

2048 GAME

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DESCRIPTION

	2		
	4	32	2
	8	64	128
2	4	2	2048

- 2048 is a single-player sliding block puzzle game designed by Italian web developer Gabriele Cirulli.
- 2048 is played on a plain 4×4 grid, with numbered tiles that slide when a player moves them using the four arrow keys.[3] Every turn, a new tile randomly appears in an empty spot on the board with a value of either 2 or 4.

PROJECT FLOW

- Day 1 : Analysing the project statement
- Day 2 : Basic design, random tiles and gitlab
- Day 3 : Up and down movements
- Day 4 : Left and right movements and LaTeX
- Day 5 : Checking over the presentation

APPROACH

- Using tkinter GUI library We have designed a Grid,applied colors.
- Then two random tiles were given initially.
- Required functionalities were given.
- Movements(up,down,right,left) for the tiles were given.
- Score Board was given.

TECHNICAL STACK

- PYTHON IDLE

LEARNINGS

- LaTeX Beamer
- GITLAB

CHALLENGES

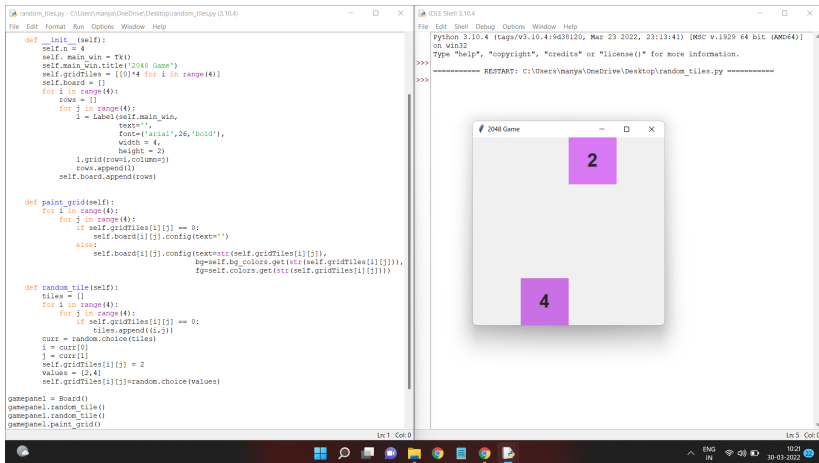
- We felt it like a challenge when we were working on the basic design mainly in designing Grid
- We faced a little difficulty as we were new for GITLAB and LaTeX but we did our best
- Working with tkinter also made us to feel difficult

STATISTICS

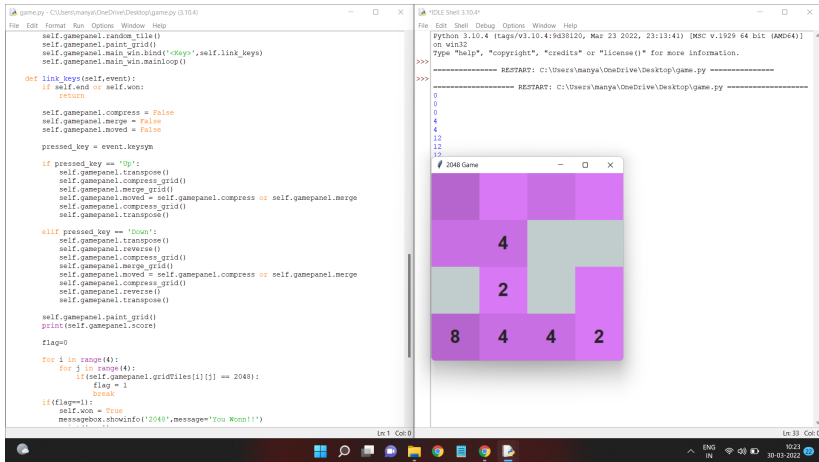
Number of lines of code - 203

Number of functions - 10

DAY 2



DAY 3



```
game.py - C:\Users\manyal\OneDrive\Desktop\game.py (3.10.4)
File Edit Format Run Options Window Help
self.gamepanel.random_tile()
self.gamepanel.paint_grid()
self.gamepanel.main_win.bind('<key>',self.link_keys)
self.gamepanel.main_win.mainloop()

def link_keys(self,event):
    if self.end or self.won:
        return

    self.gamepanel.compress = False
    self.gamepanel.merge = False
    self.gamepanel.moved = False

    pressed_key = event.keysym

    if pressed_key == 'Up':
        self.gamepanel.transpose()
        self.gamepanel.compress_grid()
        self.gamepanel.merge_grid()
        self.gamepanel.moved = self.gamepanel.compress or self.gamepanel.merge
        self.gamepanel.compress_grid()
        self.gamepanel.transpose()

    elif pressed_key == 'Down':
        self.gamepanel.transpose()
        self.gamepanel.reverse()
        self.gamepanel.compress_grid()
        self.gamepanel.merge_grid()
        self.gamepanel.moved = self.gamepanel.compress or self.gamepanel.merge
        self.gamepanel.compress_grid()
        self.gamepanel.reverse()
        self.gamepanel.transpose()

    self.gamepanel.paint_grid()
    print(self.gamepanel.score)

    flag=0

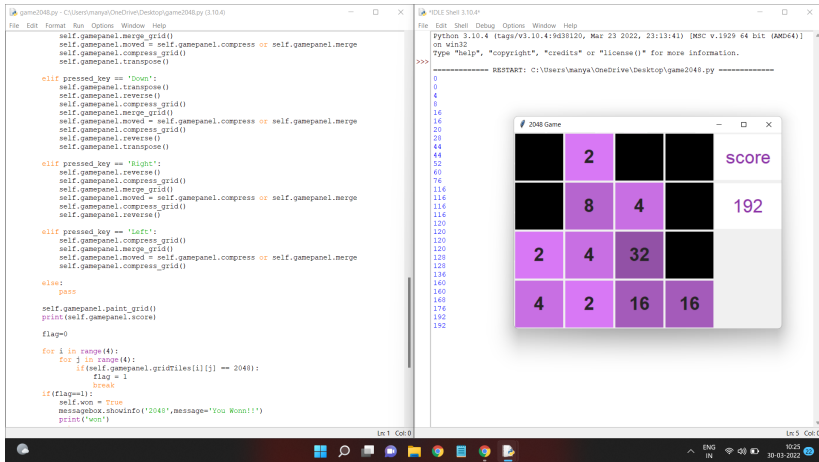
    for i in range(4):
        for j in range(4):
            if(self.gamepanel.gridFiles[i][j] == 2048):
                flag = 1
                break

    if(flag==1):
        self.won = True
        messagebox.showinfo('2048',message='You Won!!!')

----- RESTART: C:\Users\manyal\OneDrive\Desktop\game.py -----
python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
----- RESTART: C:\Users\manyal\OneDrive\Desktop\game.py -----
0
0
0
4
4
12
12
12

2048 Game
-----
|  |  |  |  |
|  |  |  |  |
|  | 4 |  |  |
|  | 2 |  |  |
| 8 | 4 | 4 | 2 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
-----
Ln 1 Col 0
Ln 33 Col 0
```

DAY 4



The screenshot displays a Windows desktop environment. On the left, a window titled 'game2048.py - C:\Users\manya\OneDrive\Desktop\game2048.py (3.10.4)' shows the Python code for a 2048 game. The code includes logic for handling 'Down', 'Right', and 'Left' key presses, as well as a 'win' condition. On the right, a terminal window titled 'CMD Shell 3.10.4' shows the execution of the game. The terminal output includes a restart command and a list of numbers. In the foreground, a window titled '2048 Game' displays the game board. The board is a 4x4 grid with numbers 2, 4, 8, 16, and 32. The score is 192.

```
game2048.py - C:\Users\manya\OneDrive\Desktop\game2048.py (3.10.4)
File Edit Format Run Options Window Help
self.gamepanel.merge_grid()
self.gamepanel.moved = self.gamepanel.compress or self.gamepanel.merge
self.gamepanel.compress_grid()
self.gamepanel.transpose()

elif pressed_key == 'Down':
    self.gamepanel.transpose()
    self.gamepanel.reverse()
    self.gamepanel.compress_grid()
    self.gamepanel.merge_grid()
    self.gamepanel.moved = self.gamepanel.compress or self.gamepanel.merge
    self.gamepanel.compress_grid()
    self.gamepanel.reverse()
    self.gamepanel.transpose()

elif pressed_key == 'Right':
    self.gamepanel.compress_grid()
    self.gamepanel.merge_grid()
    self.gamepanel.moved = self.gamepanel.compress or self.gamepanel.merge
    self.gamepanel.compress_grid()
    self.gamepanel.reverse()
    self.gamepanel.transpose()

elif pressed_key == 'Left':
    self.gamepanel.compress_grid()
    self.gamepanel.merge_grid()
    self.gamepanel.moved = self.gamepanel.compress or self.gamepanel.merge
    self.gamepanel.compress_grid()
    self.gamepanel.reverse()

else:
    pass

self.gamepanel.paint_grid()
print(self.gamepanel.score)

flag=0

for i in range(4):
    for j in range(4):
        if(self.gamepanel.gridTiles[i][j] == 2048):
            flag = 1
            break

if(flag==1):
    self.won = True
    messagebox.showInfo('2048',message='You Won!!!')
    print('won')
```

```
"CMD Shell 3.10.4"
File Edit Shell Debug Options Window Help
python 3.10.4 [tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41] [MSC v.1929 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
>>> RESTART: C:\Users\manya\OneDrive\Desktop\game2048.py
0
0
4
4
16
16
20
20
44
44
52
52
60
60
76
76
116
116
116
116
120
120
120
120
128
128
136
136
160
160
168
168
176
176
192
192
```

2048 Game

	2			score
	8	4		192
2	4	32		
4	2	16	16	

REPOSITORY

- <https://gitlab.com/Sreeja-Nagireddi/2048.git>

THANK YOU