*Input testing table:*

|  |  |  |  |
| --- | --- | --- | --- |
| **Input** | **Expected Output** | **Actual Output** | **Details** |
| Space key press | Player increases y pos | Player y pos increased |  |
| Difficulty prompt | Either “hard” or “easy”, “null” | Either “hard” or “easy”, “null” | “Hard” = Xspeed 4 “Easy” = Xspeed 2 “null” = xspeed 6. Convert to lowercase also |
| Name prompt | Enters game and store for final alert with score and name | Enters game and store for final alert with score and name |  |
| Player Touching pipe | Game over | Game over, player score displayed on screen | When player hits, stop game, game over alert with score |
| Reset button html | On click reload webpage (game.html) | On click reload webpage (game.html) | Simple button to reload the game once the player losses |
|  |  |  |  |
|  |  |  |  |

More basic ruff pseudo code on Github

**Game.html (main js)**

var canvas, canvasContext

window.onload = function **Basic code for loading a canvas, creating 2d**

canvas = document.getElementById ('gameCanvas')

canvasContext = canvas.getContext('2d')

document.addEventListener('keydown', keyPressed);  **Basic code to listen for key press/release**

document.addEventListener('keyup', keyReleased);

setInterval(mainLoop, 1000 / 50);

var gameRun = true;

var highScore = false;

var xPos = 0;

var score = 0;

var realScore= 0;

var gameover = false;

var pxPos = 0;

var pyPos = 0;

const PLAYER\_WIDTH = 30;

const PLAYER\_HEIGHT = 40;

var Xspeed = 0;

var Yspeed = 0;

const SPACE\_KEY = 32;

var spaceKeyPressed = false;

var pipes = [];

var pipesTotal = 18;

var pipeCount = 0;

var pipePearsCount = 0;

var yRand = 0;

var settingUp = true;

var pipePairCount = 0;

var Gap = 100;

var yVelocity = -2;

var diff = '';

var bird = new Player(pxPos, pyPos, PLAYER\_WIDTH, PLAYER\_HEIGHT, "yellow", Xspeed, Yspeed) **Code to give the player x pos y etc**

var playerName = prompt("Please enter your name", "Flappy Bird"); // Prompt on load of game to ask the player for their name **Prompt to ask player name**

while diff != 'easy' && diff != 'hard'

diff = prompt “What level of difficulty do you want ?", "Easy or Hard **Prompt to ask for difficulty level of game**

diff = diff.toLowerCase **Code so all responces are aceepted inculding lower case**

if diff == 'easy' **If statement if answer is = easy , changes the x speed to 2**

Xspeed = 2

If diff == 'hard' If statement if answer is = hard , changes the x speed to 5

Xspeed = 5

function mainLoop **Main loop function , used to run all functions listed bellow on loop**

if gameRun == true

colorRect 0, 0, canvas.width, canvas.height, 'black' **Color rect to draw the main canvas**

bird.playerDraw  **Loading Draw function for the bird**

bird.playerMove **Loading Move function for player**

bird.hasCollided

scoreCorrect

if settingUp **Code to keep track of pipes, to run draw function**

makePipes

for i = 0; i < pipesTotal; i++

up

bottom

settingUp = false

if pipes.length > 0

pipes.forEach function pipe

pipe.pipeDraw **Loads pipe draw function**

pipe.pipeMove **Loads pipe move function**

pipe.score

if pipe.x < 0 **Once pipe has left the canvas delete code , helps reduce stress on game etc**

delete pipes[i]

score++

pipes = pipes.filter item => item !== undefined

colorText "Score: " + realScore, 30, 30, '20px Arial', 'white;

if realScore >= 18 **Looking for the player getting high score and pipes running out, change gameFalse to false**

gameRun = false

else if gameRun = false then **draw yellow canvas and draw text**

if realScore >= 18 **If score is greater than 34 then display Congrats text with score**

colorRect(0, 0, canvas.width, canvas.height, 'yellow' **Color rect to draw the main canvas**

colorText "Congrats " + playerName + " youve reached the highscore of: " + realScore, 50, 30, '20px Arial', 'black'

else **If player doesnt reach end then display Game over text**

colorRect 0, 0, canvas.width, canvas.height, **'yellow' Color rect to draw the main canvas**

colorText "Game Over " + playerName + " your score was: " + realScore, 50, 30, '20px Arial', 'black'

function colorRect(x, y, w, h, c) **Colorrect function to draw the canvas background**

canvasContext.fillStyle = c

canvasContext.fillRect(x, y, w, h)

function colorText(src, x, y, f, c **Colorrect function to draw the text for score and game over**

canvasContext.fillStyle = c;

canvasContext.fillText(src, x, y

canvasContext.font = f

function keyPressed(evt) **Function looking for the space key being pressed down, sets the** var spaceKeyPressed to truce once detected

if (evt.keyCode == SPACE\_KEY)

spaceKeyPressed = true

function keyReleased(evt) **Function looking for the space key being released, sets the var** spaceKeyPressed to false once detected

if (evt.keyCode == SPACE\_KEY) {

spaceKeyPressed = false;

function scoreCorrect () **Simple function which halfs score to give real score as score is cacualted by pipes crossing canvas , which is two at time**

realScore = score / 2

function up() **function for the top part of the bar**

Gap = Math.floor(Math.random() \* (250 - 230) + 230

var yPos = 0

var xPos = canvas.width + pipePairCount \* Gap

const WIDTH = 40

var height = Math.floor(Math.random() \* (200 - 170) + 170

var p = new Pipe(xPos, yPos, WIDTH, height, "red", Xspeed

pipes.push(p)

function bottom() **funtion for the bottom part of the bar**

var yPos = canvas.height - Math.floor(Math.random() \* ((canvas.height \* 0.4) - 100) + 100

var xPos = canvas.width + pipePairCount \* Gap

const WIDTH = 40

var height = Math.floor(Math.random() \* (300 - 200) + 200

console.log('Gap: ' + Gap + ' pipeCount: ' + pipePairCount + "=" + xPos)

var p = new Pipe(xPos, yPos, WIDTH, height, "red", Xspeed

pipes.push(p);

pipePairCount

**pipe.js**

class Pipe **Basic code to give the pipe x y etc**

constructor(x,y,w,h,c,xspeed)

this.x= x

this.y =y

this.w= w

this.h =h

this.c= c

this.xspeed =xspeed

pipeDraw() **Basic code to draw the pipe into canvas**

canvasContext.fillStyle = this.c

canvasContext.fillRect(this.x,this.y,this.w,this.h)

pipeMove **Basic code to move the pipe across screen**

this.x -= this.xspeed

score **Simple score counter once pipe leaves screen increase score**

if (this.x < 0)

Score ++

**player.js**

class Player **Basic code to give the player x y etc**

constructor x,y,w,h,c,xspeed,yspeed

this.x= x

this.y =y

this.w= w

this.h =h

this.c= c

this.xspeed =xspeed

this.yspeed= yspeed

playerDraw **Basic code to draw player onto canvas**

canvasContext.fillStyle = this.c

canvasContext.fillRect this.x,this.y,this.w,this.h

playerMove **Basic code for space key press with gravity**

this.x = canvas.width / 3

if spaceKeyPressed

this.yspeed = -9

this.yspeed += 0.5

this.y += this.yspeed

this.yspeed \*= 0.98;

pipehit

if pxPos + PLAYER\_WIDTH == xPos

gameover = true

pipeHit(item)

return (this.x <= (item.x + item.w)

&& (this.x + this.w) >= item.x)

&&

(this.y <= (item.y + item.h)

&& (this.y + this.h) >= item.y)

hasPipeHit(pipe)

return this.pipeHit(pipe)

hasCollided()

var self = this

var collided = false

pipes.forEach(function(pipe, i)

if(self.hasPipeHit(pipe)

if(self.y + self.h > pipe.y && self.y < pipe.y + pipe.h && self.x + self.w > pipe.x && self.w < pipe.x + pipe.w){

gameRun = false

collided = true