

TASK2 - QUESTIONS

1)HTML and script.js file and run a for loop on the data and print all the country names in the console.

2)Write a write up on the difference between copy by value and copy by reference.

3)How to copy by value a composite data type (array+objects).

4)JSON task

<https://medium.com/@reach2arunprakash/guvi-zen-code-sprint-javascript-practice-problems-in-javascript-objects-and-list-49ac3356a8a5>

5)Try the rest countries API. Extract and print the total population of all the countries in the console. use the HTML template. <https://restcountries.eu/rest/v2/all>

TASK2 - ANSWERS

2) Consider two data types, primitive and composite.

- a. Primitive data types are passed by value i.e, for example, consider the below code

```
var a = 5;
var b = a;
console.log(a,b) \ 5, 5
```

Here when 'a' is assigned to b, it is copied just by value meaning if you change b again, it doesn't necessarily change the value of a. See the code below

```
var a = 5;
var b = a;
b = 10;
console.log(a,b) \ 5, 10
```

We can clearly see the difference from above.

- b. Composite data are generally passed by reference ie when we create an array as below

```
var array = [1];
var temp = array;
console.log(array, temp) \ [1], [1]
```

Here while we create an array, it is assigned an address of the location in memory. So when we assign array to temp, temp is copied by reference to the address. Now if we manipulate temp, both temp and arr are changed because they are both pointing to the same reference.

```
var array = [1];
var temp = array;
temp.push(2);
console.log(array, temp) \ [1,2], [1,2]
```

3) There are 3 ways to copy by value in composite data type

a. Using the spread operator

```
var array = [1];  
var temp = [...array];  
temp[0] = 2;  
console.log(array, temp) \\ [1], [2]
```

b. Using Object.assign()

```
var array = [1];  
var temp = Object.assign([], array);  
temp[0] = 2;  
console.log(array, temp) \\ [1], [2]
```

c. Using JSON.parse() and JSON.stringify();

```
var array = [1];  
var temp = JSON.parse(JSON.stringify(array));  
temp[0] = 2;  
console.log(array, temp) \\ [1], [2]
```

Mannam Akhil
mannamakhil@gmail.com