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Snake Game documentation

## About the code

This is a classic Snake game written in C++ that runs in the Windows console. The player controls a snake that moves around the screen, eats food, and grows longer. The game ends when the snake hits itself or walls Main Classes we uesd

1. Position Class

class Position {

int x, y;

}

* Stores location (x,y coordinates)
* Used by Snake and Food

2. Food Class

class Food {

Position pos;

char symbol = 'x';

}

* Creates food randomly
* Draws green 'x' on screen
* Makes new food when eaten

3. Snake Class

class Snake {

vector<Position> body;

int direction;

char symbol = 'o';

}

* Controls the snake
* Moves by shifting body parts
* Checks if snake hits itself
* Draws white 'o' symbols

## 4. GameController Class

class GameController {

void drawborder();

void drawscore(int score, int speed);

int loadhighscore();

void savehighscore(int score);

}

* **Draws game borders** - Creates blue '#' boundaries around play area
* **Shows game info** - Displays current score and speed in red text
* **Manages high scores** - Saves and loads best scores from "highscore.txt" file
* **Controls UI display** - Handles all screen drawing and text positioning
* **File operations** - Manages persistent data storage and retrieval
* **Color management** - Sets console colors for different game elements

## Main Function task

1. Setup

* Set window size
* Choose game mode (walls kill or wrap around)
* Create snake and food

2. Game Loop (Repeats Forever)

while (!gameOver) {

// Clear screen

// Draw everything

// Check keyboard (WASD keys)

// Move snake

// Check collisions

// Wait a bit

}

3. Controls

* **W** = Up
* **A** = Left
* **S** = Down
* **D** = Right
* **Space** = Pause
* **Esc** = Quit

## How It Works

1. **Snake moves** by shifting each body part to follow the one in front
2. **Food appears** randomly on screen
3. **When snake eats food**: grows longer, score goes up, game gets faster
4. **Game ends** when snake hits itself or walls (depending on mode)
5. **High score** is saved to a file

Class Methods

## additional features in our code

* Two game modes (walls kill vs wrap around)
* Pause function
* Score tracking with high score saving
* Speed increases as you play
* Colorful graphics (green food, white snake, blue borders)

That's it! The classes work together: Position stores locations, Food creates targets, Snake handles movement, and main() runs everything.

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