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Project Proposal
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Game Proposal: Snake

I propose to create the game “Snake” for my browser-based game project. This simple, one-player game allows the player to control a “snake” that eats food.

To control the snake, the player will use keyboard keys to move the snake up, down, left, or right.

To have the snake eat, it will touch the randomly placed food, and the snake grows as it eats. Once the snake eats, the snake’s tail grows. Food is again randomly placed on the game board once the snake eats.

As the snake grows, moving the snake across the board without touching itself or touching the boundaries of the game board becomes more challenging.

The game ends if the snake touches itself, the game board boundaries, or the snake grows large enough to fill the entire game board.

Once I have the MVP coded, I would like to add a few additional features:

- Timer: shows how long the player is playing
- Score: based on the size of the snake and how long the player has been playing (might change)

Below is the data structure I plan to use along with Pseudocode.

Data Structure(s) used: Array

Game messages will be held in an array.

Example:

Let messages = ["Game Over", "Start", "You hit a wall", "You ate yourself"]

Pseudocode

HTML

will most likely change order

Title: Snake - Online game

Messages

Score

Timer

Game Grid

Reset button

Start Button

CSS

Use flexbox to evenly space messages, score, timer, etc.

Choose a color scheme for the snake, gameboard, background, messages

JavaScript

```
/*----- Constants -----*/  
FOOD
```

```
/*----- Variables (state) -----*/  
Time/Timer  
Score  
Player/Snake
```

```
/*----- Cached Element References -----*/
```

```
querySelector start game button
```

```
/*----- Functions -----*/
```

growSnake:

Grow snake once food is eaten

gameOver:

Freeze game board, show game over message

showYouLose:

Show the message "You Lost!"

showYouWin:

Show the message "You Win"

showScore:

Show the current score

updateScore:

When the snake "eats" update score

moveFood:

Move food to a random place on the grid

render():

Will start and restart game

/*----- Event Listeners -----*/

// use the arrow keys for movement

Listen for start button to be pressed (possibly use a keyboard key?)

Listen for pause button to be pressed (possible use keyboard key?)

Listen for one keyboard key to start, pause, and restart game?