



PYTHON SNAKE GAME



CONTENTS.....

- Introduction
- Requirements
- Working
- Code explanation
- COA
- Conclusion




INTRODUCTION

- ▶ The following game written in python based on the game called 'Snake' which has been around since the earliest days of home computing and has re-emerged in recent years on all platforms.
- ▶ It isn't the worlds greatest game , but it does give an idea of what we can achieve with a relatively in python program, and perhaps the basis by which to extend the principles and create more interesting programming.



REQUIREMENTS

- 
- Sub bits used to build a program
 - Create the screen
 - Create the snake
 - Moving the snake
 - Create the food
 - Adding the food



WORKING

We are using 3 modules to create this snake game



Turtle module

- It provides turtle graphics primitives and it's like a vector graphics using a relative cursor



Random module

- It is a built-in module to generate the pseudo-random variables



Freegames module

- It is an apache 2 licensed collection of free python games intended for education and changes



■ We are using 3 functions to create this snake game

➤ Change function

- The value of an element has been changed. We are given to 2 parameters . We know snake game is a 2 dimensional game so x , y axis total 2 axis present in the game environment

➤ Inside function

- It is able to access variables of the enclosing scope . in this function we need to give some boundary values.

➤ Move function

- llowing the efficient transfer of resources from one to another object. it is used for movement to snake .

CODE EXPLANATION

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

food = vector(0, 0)
snake = [vector(20, 0)]
aim = vector(0, -20)

def change(x, y):
    "Change snake2 direction."
    aim.x = x
    aim.y = y

def inside(head):
    "Return True if head inside boundaries."
    return -200 < head.x < 190 and -200 < head.y < 190

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, 'green')

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()
```

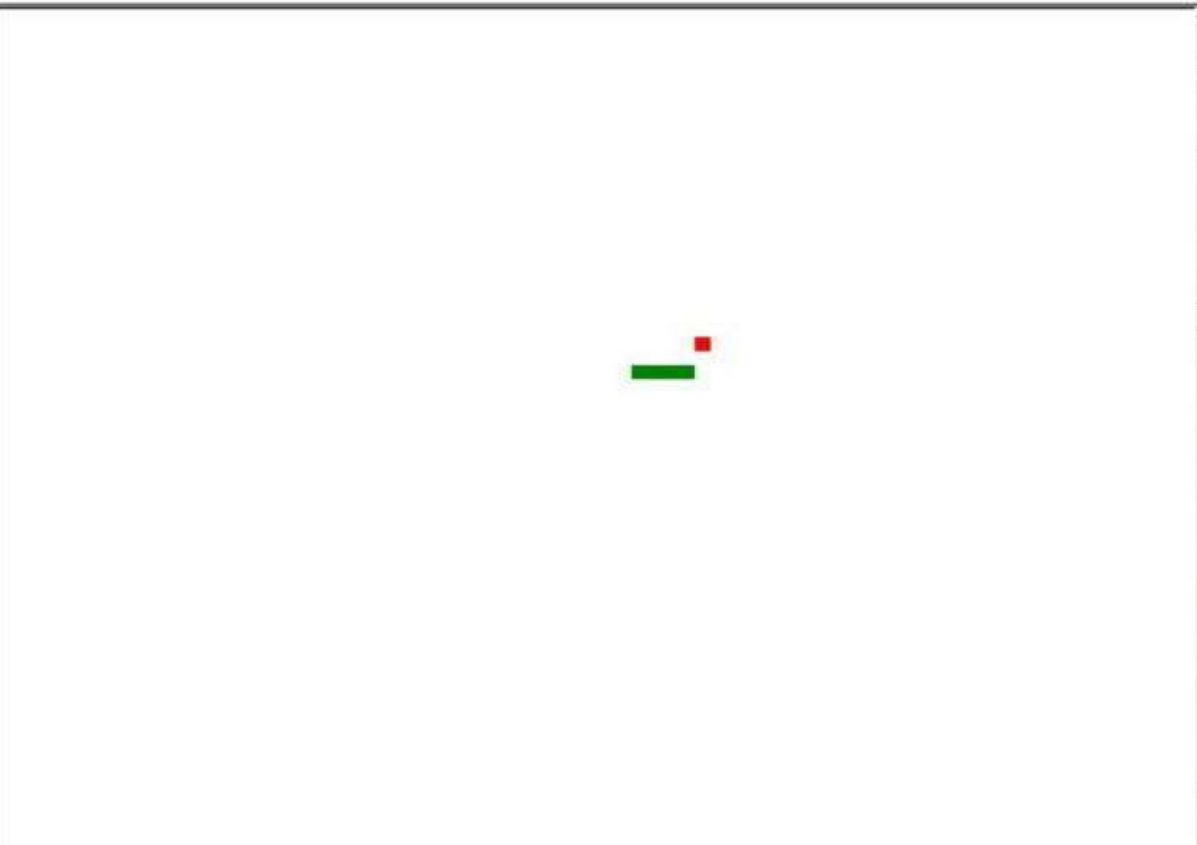
OUTPUT

```
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "quit()"

==== RESTART: C:\Users\harip\AppData\Local\Microsoft\Windows\Apps\PythonSoftwareFoundation.Python.3.10_QR939QKBKB\python.exe
Snake: 2

==== RESTART: C:\Users\harip\AppData\Local\Microsoft\Windows\Apps\PythonSoftwareFoundation.Python.3.10_QR939QKBKB\python.exe
Snake: 2
Snake: 3
Snake: 4

==== RESTART: C:\Users\harip\AppData\Local\Microsoft\Windows\Apps\PythonSoftwareFoundation.Python.3.10_QR939QKBKB\python.exe
Snake: 2
Snake: 3
Snake: 4
```

The image shows a screenshot of a computer screen with two windows. The background window is a Python 3.10.1 Shell, displaying several restarts of a program that prints 'Snake: 2', 'Snake: 3', and 'Snake: 4'. In the foreground, there is a 'Python Turtle Graphics' window. This window contains a white canvas with a green horizontal line and a small red square positioned at the right end of the line.



COA

- The COA (Conditions Of Acceptance) is a term that means what game will include. An example is:
- You want a snake game.
- The snake should eat food to grow larger.
- You control the snake with the arrow keys.
- If the snake runs into its body, GAME OVER.



CONCLUSION

- Conditional statements those are very important in this game
 - Head that hits boundary line it is out
 - Head crosses its own body it is also consider as out
 - If these 2 conditions satisfies then the user is out of the game and if these conditions are satisfied then the red colour dot indicates the snake head hits the boundary line



WORK BY

- GADDAM DHYANESWAR –AM.EN.U₄ELC20013
- CHILAKAMARTHI HARI PRIYA –AM.EN.U₄ELC20008
- TIVANANI PRAPUL PRASAD- AM.EN.U₄ELC20035
- YANNAM SRI KAVYA –AM.EN.U₄ELC20039

THANK YOU

Keep learning.....
Keep playing.....

