

Snake Game Project Proposal (Assembly Language) Group Members:

24k-0867 Uzair Ibrahim (Leader)

24k-0657 Rahoul Kumar (Member)

1. Project Title:

Snake Game in Assembly Language with Levels, Sound Effects, and File Handling

2. Project Overview:

This project is a classic Snake Game implemented fully in Assembly language. The game is played on a square grid where the snake moves continuously and grows in length whenever it eats an apple. The player controls the direction of the snake, and the game ends if the snake collides with the borders or with its own body.

3. Game Levels:

The game includes three difficulty levels based on speed:

- Easy – Slow speed, basic gameplay
- Medium – Moderate speed
- Hard – High speed, challenging controls

4. Core Game Mechanics:

- Snake moves automatically and grows after eating an apple
- Score increases with each apple
- Game ends on collision with wall or itself
- Speed depends on selected level

5. Added Features (Upgraded Proposal):**A. Sound Effects:**

Sound will be played on key events such as:

- Apple eaten
- Level up
- Game over
- Starting the game

This enhances the feedback and makes gameplay more interactive.

B. File Handling:

The game will store and update the highest score using file operations.

- If the player's new score is higher than the previous record, it will replace the old record.
- On game start, the highest score will be loaded from the file and displayed.

6. Technical Requirements:

- Assembly language (x86 MASM/TASM)
- Keyboard input handling
- Delay routines for speed control
- Random apple generation
- File read/write for high scores
- PC speaker sound for effects

7. Expected Output:

- Fully playable Snake Game
- Working level system
- Working high score saving system
- Sound effects for events
- Clear and smooth snake movement

8. Conclusion:

This project demonstrates strong understanding of Assembly programming through real-time input handling, logic design, memory manipulation, sound, and file I/O. The added sound effects and file handling make the game more dynamic and professional.