from microbit import \*

import random

# 难度列表

DIFFICULTIES = {

'easy': 3,

'medium': 6,

'hard': 9

}

# 选择难度函数

def select\_difficulty():

display.scroll("Select difficulty:")

options = list(DIFFICULTIES.keys())

index = 0

display.show(options[index])

while True:

if button\_a.was\_pressed() and index > 0:

index -= 1

display.show(options[index])

elif button\_b.was\_pressed() and index < len(options) - 1:

index += 1

display.show(options[index])

elif pin\_logo.is\_touched():

return DIFFICULTIES[options[index]]

sleep(100)

# 获取难度并设置地雷数量

NUM\_MINES = select\_difficulty()

# 游戏区域大小

WIDTH = 5

HEIGHT = 5

# 周围8个方块的偏移量

OFFSETS = [(-1, -1), (0, -1), (1, -1),

(-1, 0), (1, 0),

(-1, 1), (0, 1), (1, 1)]

# 游戏区域状态：0表示未扫描，1表示已扫描，2表示地雷

board = [[0 for y in range(HEIGHT)] for x in range(WIDTH)]

# 随机生成地雷位置

mines = []

while len(mines) < NUM\_MINES:

x = random.randint(0, WIDTH - 1)

y = random.randint(0, HEIGHT - 1)

if (x, y) not in mines:

mines.append((x, y))

board[x][y] = 2

# 初始化光标位置和游戏状态

cursor\_x = 0

cursor\_y = 0

game\_over = False

# 显示游戏区域函数

def display\_board():

for y in range(HEIGHT):

for x in range(WIDTH):

if cursor\_x == x and cursor\_y == y:

# 光标所在位置

display.set\_pixel(x, y, 9)

elif board[x][y] == 1:

# 已扫描的方块

display.set\_pixel(x, y, 5)

else:

# 未扫描的方块

display.set\_pixel(x, y, 0)

# 显示地雷数量函数

def display\_mine\_count():

if game\_over:

return

count = sum(1 for (mx, my) in mines if abs(mx - cursor\_x) <= 1 and abs(my - cursor\_y) <= 1)

display.scroll(str(count))

# 扫描周围方块函数

def reveal(x, y):

global game\_over

if board[x][y] == 2:

# 按中了地雷处理

game\_over = True

display.set\_pixel(x, y, 9)

display.scroll('Game Over!')

elif board[x][y] == 0:

# 扫描周围8个方块

mines\_count = 0