**15-104 Introduction to Computing for Creative Practice – FALL 2023**

NAME: ENTER YOUR NAME HERE

ANDREW ID: ENTER YOUR ANDREW ID HERE

SECTION: ENTER YOUR SECTION LETTER HERE (A-E)

**CONCEPTS QUESTIONS 7**

Enter your answers to each of these questions in the space provided. Do not use online tools (including AI tools). Do not consult with other students when answering these questions. The information you fill in should be your work and only your work.

1. The following function searches for and returns the index of the first occurrence of a negative number in an array of numbers. If none of the numbers are negative, it returns -1 instead.

function findFirstNegative(numArray) {  
 var index = 0;  
 while ( **/\* MISSING CONDITION \*/** ) {  
 index++;  
 }  
 if (index < numArray.length) {  
 return index;  
 }  
 return -1;  
}

What is the missing condition? (HINT: There are two conditions to test, connected with a logical operator, and the order matters.)  
  
  
YOUR ANSWER:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The following program displays the roll of two die when the mouse is clicked, and displays the word “DOUBLES” if both die are the same number. This program does not work as intended.

function setup() {   
 createCanvas(400, 400);   
 textSize(64);  
 textAlign(CENTER);  
 background(255, 255, 0);  
}  
  
function draw() {   
}  
  
function mousePressed() {  
 background(255, 255, 0);  
 if (roll1() == roll2()) {  
 text("DOUBLES", 200, 100);  
 }  
 text(roll1(), 100, 200);  
 text(roll2(), 300, 200);  
}  
  
function roll1() {  
 return floor(random(1,7));  
}  
  
function roll2() {  
 return floor(random(1,7));  
}

Identify the error, and state how you would fix the program so it works correctly.

YOUR ANSWER:

1. The program is meant to draw a vertical line that moves randomly using Perlin noise. This program does not work as intended. The line remains stationary.

function setup() {   
 createCanvas(200, 200);   
}  
  
function draw() {  
 background(204);  
 var n = noise(1) \* width;  
 line(n, 0, n, height);   
}

Explain why the line does not move based on the program above.  
  
YOUR ANSWER:

1. Consider the following object definition for a moving rectangular object called a box:

var box = {x: 100, y: 200, w: 50, h: 100, dx: 5, dy: -5};

For any general box of this form, show using p5.js how you would reverse its horizontal movement if its left or right side touch the left or right side of the canvas.

YOUR ANSWER:   
  
if (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) {  
  
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;  
  
}