Ict Lab Project

SPACE INVADERS

Aayan Javed: BSE-001
Muaaz Bin Mukhtar: BSE-045

MAIN WORKING OF OUR PROJECT

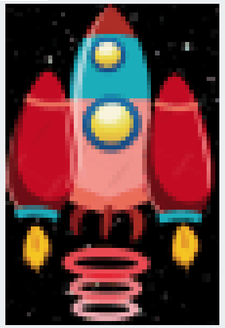
- Some invaders attack the space and the player is the defender.
- Player gets 10 points per invader and 5 points per coin.
- The player can shoot bullets and eliminate the invaders.
- If the invaders collide with the player or cross the bottom boundary, its game over.

DISPLAY WINDOW

END WINDOW

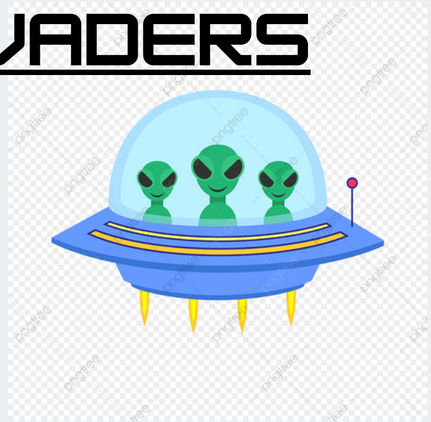
OBJECTS

- **PLAYER**



- **COINS**

- **INVADERS**



- **BULLET**

LIBRARIES USED

- **TURTLE**

1.Every object in this game is made using turtle and working with turtle functions e.g. player movement, invader movement, bullet movement etc.
2.This game will use the turtle screen.

- **RANDOM**

1.Using this library coins and invaders appear from different locations.

- **MATHS**

1.This library is used to find distance between players, invaders, bullets so the collision can be detected.

- **WINSOUND**

1.This library is used to import sound effects for Windows OS e.g. explosions, firing etc.

TECHNIQUES USED

• CONDITIONS

1.Conditions play a very important role in this game.
2.Limiting objects in boundary, detecting collisions, adding scores, everything is working through conditions.

• LOOP

1.This whole game is running inside an infinite loop.
2.This is because we need to check every condition at every moment.

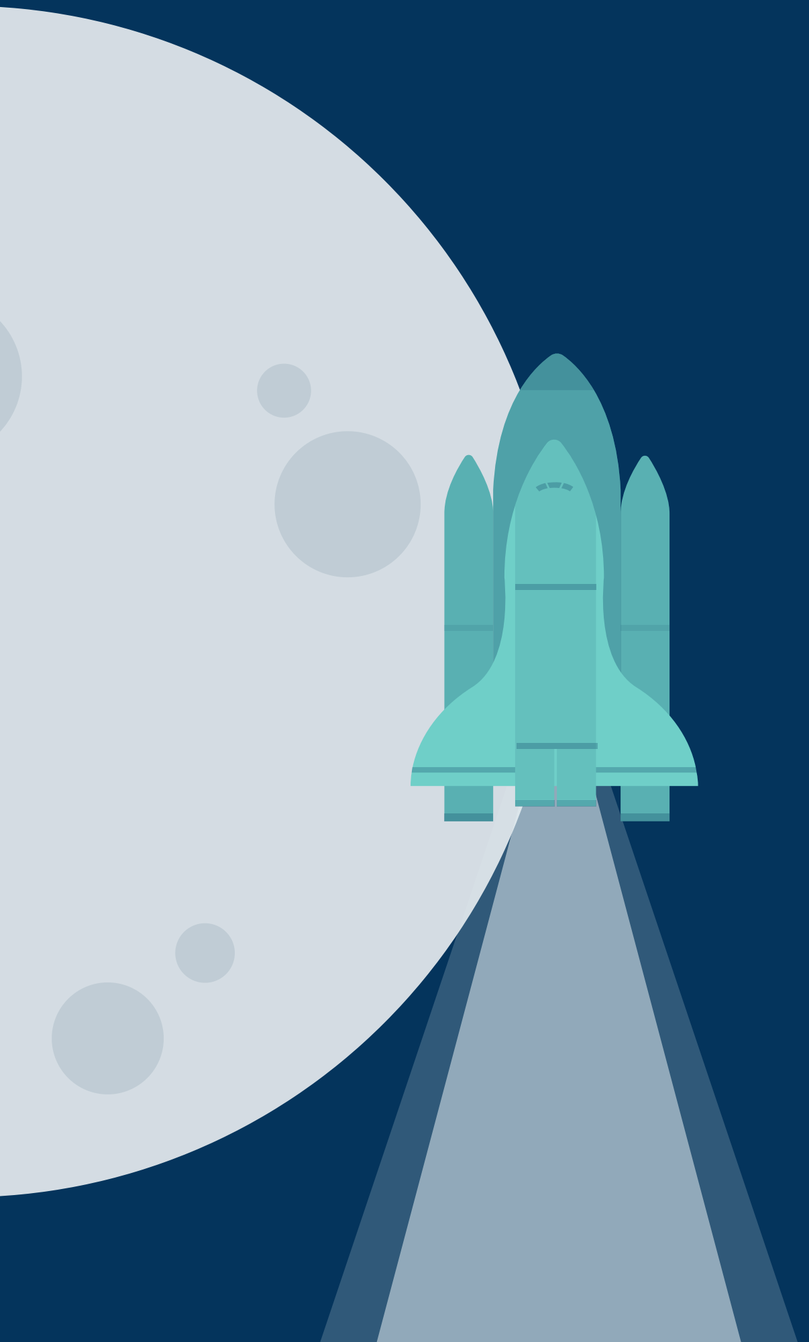
• FUNCTIONS

1.Every object and its working is defined through funcions.
2.For example the movement of player and bullet firing with keyboard is defined through functions.

▪ BREAK

1.Break statement is used to terminate the infinite loop.
2.If any collision is detected between player and invaders, or invaders cross the bottom boundary the loop terminates.

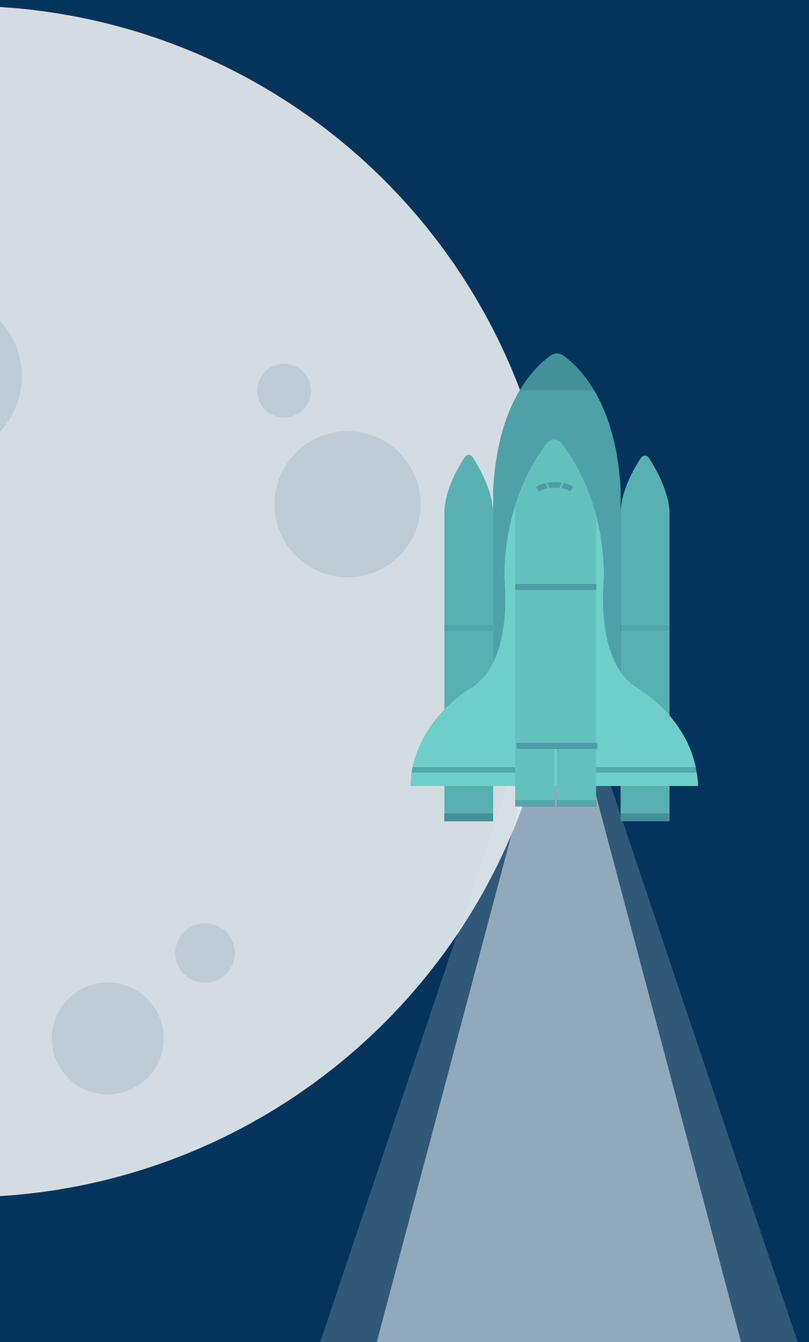
PSEUDOCODE OF OUR PROGRAM



1. Player, Invaders and Coins are defined using turtle. Shapes are registered for these objects.

2. Player movement is defined, window limit is defined and linked with keyboard.
Bullet function is defined and linked with keyboard. Bullet moves forward vertically inside window.

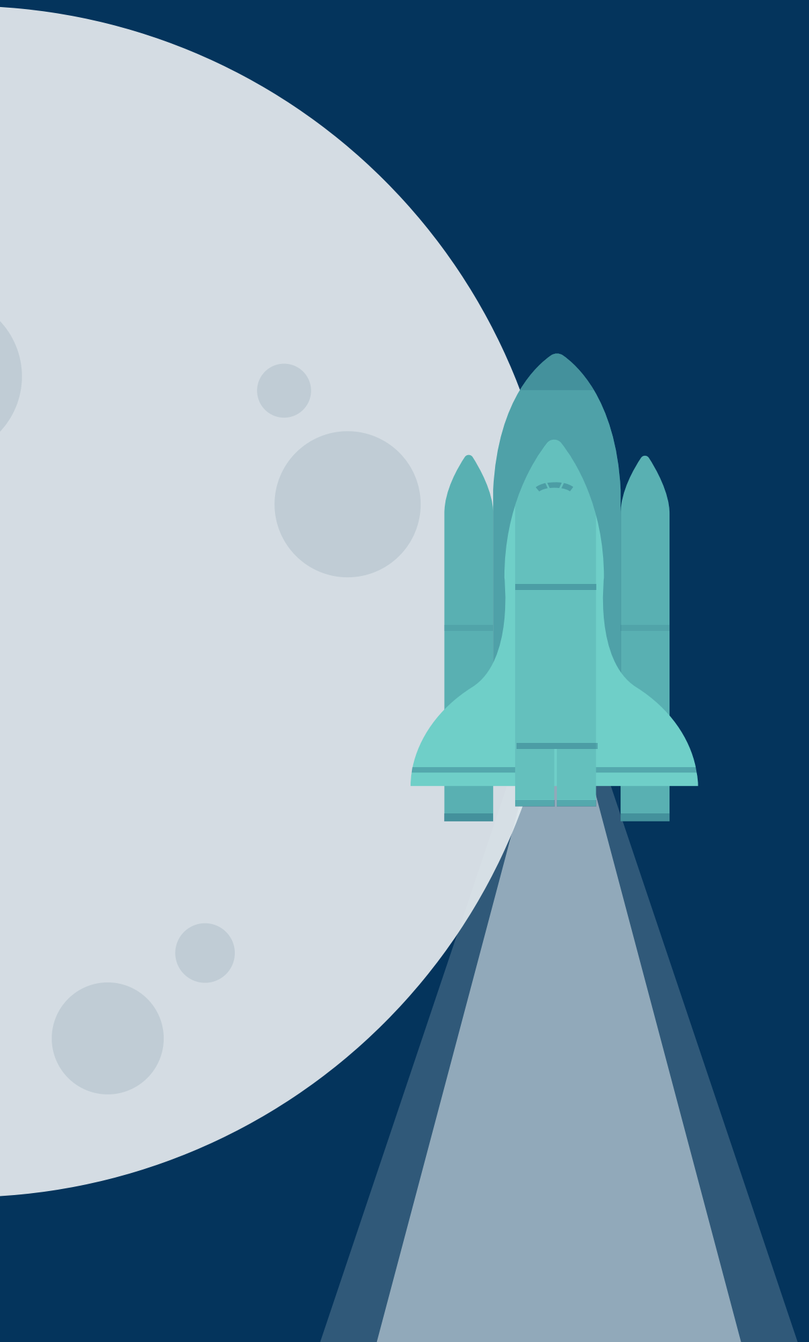
3. Coins appear at random positions inside game window. If distance between coin and bullet becomes less than 25 pixels, coin disappears and 5 points are added to score.



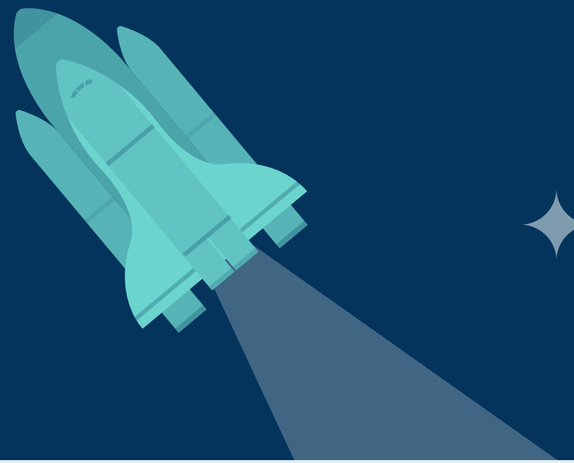
4 Invaders appear at random positions inside game window and start horizontal movement.

5 When any of the invader reaches horizontal boundary of game all invaders move down by 50 pixels and again start moving horizontally. This loop continues till the game overs.

6 If distance between bullet and invader becomes less than 25 pixels, invader disappears and then again appears from random position from the top and 10 points are added to score.



7 If distance between invader and player becomes less than 35 pixels the loop terminates and displays game over screen with final score.

8 Or if any invader crosses bottom boundary the loop terminates and displays game over screen with final score.

THANK YOU!