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1 import numpy as np
2 import pygame
3 import sys
4 import math
5 import tkinter as tk
6 from tkinter import messagebox
7
8 BG_PILIH = (244, 251, 255)
9 BG_COLOR = (255, 246, 108)
10 BG_TEMPAT = (245, 255, 244)
11 KOTAK_BIRU = (41, 255, 242)
12 KOTAK_MERAH = (249, 40, 40)
13 TXT_COLOR = (50, 80, 45)
14
15 SIZEKOTAK = 70
16
17 BARIS_COUNT = 6
18 COLOM_COUNT = 7
19
20 def buat_papan():
21     papan = np.zeros((BARIS_COUNT, COLOM_COUNT))
22     return papan
23
24 def pilih_taroh(papan, baris, col, bulat):
25     papan[baris][col] = bulat
26
27 def penempatan(papan, col):
28     return papan[BARIS_COUNT-1][col] == 0
29
30 def tambah_bulat(papan, col):
31     for b in range(BARIS_COUNT):
32         if papan[b][col] == 0:
33             return b
34
35 def print_papan(papan):
36     print(np.flip(papan, 0))
37
38 def pemenang_true(papan, bulat):
39     # check horizontal
40     for c in range(COLOM_COUNT-3):
41         for b in range(BARIS_COUNT):
42             if papan[b][c] == bulat and papan[b][c+1] == bulat and papan[b][c+2] ==
bulat and papan[b][c+3] == bulat:
43                 return True
44
45     # check vertical
46     for c in range(COLOM_COUNT):
47         for b in range(BARIS_COUNT-2):
48             if papan[b][c] == bulat and papan[b+1][c] == bulat and papan[b+2][c] ==
bulat and papan[b+3][c] == bulat:
49                 return True
50
51     # check miring kanan
52     for c in range(COLOM_COUNT-3):
53         for b in range(BARIS_COUNT-2):
54             if papan[b][c] == bulat and papan[b+1][c+1] == bulat and papan[b+2][c+2]
== bulat and papan[b+3][c+3] == bulat:
55                 return True
56
57     # check miring kiri

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58     for c in range(COLOM_COUNT-3):
59         for b in range(2, BARIS_COUNT):
60             if papan[b][c] == bulat and papan[b-1][c+1] == bulat and papan[b-2][c+2]
== bulat and papan[b-3][c+3] == bulat:
61                 return True
62
63 def desain_papan(papan):
64     for c in range(COLOM_COUNT):
65         for b in range(BARIS_COUNT):
66             pygame.draw.rect(screen, BG_PILIH, (c*SIZEKOTAK, b, SIZEKOTAK, SIZEKOTAK-
5))
67             pygame.draw.rect(screen, BG_COLOR, (c*SIZEKOTAK, b*SIZEKOTAK+SIZEKOTAK,
SIZEKOTAK, SIZEKOTAK))
68             pygame.draw.rect(screen, BG_TEMPAT, (c*SIZEKOTAK+5, b*SIZEKOTAK+75,
SIZEKOTAK-10, SIZEKOTAK-10))
69
70     for c in range(COLOM_COUNT):
71         for b in range(BARIS_COUNT):
72             if papan[b][c] == 1:
73                 pygame.draw.rect(screen, KOTAK_BIRU, (c*SIZEKOTAK+5, height-
(b*SIZEKOTAK+65), SIZEKOTAK-10, SIZEKOTAK-10))
74             elif papan[b][c] == 2:
75                 pygame.draw.rect(screen, KOTAK_MERAH, (c*SIZEKOTAK+5, height-
(b*SIZEKOTAK+65), SIZEKOTAK-10, SIZEKOTAK-10))
76             pygame.display.update()
77
78 def message_box(subject, content):
79     root = tk.Tk()
80     root.attributes("-topmost", True)
81     root.withdraw()
82     root.option_add('*Dialog.msg.font', 'Bahnschrift SemiCondensed 16')
83     messagebox.showinfo(subject, content)
84     try:
85         root.destroy()
86     except:
87         pass
88
89
90
91 papan = buat_papan()
92 print("\n")
93 print_papan(papan)
94 satu = 0
95 dua = 0
96 babak = 1
97 gameOver = False
98 turn = 0
99
100 pygame.init()
101
102 width = COLOM_COUNT * SIZEKOTAK
103 height = (BARIS_COUNT+1) * SIZEKOTAK
104 size = (width, height)
105
106 screen = pygame.display.set_mode(size)
107 desain_papan(papan)
108 pygame.display.update()
109
110 while not gameOver:
111     for event in pygame.event.get():

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112     if event.type == pygame.QUIT:
113         sys.exit()
114
115     if event.type == pygame.MOUSEMOTION:
116         pygame.draw.rect(screen, BG_PILIH, (0,0,width,SIZEKOTAK))
117         posx = event.pos[0]-(SIZEKOTAK/2)
118         if turn == 0:
119             pygame.draw.rect(screen, KOTAK_BIRU, (posx,0,SIZEKOTAK,SIZEKOTAK))
120         elif turn == 1:
121             pygame.draw.rect(screen, KOTAK_MERAH, (posx,0,SIZEKOTAK,SIZEKOTAK))
122     pygame.display.update()
123
124     if event.type == pygame.MOUSEBUTTONDOWN:
125         # input player 1
126         if turn == 0:
127             posx = event.pos[0]
128             col = int(math.floor(posx/SIZEKOTAK))
129             turn += 1
130
131             print("\n")
132             if penempatan(papan, col):
133                 baris = tambah_bulat(papan, col)
134                 pilih_taroh(papan, baris, col, 1)
135             print_papan(papan)
136             print("\n")
137
138             if pemenang_true(papan, 1):
139                 satu += 1
140                 gameOver = True
141
142         # # input player 2
143         elif turn > 0:
144             posx = event.pos[0]
145             col = int(math.floor(posx/SIZEKOTAK))
146             turn = 0
147
148             if penempatan(papan, col):
149                 baris = tambah_bulat(papan, col)
150                 pilih_taroh(papan, baris, col, 2)
151             print_papan(papan)
152
153             if pemenang_true(papan, 2):
154                 dua += 1
155                 gameOver = True
156
157     desain_papan(papan)
158
159     if gameOver:
160         if satu > 0:
161             message_box("Game Over","Selamat Player 1 Menang :"),)
162         elif dua > 0:
163             message_box("Game Over","Selamat Player 2 Menang :"),)
164         pygame.time.wait(2000)

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