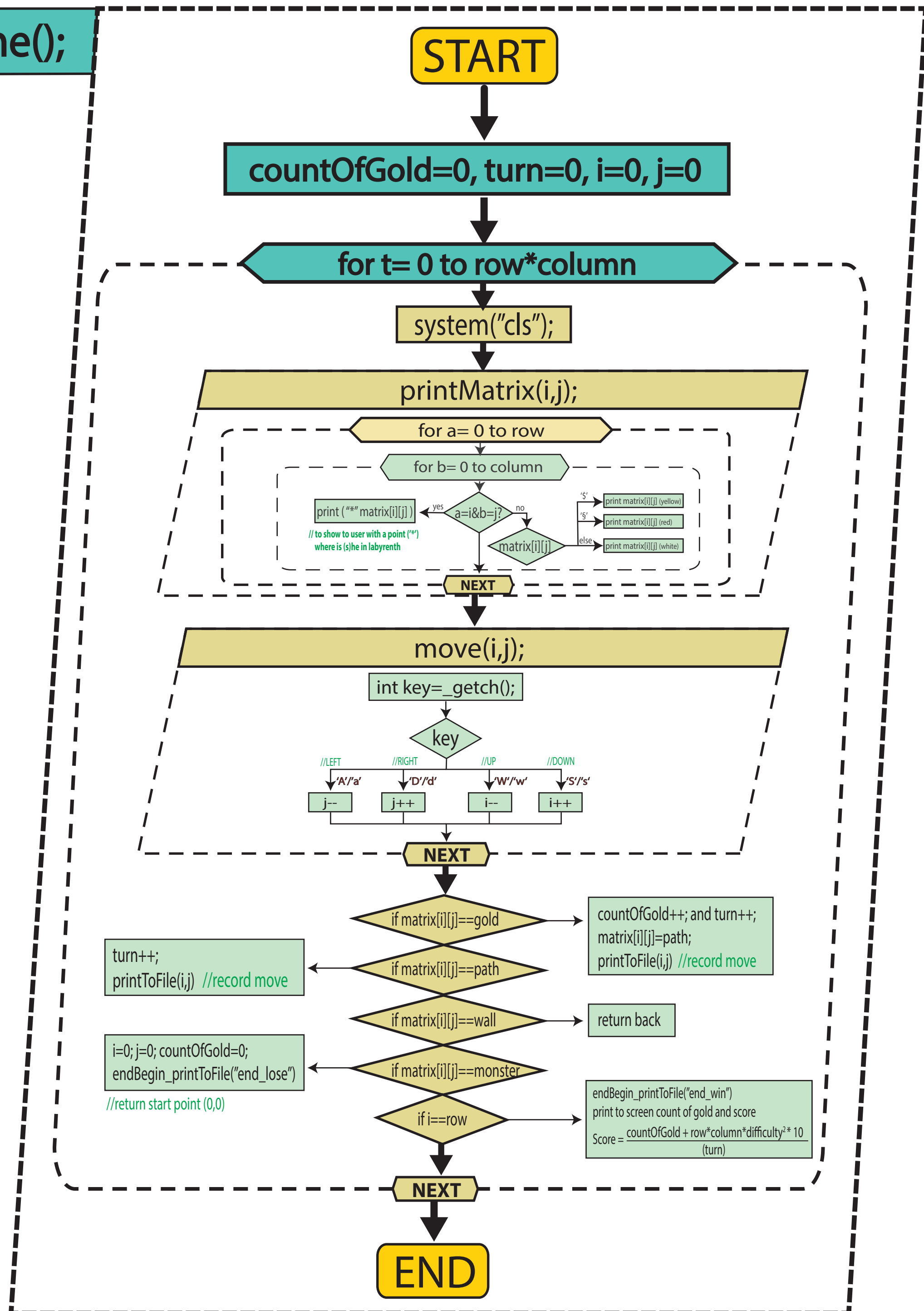
no

NEXT

END

FUNC.2

playGame();



SCREENSHOTS

```
C:\Users\bilon\Desktop\Programming\Final_Maze\Debug\Final_Maze.exe
Welcome to the Maze Game
Would you like to see guide (Y/N):y

+ You are in a maze with the monsters ($).
+ Please, use the W,A,S,D keys to move and try to find a way to escape (0).
+ Watch out for walls (1) and don't get caught by the monsters..
+ Collect treasures ($) on the way if you can.
+ If you get caught by monsters you won't die but you will lose your golds.
+ Remember, God is watching you and records your every move in a notebook. (output.txt :D)

Now please, enter to number of rows and columns:
10
10
Please, select the difficulty by number ( easy=1 / normal=2 / hard=3 ) :
3
Loading...
_
```

```
C:\Users\bilon\Desktop\Programming\Final_Maze\Debug\Final_Maze.exe
0      0      0      0      1      1      1      0      1      1
1      $      0      0      0      0      1      1      $      0
1      1      0      1      1      0      *      $      $      1
$      1      $      $      1      $      0      0      1      1
$      0      0      $      $      1      1      $      $      0
1      1      1      0      0      1      1      0      0      1
0      $      1      0      0      1      1      0      0      0
1      0      $      1      0      1      $      0      1      1
0      0      $      1      0      1      0      0      1      0
0      1      1      0      0      0      $      0      0      0
_
```

```
C:\Users\bilon\Desktop\Programming\Final_Maze\Debug\Final_Maze.exe
0      0      0      0      1      1      1      0      1      1
1      $      0      0      0      0      1      1      $      0
1      1      0      1      1      0      $      $      0      $
$      1      $      $      1      0      0      0      1      1
$      0      0      $      $      1      1      0      $      0
1      1      1      0      0      1      1      0      0      1
0      $      1      0      0      1      1      0      0      0
1      0      $      1      0      1      $      0      1      1
0      0      $      1      0      1      0      0      1      0
0      1      1      0      0      0      $      0      *      0
_

Congratulations, You survived:
Collected Golds = 2
Your Score = 562.625

Press any key to continue . . . _
```