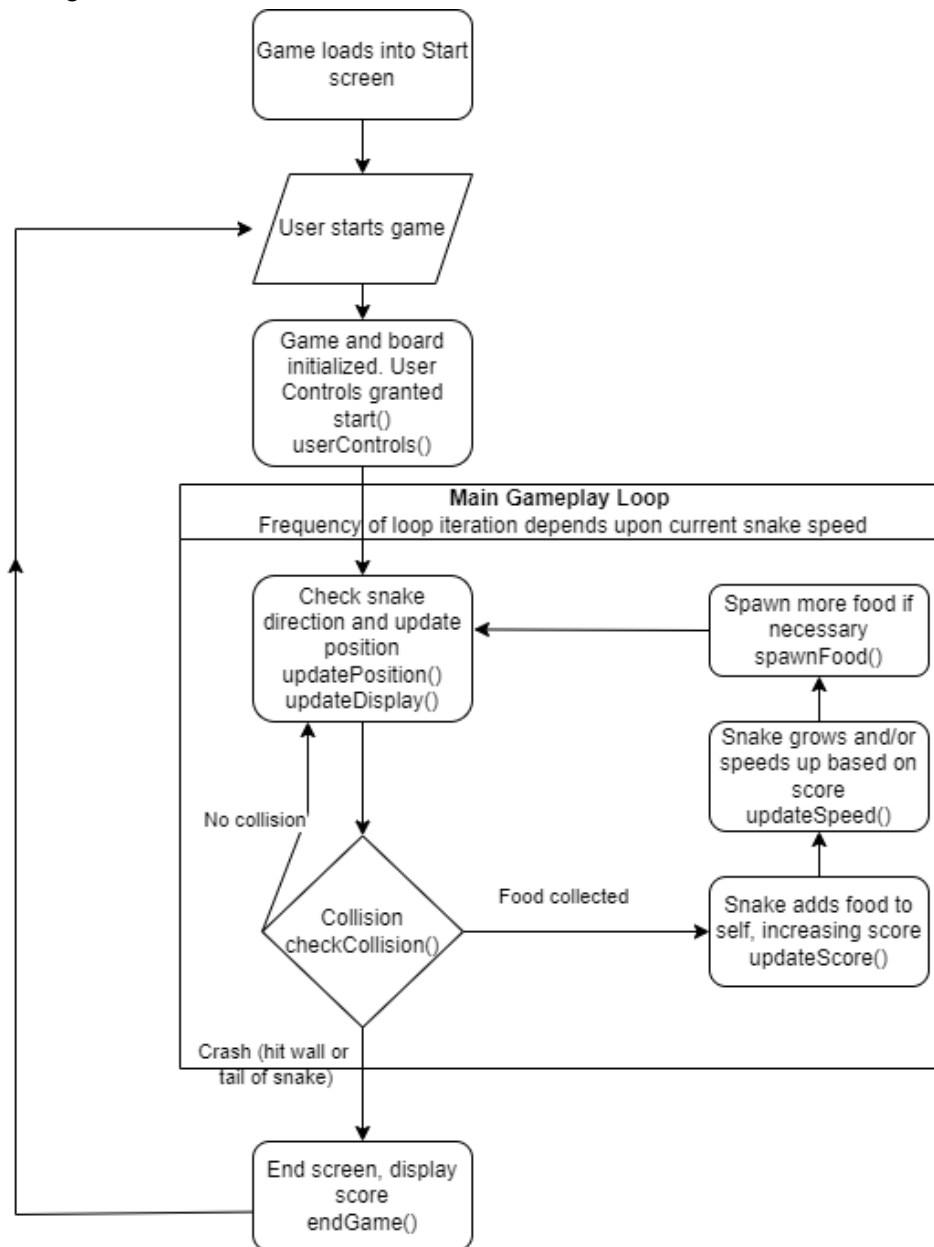


Design for Idea 2: Snake Game:



Classes:

Class gameBoard: Models game board and provides functionality

Class snake: Models the user controlled snake

Class food: Models the food on the game board

Main

Variable name	Type	Description
size	Integer	Size of gameBoard

		in blocks
canvas	DOM canvas element	Location where gameBoard is displayed
ctx	Canvas context	2D canvas for drawing board
interval	setInterval()	Game update speed
gameActive	Bool	Is the game active
cHeight	int	gameBoard height (dimension)
curDirection	int	Represents current snake direction
gameBoard	Class GameBoard	Stores current game

Function	Scope	Description
drawBoard()	Public	Draws the game grid on screen
draw	Public	Main function driving gameplay and visuals

Class gameBoard:

Variables:

Variable name	Type	Scope	Description
score	integer	Private to class: gameBoard	Current user score
board	2-DInteger array. nXn	Private to class: gameBoard	Models the game board
snake	Class: snake	Private to class: gameBoard	Models the user controlled snake
food	Class: food	Private to class: gameBoard	Models food the user is tasked to eat

speed	integer	Private to class: gameBoard	Determines the frequency the snake position is updated
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Functions:

Function	Scope	Description
start()	Public	Initiates new game, creates necessary environment including setting variables
userControls()	Public	On user input, informs snake class of direction change
updatePosition())	Private to class: gameBoard	Updates current snake position on game board
checkCollision()	Private to class: gameBoard	Checks if snake has collided with an object of interest
updateFood()	Private to class gameBoard	Updates game food and gets their location from Food class
updateScore()	Private to class: gameBoard	Updates game score
updateSpeed()	Private to class: gameBoard	Calibrates frequency of snake movement.
endGame()	Private to class: gameBoard	Indicates end of game, changes interface to display score and option to replay
updateDisplay()	Public	Updates user view. Displaying game progression or menu as needed.
drawScore()	Public	Draws current user score

Class Snake

Variables:

Variable name	Type	Scope	Description
body	mX2 array of integer	Private to class: snake	Array of coordinates the snake is currently occupying. Represented by x and y coordinates
size	integer	Private to class: snake	Current snake size

Functions:

Function	Scope	Description
updateSize()	Public. Accessible to gameBoard	Updates snake size
updateSnake()	Public. Accessible to gameBoard	Updates snake position
getSnake()	Public. Accessible to gameBoard	Returns array with snake position
wrapSnake()	Private to class Snake	Wraps snake to other side of board if required

Class Food:

Variables:

Variable name	Type	Scope	Description
amount	integer	Private to class: food	Indicates the amount of food on the map at once. (Currently planned at 1)
foodLoc	mX2 array of integer	Private to class: food	Array of coordinates where food is currently located. Represented by x and y coordinates

Functions:

Function	Scope	Description
eatFood()	Public. Accessible to gameBoard	Updates foodLoc that food was eaten
spawnFood()	Public. Accessible to gameBoard	Generates food on the map for the snake to eat
getFood()	Public. Accessible to gameBoard	Returns array with food location