SNAKE GAME

Introduction

- Snake game is one of the most popular arcade games of all time. In this game, the main objective of the player is to catch the maximum number of fruits without hitting the wall or itself. Creating a snake game can be taken as a challenge while learning Python or Pygame
- We will be using pygame to create this snake game. Pygame is an open-source library that is designed for making video games. It has inbuilt graphics and sound libraries. It is also beginner-friendly, and cross-platform.

Steps ::

- First we are importing the necessary libraries.
- **Step 2:** After importing libraries we need to initialize Pygame using **pygame.init()** method.
- **Step 3:** Initialize snake position and its size.
- By setting direction to RIGHT we ensure that, whenever a user runs the program/game, the snake must move right to the screen.
- Game Over: when users hit the boundaries
- When the snake hits any boundary of the window, the user loses the game. For this, we have defined a variable game_close. When it is set to TRUE, it asks you to either play again or quit the game.
- **Step 4:** Create a function to display the score of the player.
- we are displaying our score using **blit. blit** takes two argument **screen.blit(background,(x,y).**

```
import pygame
import time
import random

pygame.init()

white = (255, 255, 255)
yellow = (255, 255, 102)
black = (0, 0, 0)
red = (213, 50, 80)
green = (0, 255, 0)
blue = (50, 153, 213)

dis_width = 600
dis_height = 400

dis = pygame.display.set_mode((dis_width, dis_height))
pygame.display.set_caption('Snake Game by Edureka')

clock = pygame.time.Clock()

snake_block = 10
snake_speed = 15

font_style = pygame.font.SysFont("bahnschrift", 25)
score_font = pygame.font.SysFont("comicsansms", 35)


def Your_score(score):
    value = score_font.render("Your Score: " + str(score), True,
yellow)
    dis.blit(value, [0, 0])


def our_snake(snake_block, snake_list):
    for x in snake_list:
        pygame.draw.rect(dis, black, [x[0], x[1], snake_block,
snake_block])


def message(msg, color):
    mesg = font_style.render(msg, True, color)
    dis.blit(mesg, [dis_width / 6, dis_height / 3])


def gameLoop():
    game_over = False
    game_close = False

    x1 = dis_width / 2
    y1 = dis_height / 2

    x1_change = 0
    y1_change = 0

    snake_List = []
    Length_of_snake = 1
```

```
    foodx = round(random.randrange(0, dis_width - snake_block) / 10.0)
* 10.0
    foody = round(random.randrange(0, dis_height - snake_block) / 10.0)
* 10.0

    while not game_over:

        while game_close == True:
            dis.fill(blue)
            message("You Lost! Press C-Play Again or Q-Quit", red)
            Your_score(Length_of_snake - 1)
            pygame.display.update()

            for event in pygame.event.get():
                if event.type == pygame.KEYDOWN:
                    if event.key == pygame.K_q:
                        game_over = True
                        game_close = False
                    if event.key == pygame.K_c:
                        gameLoop()

        for event in pygame.event.get():
            if event.type == pygame.QUIT:
                game_over = True
            if event.type == pygame.KEYDOWN:
                if event.key == pygame.K_LEFT:
                    x1_change = -snake_block
                    y1_change = 0
                elif event.key == pygame.K_RIGHT:
                    x1_change = snake_block
                    y1_change = 0
                elif event.key == pygame.K_UP:
                    y1_change = -snake_block
                    x1_change = 0
                elif event.key == pygame.K_DOWN:
                    y1_change = snake_block
                    x1_change = 0

        if x1 >= dis_width or x1 < 0 or y1 >= dis_height or y1 < 0:
            game_close = True
        x1 += x1_change
        y1 += y1_change
        dis.fill(blue)
        pygame.draw.rect(dis, green, [foodx, foody, snake_block,
snake_block])
        snake_Head = []
        snake_Head.append(x1)
        snake_Head.append(y1)
        snake_List.append(snake_Head)
        if len(snake_List) > Length_of_snake:
            del snake_List[0]

        for x in snake_List[:-1]:
            if x == snake_Head:
                game_close = True
```

```
            our_snake(snake_block, snake_List)
            Your_score(Length_of_snake - 1)

            pygame.display.update()

            if x1 == foodx and y1 == foody:
                foodx = round(random.randrange(0, dis_width - snake_block)
    / 10.0) * 10.0
                foody = round(random.randrange(0, dis_height - snake_block)
    / 10.0) * 10.0
                Length_of_snake += 1

            clock.tick(snake_speed)

        pygame.quit()
        quit()


    gameLoop()
```