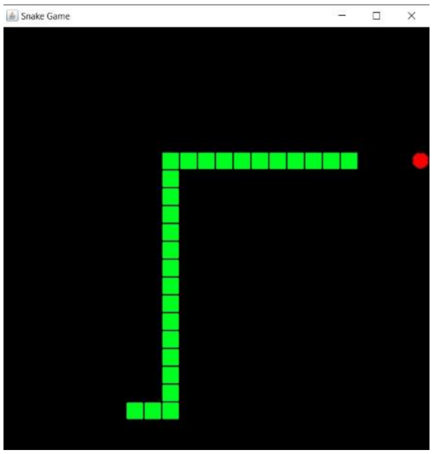
AIM: - To Design and Execute a Snake Game for the Toy Problem

Problem Description: - To Design a Basic UI and playable Snake game using Py-Libraries and allot various attributes to the Game. The Snake Grows as it catches food, which in turn is decided by a random function. And Fails once it touches itself or the pre-defined boundaries.



Algorithm: - 1. Start

2. Initiate the snake

3. Food is randomly placed onto the board

4. The Person needs to move the snake and control its direction

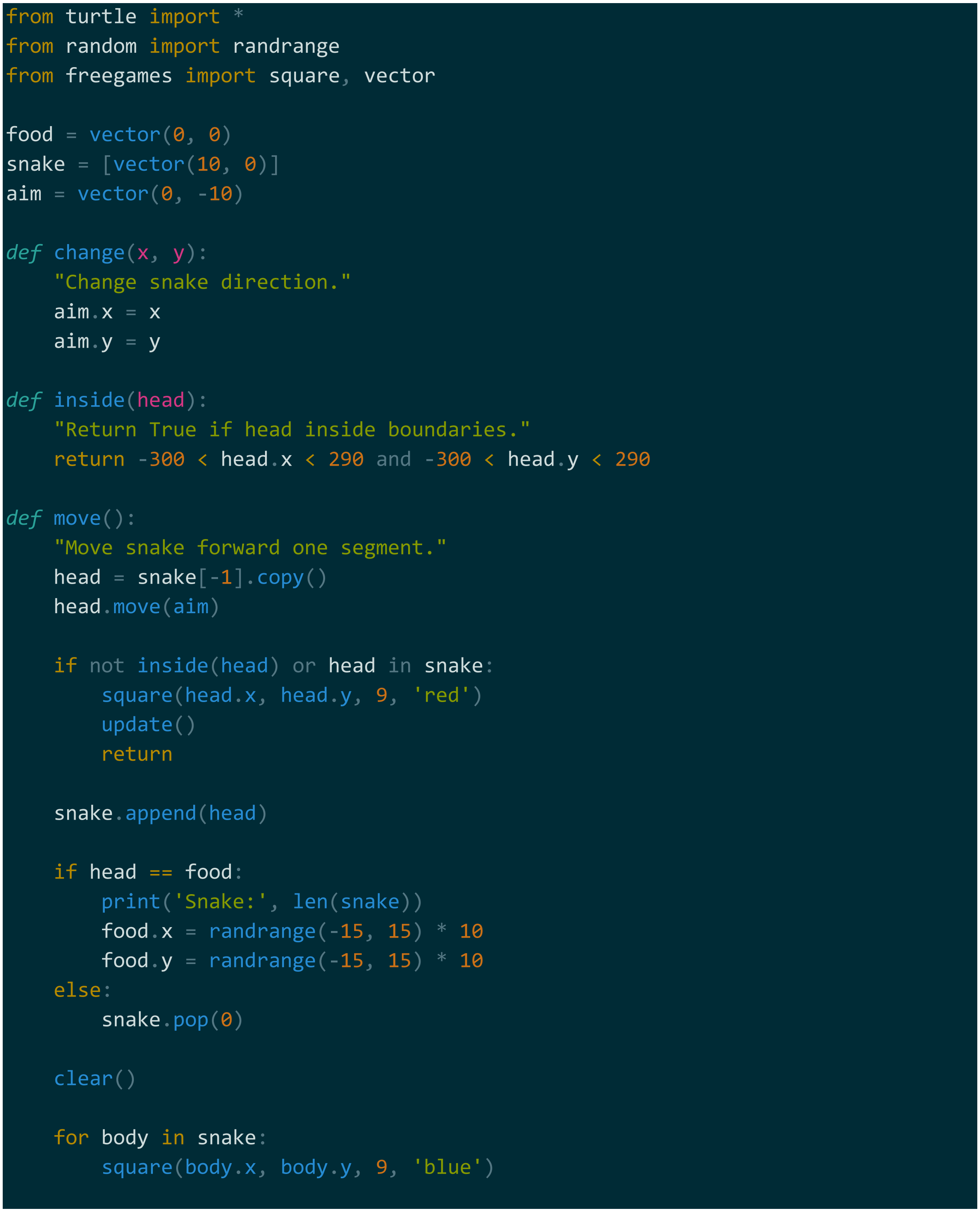
5. Once it meets with the food, a square is added onto the snake

6. Once the snake touches itself or the defined boundaries, the game is over.

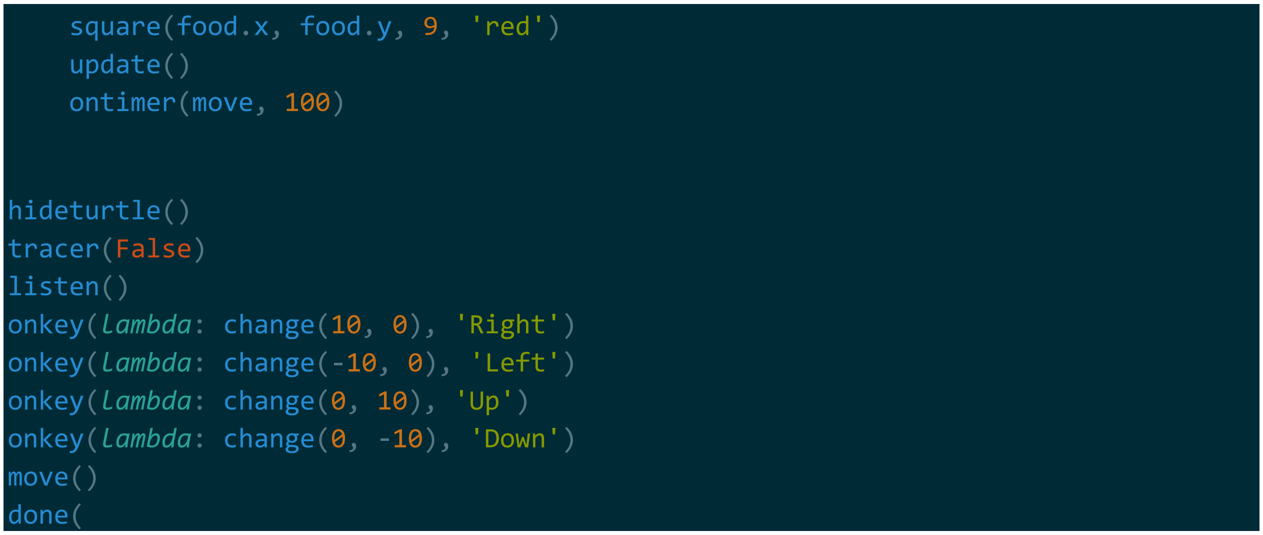
7. Goes for unlimited loops

8. The player either looses once the touch is done.

Program: -

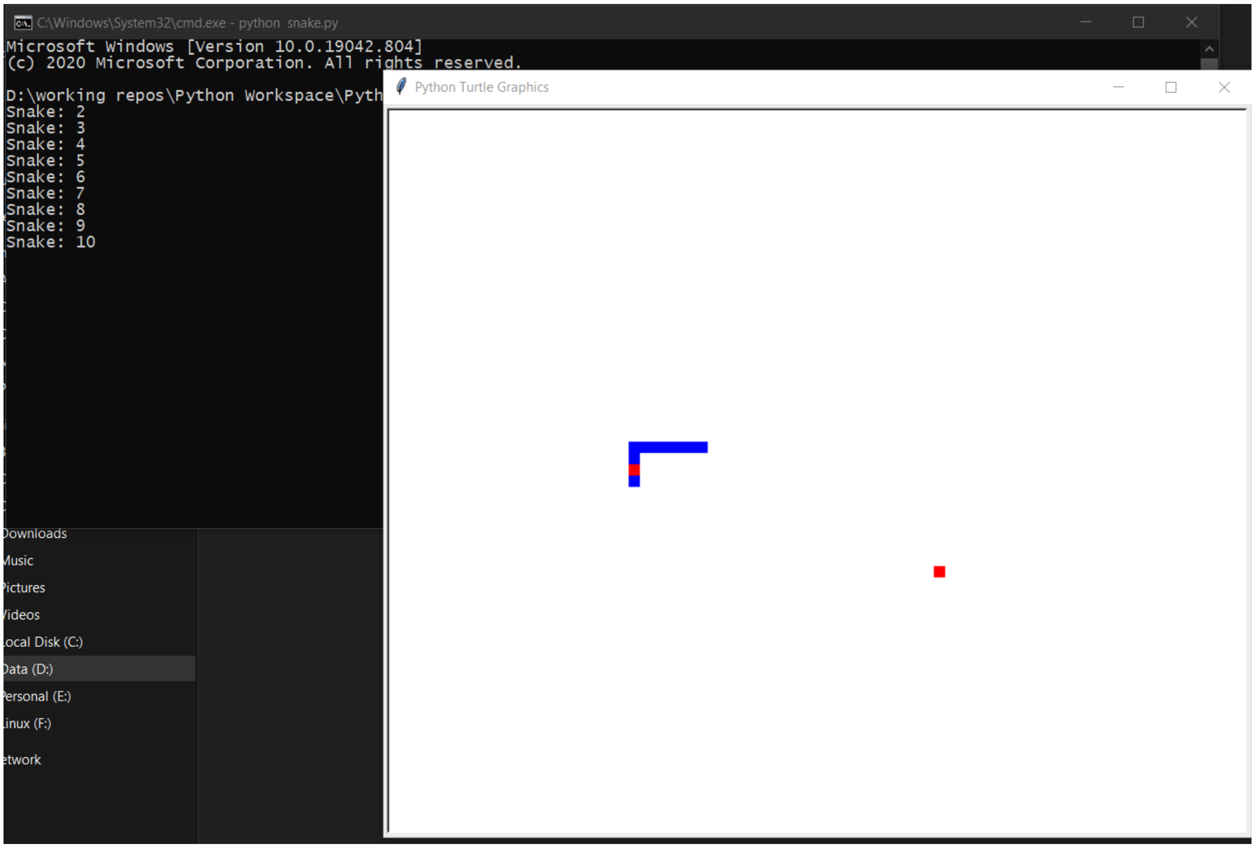


```
from turtle import *
from random import randrange
from freegames import square, vector

food = vector(0, 0)
snake = [vector(10, 0)]
aim = vector(0, -10)

def change(x, y):
    "Change snake direction."
    aim.x = x
    aim.y = y

def inside(head):
    "Return True if head inside boundaries."
    return -300 < head.x < 290 and -300 < head.y < 290

def move():
    "Move snake forward one segment."
    head = snake[-1].copy()
    head.move(aim)

    if not inside(head) or head in snake:
        square(head.x, head.y, 9, 'red')
        update()
        return

    snake.append(head)

    if head == food:
        print('Snake:', len(snake))
        food.x = randrange(-15, 15) * 10
        food.y = randrange(-15, 15) * 10
    else:
        snake.pop(0)

    clear()

    for body in snake:
        square(body.x, body.y, 9, 'blue')
```



```
    square(food.x, food.y, 9, 'red')
    update()
    ontimer(move, 100)


hideturtle()
tracer(False)
listen()
onkey(lambda: change(10, 0), 'Right')
onkey(lambda: change(-10, 0), 'Left')
onkey(lambda: change(0, 10), 'Up')
onkey(lambda: change(0, -10), 'Down')
move()
done(
```

Output: -



```
Microsoft Windows [Version 10.0.19042.804]
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Snake:  2
Snake:  3
Snake:  4
Snake:  5
Snake:  6
Snake:  7
Snake:  8
Snake:  9
Snake:  10
```

Result: - Hence a Program to play snake using python with a basic UI was implemented.