15/10/25

Task 12:- Simulate Gaming concepts using Python

Aim: To simulate gaming concepts using Python

Snake Game:

Problem 1:- write a python program to create a snakGame using Pygame package.

Conditions:-

(i) Set the window size

(ii) Create a snake

(iii) make the snake to move in the directions when left, right, down and up 'n key pressed.

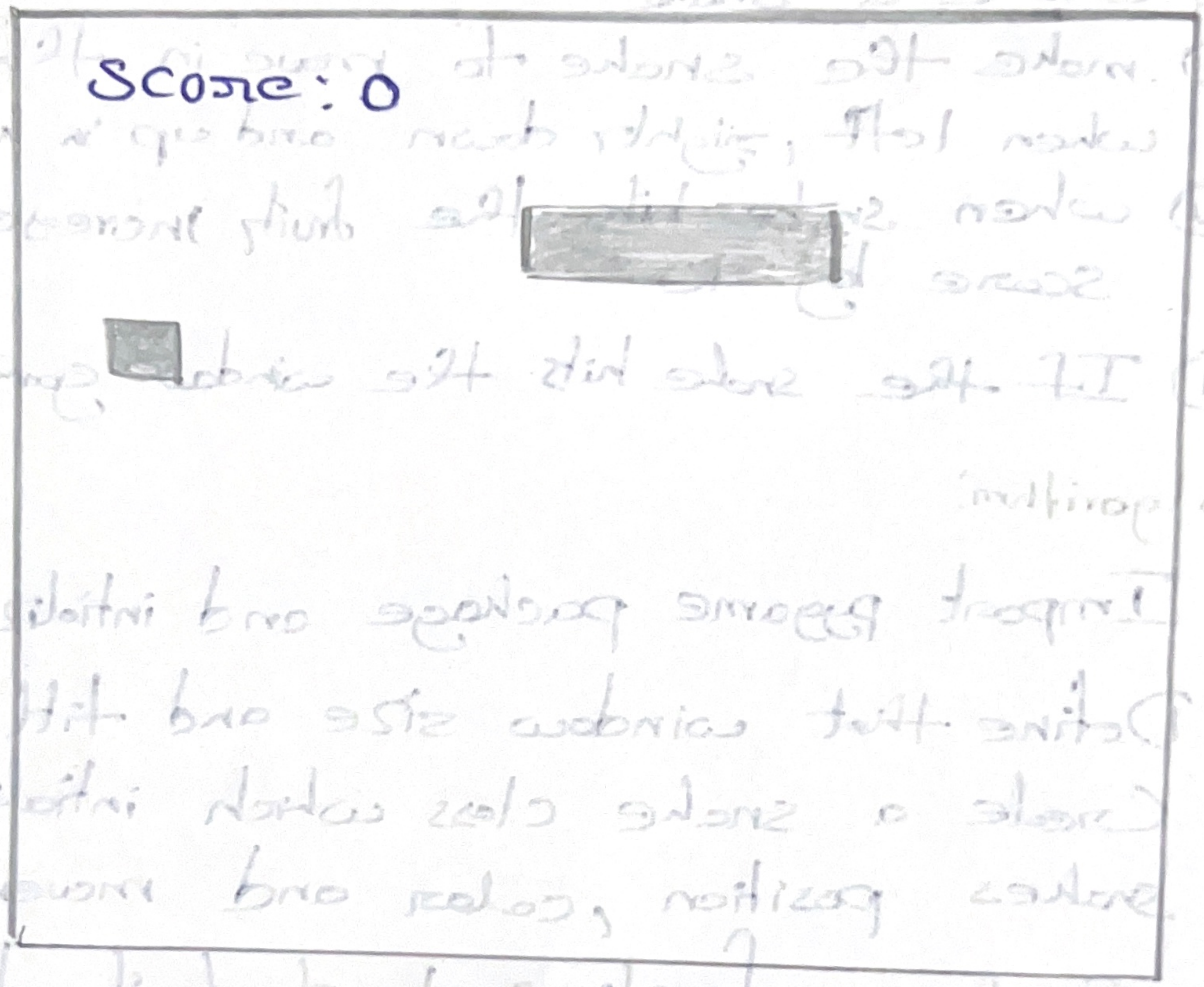
(iv) when snake hits the fruit increase the score by 10.

(v) If the snake hits the window game over.

Algorithm:

1. Import pygame package and intialize it
2. Define that window size and title.
3. Create a snake class which intializes the snakes position, color and movements
4. Creater a functions to check if the snack collides with the fruit and increase the score
5. Create a function to update the game display and draw the snake and fruit
6. Crede a game loop to continue
7. End the game.

Output:



Program:-

```
#importing libraries
  import Pygame
  import time
  Snake - speed = 15
window - x = 720
window - y = 480
 black = pygame color(0,0,0)
 white = pygame color(255, 255, 255)
  red = pygame. Color (255,0,0)
  green = pygame. color (0, 255, 0)
  blue = pygame. color (0,0, 255)
  Pygame. init ()
Pygame. display set
fps = py game – time. clock()
Snake – position = [[100,50] , [90,50], [80,50], [70,50]]
fruit = position = [random. randrange(1, window-x/10)*10
        random. randrange (1, (window – y/10))*10]
  fruit – Spawn = True
direction = 'RIGHT'
Change – to = direction
  Score = 0
def show- Score (choice, color, font size)
 Score – font = pygame – font – sysfront (frontsize)
 Score – surface = score – font . render
My font = pygame – font . sys Font( times new
          roman", 50)
```

```
your score is : + str (score) True, red)
game_over_rect = game_over_surface.get
                                _rect()
game_over_rect mid top = (window_x/2, window_y/
    for event in pygame.event.get();
    if event type = pygame.KEYDOWN:
    if event.key == pygame.K_UP:
        Change_to = 'DOWN'
    if event.key == pygame.K_LEFT:
        Change_to = 'LEFT'
    if event.key = pygame.K_RIGHT:
        Change_to = 'RIGHT'
    if direction == 'UP':
        Snake=position[1]=10
    if direction == 'DOWN'
        Snake_position[1]+=10
    if direction == 'LIEFT':
        Snake_position[1]-=10
    if direction == 'RIGHT':
        Snake_position[0]+=10
    if not fruit_spawn:
    fruit_position = [random.randrange(1,(windo
                x//10))*10,
                random.randrange(1,(window_x//10)
                *10]
    fruit_spawn = True
    game_window.fill(black)
```

```
for pas in snake body:
    pygame.draw.react (game-window green),
        pygame.Rect (pos[0].pos[1], 10,10))
if snake pasition [0] <0:
        game-over[]
if snake position [1] <0
        game-over[]
Show score(1, while times new roman, 20)
    pygame.display.update()
        fps.tick(snake-speed,
```

complete

VEL TECH	
EX No.	12
PERFORMANCE (5)	
RESULT AND ANALYSIS (3)	
VIVA VOCE (3)	
RECORD (4)	
TOTAL (15)	
SIGN WITH DATE	

Result:

There fore stimulation of gaming Concept using Python is completed.