

Javascript Assignment 6

Solutions:

1) Rectangle and Square classes with area calculation

// Rectangle Class

```
class Rectangle {  
    constructor(width, height) {  
        this.width = width;  
        this.height = height;  
    }  
  
    area() {  
        return this.width * this.height;  
    }  
}
```

// Square Class (subclass of Rectangle)

```
class Square extends Rectangle {  
    constructor(side) {  
        // Call parent constructor with same value for width and  
        height  
        super(side, side);  
    }  
}
```

```
// Example usage
const rectangle = new Rectangle(5, 10);
console.log("Rectangle Area:", rectangle.area()); // 50

const square = new Square(5);
console.log("Square Area:", square.area()); // 25
```

2)Function to find nth largest number

```
function find_largest(arr, n) {
    // Remove duplicates and sort in descending order
    const uniqueSorted = [...new Set(arr)].sort((a, b) => b - a);

    // Check if n is valid
    if (n <= 0 || n > uniqueSorted.length) {
        return null; // or throw an error
    }

    // Return the nth largest number
    return uniqueSorted[n - 1];
}

// Test cases
const testArray = [3, 45, 6, 7, 23, 5, 7, 8];
console.log("3rd Largest Number:", find_largest(testArray, 3));
// 8
console.log("1st Largest Number:", find_largest(testArray, 1));
// 45
```

```
console.log("5th Largest Number:", find_largest(testArray, 5));  
// 7
```

3)Function to insert dashes between even numbers

```
function computeDash(number) {  
    // Convert number to string  
    const numStr = number.toString();  
  
    // Array to store processed characters  
    const result = [];  
  
    for (let i = 0; i < numStr.length; i++) {  
        // Add current digit  
        result.push(numStr[i]);  
  
        // Check if next digit is even and current digit is even  
        if (i < numStr.length - 1 &&  
            parseInt(numStr[i]) % 2 === 0 &&  
            parseInt(numStr[i+1]) % 2 === 0) {  
            result.push('-');  
        }  
    }  
  
    // Join the array and return  
    return result.join("");  
}
```

// Test cases

console.log(computeDash(25468)); // 2-54-6-8

console.log(computeDash(025468)); // 0-254-6-8