**Submission Checklist for Python Snake game Project**

**1. Python Script**

All the code for the game is written in a single Python file:

This script includes:

* Game window setup
* Snake and food rendering
* Score tracking
* User controls
* Game-over conditions
* Replay functionality

No additional files, images, or assets are required.

**2. Project Description, Setup Instructions, and Dependencies**

**Project Description:**

This project is a simple and interactive Snake Game developed using Python and the Pygame library.

The objective of the game is to:

* Control the movement of a green snake using the keyboard arrow keys.
* Eat the red square-shaped food that appears randomly on the screen.
* Each time the snake eats the food, it grows longer and the score increases.
* The game continues until the snake either hits the screen boundary or collides with its own body.

The game includes features like real-time score updates, smooth gameplay, and a game-over screen with options to restart or quit.

**Setup Instructions:**

To run the game on your local system, follow the steps below:

**Step 1: Install Python**

**Make sure Python is installed on your system. You can download it from:**

* [**https://www.python.org**](https://www.python.org)
* **Or install the Anaconda distribution which includes Python and other useful tools.**

**Step 2: Install Pygame**

The game is built using the Pygame library. To install it, open Anaconda Prompt, Command Prompt, or Terminal and run:

**Step 3: Save the Python Code**

Create a new file named snake\_game.py and paste the entire game code into it.

**Step 4: Run the Game**

In the terminal, navigate to the folder where the file is saved and run:

The Snake Game window will open and the game will start.

**Dependencies:**

| **Dependency** | **Description** |
| --- | --- |
| **Python** | Main programming language |
| **Pygame** | Library for game development |

**No other third-party libraries are required.**

**3. Key Features and Functionality**

**Game Features:**

| **Feature** | **Description** |
| --- | --- |
| **Real-Time Controls** | Snake is controlled using arrow keys (↑ ↓ ← →) |
| **Food Mechanics** | Red square food appears at random positions |
| **Score Display** | Real-time score is displayed on the screen |
| **Snake Growth** | Snake grows longer after each food eaten |
| **Collision Detection** | Game ends if snake hits the wall or itself |
| **Game Over Screen** | Shows message and score; allows player to restart or quit |
| **Replay Option** | Press 'C' to continue or 'Q' to exit after game over |
| **Simple Graphics** | Blue background, green snake, and red food for better visibility |

**Functional Highlights (Code Overview):**

* **draw\_snake()**Draws each part of the snake using green blocks.
* **score\_display()**Continuously displays the current score at the top-left corner.
* **show\_message()**Displays custom messages on the screen (used during game over).
* **game\_loop()**The main game logic:
  + Handles movement
  + Snake and food positioning
  + Collision checks
  + Score updates
  + Game reset or quit options

**User Interface:**

* Background Color: Blue
* Snake Color: Green
* Food Color: Red
* Score Text: Black

**User Controls:**

| **Key** | **Function** |
| --- | --- |
| **↑** | Move snake up |
| **↓** | Move snake down |
| **←** | Move snake left |
| **→** | Move snake right |
| **C** | Play again after game over |
| **Q** | Quit the game after game over |

**Conclusion:**

This Snake Game project serves as a beginner-friendly yet complete implementation of a classic arcade game using Python. It helps build core programming skills such as:

* Working with loops and functions
* Handling real-time events (keyboard input)
* Implementing game logic
* Using third-party libraries like Pygame

The game is easy to set up, visually clear, and offers an engaging user experience with the ability to play multiple rounds.

THANKYOU!

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