

C-SHARP REPORT

THE SNAKE GAME

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MSC-CS (Mini Project in C sharp)

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INTRODUCTION

The Project is a game developed in C sharp based on game called 'Snake' which has been around since the earliest days of home computing and has re-emerged in recent years on mobile phones.

This project aims to bring fun and simplicity of snake game. In this Project, we can calculate score and time and also take a snap shot of the score once we have reached the maximum score limit.

Snake is the common name for a video game concept where the player can operate through keys on keyboard in X and Y direction- up, down, left and right to achieve it's goal.

The concept was originated in the 1976 arcade game Blockade, and the ease of implementing Snake has led to hundreds of versions for many platforms.

It is not the world's greatest game, but it does give you an idea of what you can achieve with a relatively simple C sharp program.

DESCRIPTION OF THE GAME

The timer is set to some amount of time, the direction in which the Snake moves is in X and Y direction strictly. The Snake moves to the Right, Left, Up and Down direction.

When the timer has gone off, the game is over and the maximum score is displayed on your screen and there is an option to take a Snap shot of the score so it will get saved on your system. The game doesn't allow player to move from Up-Down or Right-Left and vice-versa so that it is easy to hit the target. Also, the snake does not eat himself.

This game has been built in C sharp which is object-oriented, component-oriented programming language. It is easy to create classes once the form is created.

TECHNOLOGIES

C-sharp:

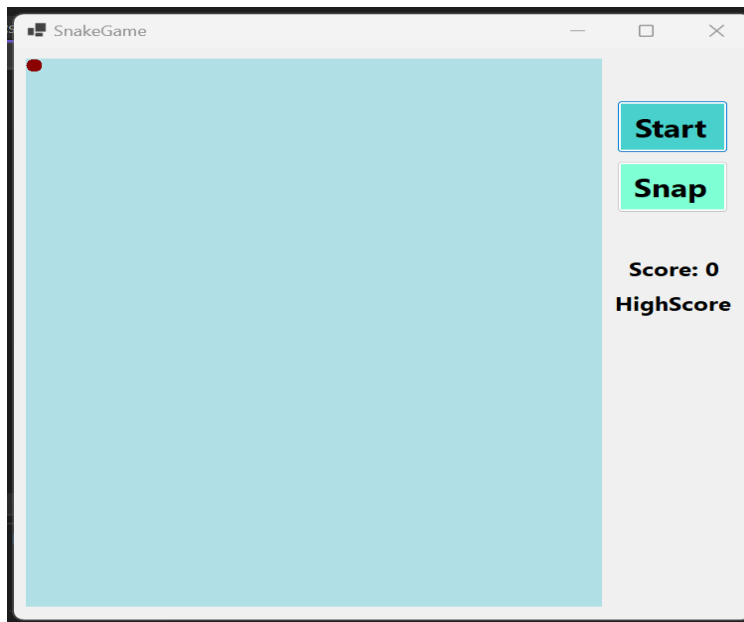
C# is an object-oriented, component-oriented programming language. Component-oriented is a technique of developing software applications by combining pre-existing and new components. C# provides language constructs to directly support these concepts, making C# a natural language in which to create and use software components. Since its origin, C# has added features to support new workloads and emerging software design practices.

We have used Visual Studio to create this project. (17.5.3 version) also, the platform we have selected is Windows and Windows Forms App (.NET Framework) template for C#.

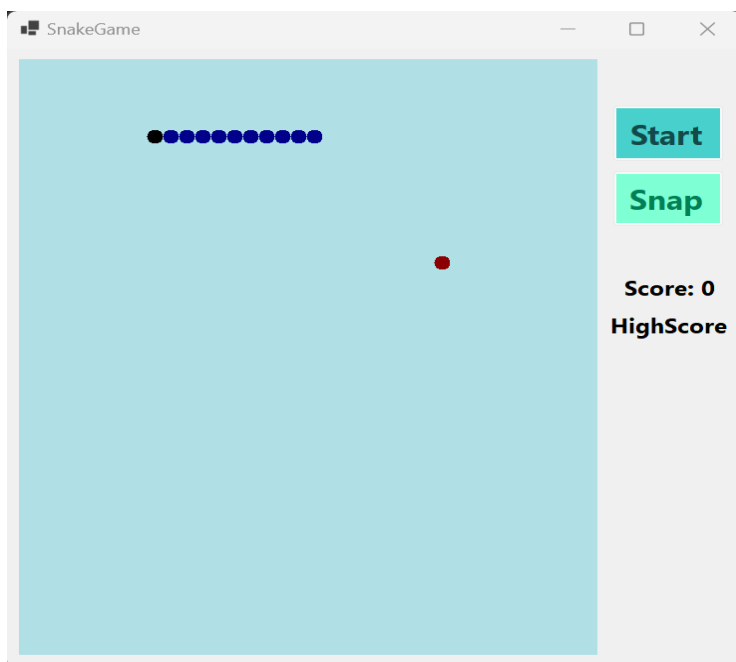
FUNCTIONALITY

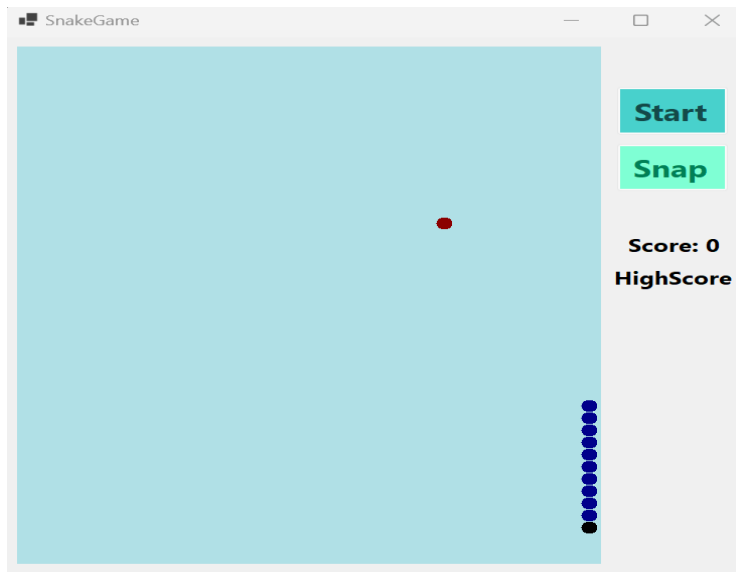
Starting page:

In this form page, we start the game. Press 'START' button to initiate the game and then the game will begin.



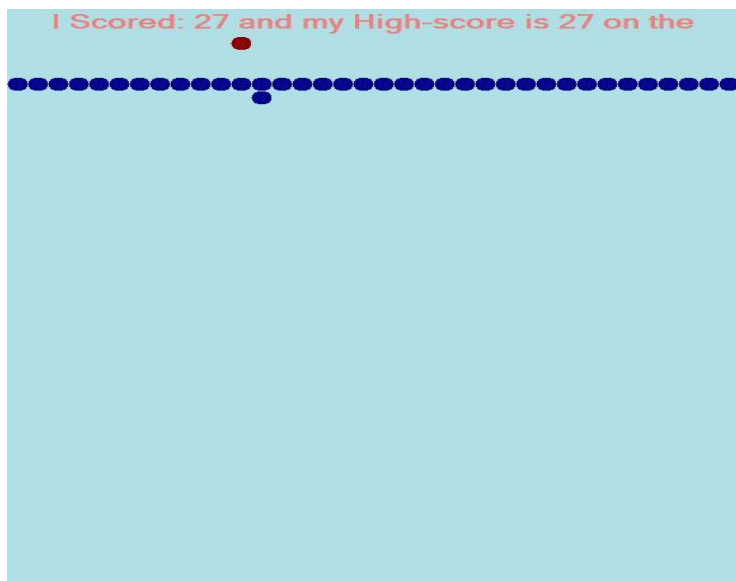
Once you click on the START button, the Snake moves towards left direction irrespective of the position of food. And then we can operate the right, up, down keys on the keyboard. The directions are set to X and Y axis so it does not rotate or move diagonally.





Scoring and Ending:

The timer is set to a limit, in that limit or duration of time, the maximum scored is recorded and further displayed in 'HighScore' section.



Snap-shot:

When the game is over, the player can take a snap and save is on your system.

CLASSES

1. Main model classes:

Cell: The game grid is made up of cells. Each cell has a type and a number of attributes. For example, a cell could be clear, or it could be a snake head facing in a particular direction, etc.

Direction: The snake in the game moves in one of four directions. The class provides those four directions, and various methods to manipulate them. The snake moves in X and Y direction only.

2. Operating classes:

Game GUI: This will provide a user interface so that the player can see the snake and the food and can be able to operate the game via the keyboard. It will also be the driving force for the game. i.e., it will have a method that will repeatedly invoke the method.

GameTimerEvent: We have set the time to 40 in the game. The game will go on and will display the maximum score till it has reached its limit.

3. Top level class:

SnakeGame: This is the top level class, containing only main method. This will create and an instance of GUI, invoke its game playing method and print out a score once the game is over.

FUTURE SCOPE

The future scope is to add-

- Player's profile.
- Multi-player option.
- At any time, the player can end and start a new game.
- Speed Controller: To adjust the speed in between the game.
- Pause option.

