PROBLEM DESCRIPTION:

The player controls a cane (a simple character or an object resembling a cane) that has the ability to shoot projectiles. The goal is to defeat enemies, and progress through different levels. The player must overcome the enemies to reach the highest score possible within the given time.

ABSTRACT:

Cane Shooter is a 2D top-down shooter game developed using Python and Pygame, designed to deliver a fast-paced and engaging arcade-style experience. The player controls a central shooter that must defend against waves of incoming enemies approaching from the edges of the screen. Players must react swiftly and aim accurately to eliminate threats using projectile candy canes. The core gameplay loop is managed in game.py, which sets up the game window, handles user input, enemies, and processes collision detection. Pygame is utilized for rendering sprites, managing game timing, and handling sound and events. The player is represented as a Pygame Sprite class, and enemies are spawned randomly to approach the center, increasing difficulty over time. A persistent high-score system is implemented using SQLite (highscore.db). Scores are saved and retrieved dynamically through functions defined in both game.py and data.py. Additionally, a simple GUI built with Tkinter (data.py) allows players to view high scores in a clean table format using the Treeview widget. *Cane Shooter* encourages replayability through its wave-based progression, rewarding accuracy and timing while offering a lightweight, addictive experience ideal for casual gaming. The game demonstrates a functional integration of Python libraries for graphics, UI, and database management.

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