SPRING 2024
CEN 326

Project 1

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TITLE: SPACE SHOOTER GAME

1. Introduction (max 3 sentences)

For the 3. task;
To move press “a” to go left and “d” to go right , to shoot press “space bar”

For the 4. ,5. and the bonus task;
To move press “left arrow” to go left and “right arrow” to go right , to shoot press “space bar”

2. Basic Requirements and Corresponding Algorithm (in pseudocode)

Requirements for 3., 4., 5. and bonus task are;

Display Game Screen: Create a visual representation of the game environment where the player can see their spaceship, enemies, and bullets.

Player Controls: Allow the player to move their spaceship left and right using keyboard input. Also, allow the player to shoot bullets.

Enemy Movement: Implement enemy spaceships that move down the screen towards the player's spaceship.

Collision Detection: Detect collisions between the player's bullets and enemy spaceships to destroy enemies and increase the player's score.

Score Tracking: Keep track of the player's score as they destroy enemies.

Game Over Condition: End the game when an enemy reaches the player's spaceship or when the player chooses to quit.

Psuedo;

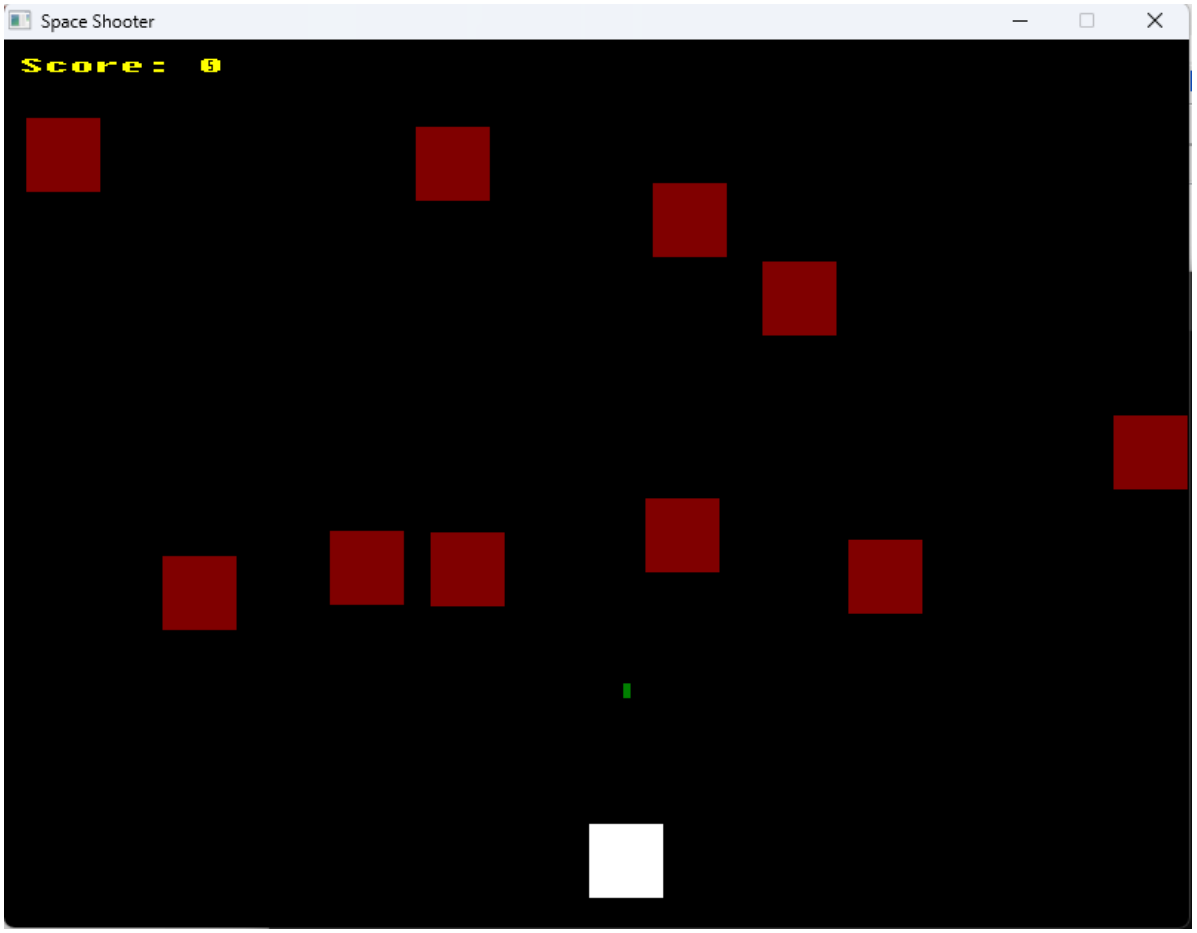
```
function DrawGameScreen():
    // Clear the screen
    ClearScreen()
    // Draw borders
    DrawBorders()
    // Draw player spaceship
    DrawPlayerSpaceship(player.x, player.y)
    // Draw enemies
```

```
    DrawEnemies(enemies)
    // Draw bullets
    DrawBullets(player.bullets)
    // Display score
    DisplayScore(player.score)

function HandlePlayerInput():
    // Listen for keyboard input
    if KeyPressed('A') and player.x > 0:
        MovePlayerLeft()
    if KeyPressed('D') and player.x < screenWidth - playerWidth:
        MovePlayerRight()
    if KeyPressed('Space') and not player.IsShooting():
        player.Shoot()

function MoveEnemies(enemies):
    for each enemy in enemies:
        enemy.MoveDown()

function CheckCollisions(player, enemies):
    for each enemy in enemies:
        if Collides(player, enemy):
            EndGame()
        for each bullet in player.bullets:
            if Collides(bullet, enemy):
                DestroyEnemy(enemy)
                player.IncreaseScore()
                player.DeactivateBullet(bullet)

function UpdateScore(player):
    player.IncreaseScore()

function CheckGameOver(player, enemies):
    for each enemy in enemies:
        if enemy.ReachesPlayer(player):
            EndGame()
```

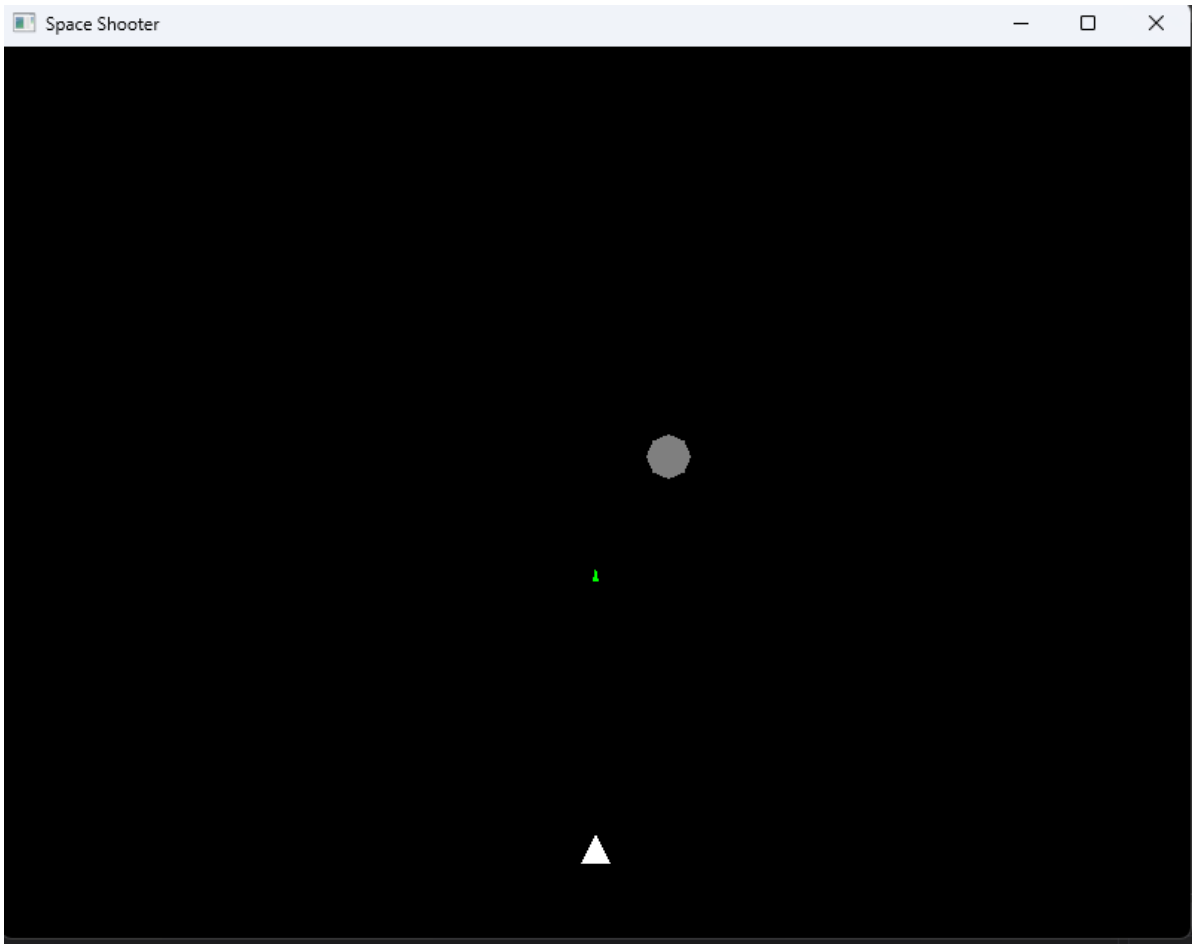
3. Demonstration (Screenshots)

3.Task

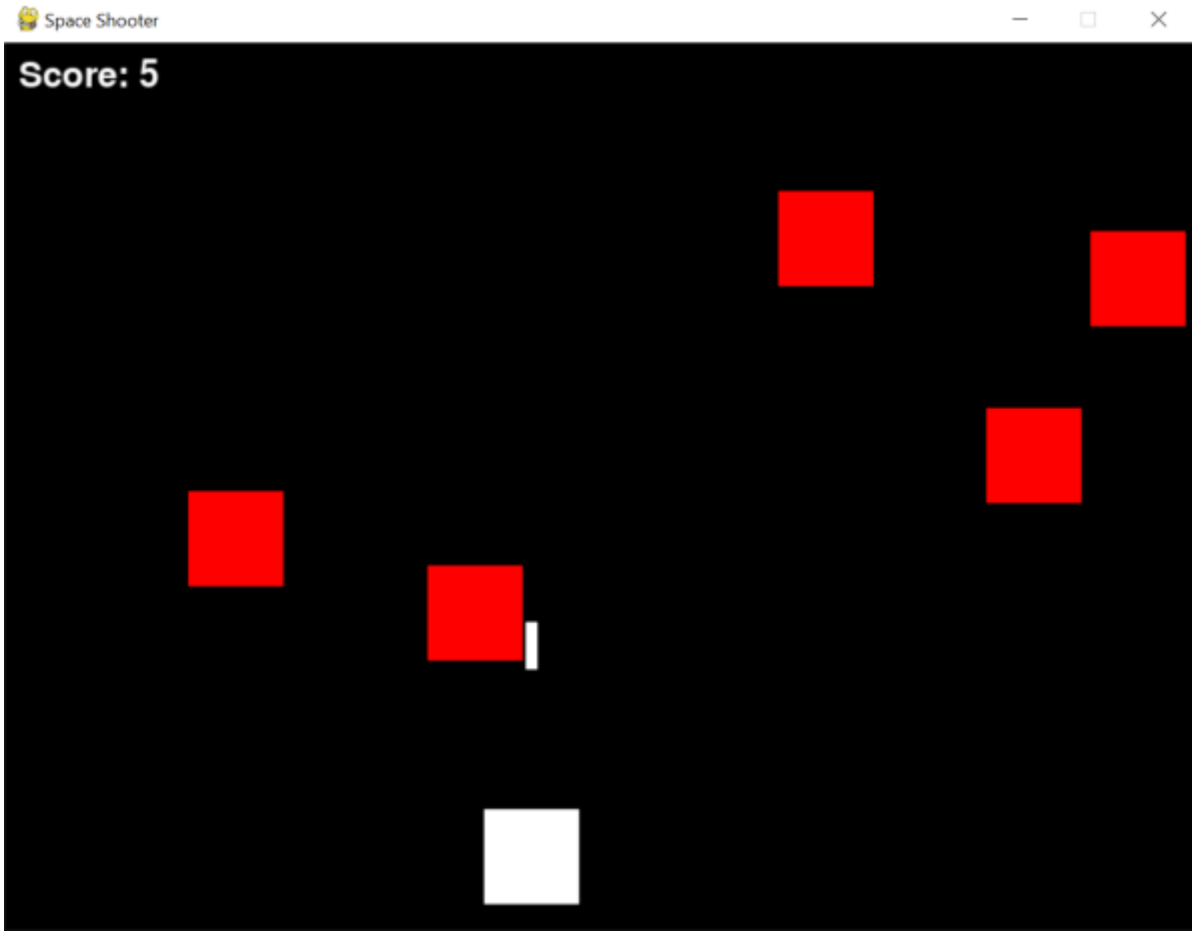
4.Task:



5.Task:



Bonus Task:


Space Shooter
Score: 5