Name – Ritik raja

Email ID – Ritik.rock121@gmail.com

Title: – Snake Game Implementation in Java.

Task Description – Implementing a Snake game using Java and Java Swing, incorporating core functionalities such as snake movement, food generation at different location, collision detection, and score calculating.

Step Taken:-

1. Created a Java project in VS Code.
2. Designed the game board and set up the initial structure for the SnakeGame class.
3. Implemented the Snake class to manage the snake's properties and movement.
4. Created the Food class to handle food generation at random positions.
5. Implemented the main game logic including the game loop, user input handling, and collision detection.
6. Utilized Java Swing for graphical user interface components.
7. Tested the game functionality and made necessary adjustments.

Challenges Faced:-

1. Managing the snake's movement and updating its position smoothly.
2. Implementing collision detection accurately and efficiently.
3. Integrating user input handling seamlessly with the game loop.

Solution Implemented:-

1. Used an array to represent the snake's body parts and updated its position iteratively.
2. Implemented collision detection logic to check for collisions between the snake, food, and game boundaries at each game tick.
3. Implemented a Key Adapter to handle user input for controlling the snake's direction.

Learnings:-

1. Improved understanding of Java Swing for creating graphical user Interfaces.
2. Enhanced knowledge of game development principles such as game loops, collision detection, and user input handling.
3. Learned effective strategies for managing complex data structure and algorithm within a game context.

Project Update:-

The snake game implementation in Java has been successfully completed. It includes all core functionalities as specified in the initial task description.

Further enhancements or modifications can be made based on specific requirements or feedback from users.