

Lab 3 Data Types Exercises

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 Data Types Exercises

Task 1.1 Guessing Data Types

For each expression below, run the program in your mind/heart and put down your prediction honestly. Then run it in repl.it to check your answer.

1. `typeof("Hello World")`
// Prediction: string
// Actual: string
2. `typeof(28)`
// Prediction: number
// Actual: number
3. `typeof(3.4)`
// Prediction: number
// Actual: number
4. `typeof(NaN)`
// Prediction: number
// Actual: number
5. `typeof("peter")`
// Prediction: string
// Actual: string



6. `typeof(false)`
// Prediction: boolean
// Actual: boolean
7. `typeof("false")`
// Prediction: string
// Actual: string
8. `typeof(2 != 3)`
// Prediction: boolean
// Actual: boolean
9. `"hamburger" + "s"`
// Prediction: string
// Actual: string
10. `"hamburgers" - "s"`
// Prediction: number
// Actual: number
11. `"1" + "3"`
// Prediction: string
// Actual: string
12. `"1" - "3"`
// Prediction: number
// Actual: number
13. `"johnny" + 5`
// Prediction: string
// Actual: string
14. `"johnny" - 5`
// Prediction: number
// Actual: number
15. `99 * "luftballons"`
// Prediction: number
// Actual: number

Part 2 Array Exercises

Task 2.1 Array Operations Exercises

As discussed in class, arrays (and other objects) offered some native methods and operations for us to manipulate the array itself. Try to perform the following tasks using the methods we taught in class and/or look on from this [documentation](#). Make sure to test the code in [repl.it](#) before you submit the assignment.

Let's start with

```
let testArray = [1,2,3,4,5]
```

1. Add 6 to the back of testArray.

```
testArray.push(6);  
console.log(testArray);
```

2. Remove the 6 from the new array that you created.

```
testArray.pop();  
console.log(testArray);
```

3. Add an 0 to the front of testArray.

```
testArray.unshift(0);  
console.log(testArray);
```

4. Remove 3 from the testArray (after finishing step 1-3).
(Tips: You might want to use the array.splice function)

```
testArray.splice(3, 1);  
console.log(testArray);
```

5. Concatenates all the elements in testArray into a string (i.e. the expected output is a string of "01245").
(Tips: You might want to use the array.join function)

```
console.log(testArray.join(""))
```

Task 2.2 Code Dry-running

Please run the code in your mind and write down the answers in the answer box below.

1. What is the content of “numbers” after the code is executed? (Run the code in your mind, not with repl.it)

```
let numbers = [1, 3, 5, 7]
numbers.pop()
numbers.push(10)
numbers.unshift(3)
```

Answer:

```
[1, 3, 5]
[1, 3, 5, 10]
[3, 1, 3, 5, 10]
```

2. List out the content of each of the arrays in the code below. (Run the code in your mind, not with repl.it)

```
let allTeams = []
let team1 = ["Peter", "Paul", "Mary", "Betty"]
let team2 = ["Tom", "Mike", "Trump", "Stephen", "Billy"]
team1.push("Anthony")
team1.unshift("Mandy")
team2.pop()
team2[3] = "Louis"
```

Answer:

```
team1: ["Mandy", "Peter", "Paul", "Mary", "Betty", "Anthony"]
team2: ["Tom", "Mike", "Trump", "Stephen"]

["Tom", "Mike", "Trump", "Louis"]
```

3. List out the content of the "studentList" after the code is executed.

```
let studentList = [  
    {firstName: "Peter", age: 12},  
    {firstName: "Anthony", age: 24},  
    {firstName: "Louis", age: 18},  
]  
studentList[2].name = "Mary"  
studentList[1].age = 16
```

Answer:

```
[  
  {firstName: "Peter", age: 12},  
  {firstName: "Anthony", age: 16},  
  {firstName: "Louis", age: 18, name: "Mary"},  
]
```

Part 3 Turn in your assignment

Please turn in your assignment to TalentLabs Learning Management System.