

## Lab 6 Functions Revisited

### Instructions

1. Answer the below question in the boxes if needed.
2. Code on your computer and zip all your code before submission.
3. Please submit the assignment through TalentLabs Learning System.

## Part 1 Functions

### 1.1 Code Dry-running

In this section, you don't need to write any code. Just try to run the code in your mind or on a piece of paper. DO NOT test the code with your computer.

Question 1.1 What's the console output of the following statements? (Hint: the results might be more than 1 line)

```
1  ✓ const functionA = function (inputArray, handlingFunction){  
2    console.log("Running Function A")  
3    handlingFunction(inputArray)  
4  }  
5  
6  ✓ const functionB = function (inputArray){  
7    console.log("Running Function B")  
8    console.log(inputArray.length)  
9    return inputArray[0]  
10 }  
11  
12 const array1 = [1, 3, 5, 7, 9]  
13 const result1 = functionB(array1)  
14  
15 ✓ const hFunction1 = (inputArray) => {  
16   console.log(inputArray[inputArray.length-1])  
17 }  
18  
19 functionA(array1, hFunction1)  
20  
21 const array2 = [2, 4, 6, 8, 10]  
22 functionA(array2, functionB)
```

Answer 1.1

```
Running Function B  
5  
Running Function A  
9  
Running Function A  
Running Function B  
5
```

Question 1.2 What's the console output of the following statements? (Hint: the results might be more than 1 line)

```
1 v const functionA = function(input1, input2, handlingFunction){
2   console.log(input1)
3   console.log(input2)
4   const result = handlingFunction(input1, input2)
5   console.log(result)
6 }
7
8 v const functionB = function(input1, input2, handlingFunction){
9   console.log(input2)
10  console.log(input1)
11  handlingFunction(input1, input2, x => x * 2)
12  return input1 + input2
13 }
14
15 v const functionC = function(input1, input2){
16   return input1 * input2 * (input1 + input2)
17 }
18
19 functionA(3, 5, functionC)
20 functionB(6, 9, functionA)
```

Answer 1.2

```
3
5
120
9
6
6
12
```

## Part 2 Rewriting Functions into Arrow Functions

### 2.1 Code Rewriting

Please rewrite the code block below by using Arrow Functions. Then test it with [repl.it](https://repl.it). You can paste a screenshot or type the code in the answer box.

#### Question 2.1.1

**Original Code:**

```
1 ✓ const functionA = function helloWorld(){  
2   console.log("Hello World")  
3 }
```

**Rewritten Code:**

```
const functionA = () => console.log("Hello World");  
  
functionA();  
// Hello World
```

## Question 2.1.2

**Original Code:**

```
5 ✓ const functionB = function factorial(input){  
6   let result = 1;  
7 ✓   for (i = 1; i<=input; i++){  
8     result = result * i;  
9   }  
10  return result;  
11 }
```

**Rewritten Code:**

```
const functionB = input => {  
  let result = 1;  
  for (i = 1; i<=input; i++) {  
    result = result * i;  
  }  
  return result;  
}  
  
console.log(functionB(3)); // 6
```

## Question 2.1.3

**Original Code:**

```
13 ✓ const functionC = function (width, height){  
14     return width * height;  
15 }
```

**Rewritten Code:**

```
const functionC = (width, height) => {  
  return width * height;  
}  
  
console.log(functionC(5, 2)); // 10
```

## Question 2.1.4

**Original Code:**

```
1 ✓ const greeting = function(name, greetingFunction) {  
2   greetingFunction(name);  
3 }  
4  
5 ✓ const sayHello = function(name) {  
6   console.log("Hello, " + name)  
7 }  
8  
9 ✓ const sayGoodMorning = function(name) {  
10  console.log("Good Morning, " + name);  
11 }  
12  
13 greeting("Darren", sayHello)  
14 greeting("Darren", sayGoodMorning)
```

**Rewritten Code:**

```
const greeting = (name, greetingFunction) => greetingFunction(name);  
  
const sayHello = name => console.log("Hello, " + name);  
  
const sayGoodMorning = name => console.log("Good Morning, " + name);  
  
greeting("Darren", sayHello); // Hello, Darren  
greeting("Darren", sayGoodMorning); // Good Morning, Darren
```