JAVASCRIPT

Task 2

1. **Html and script.js file and run a for loop on the data and print all the country names on the console**

HTML

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
    <script src='script.js'></script>
</head>
<body>


</body>
</html>
```

Script.js

```javascript
var request = new XMLHTTPRequest();
request.open('GET', 'https://restcountries.eu/rest/v2/all', true);

request.send();

request.onload = function () {
  var data = JSON.parse(this.response);
  for( let i in data) {
     console.log(data[i].name);
  }
}

request.onerror = function() {
  console.log('Error Occured');
}
```

2. **Write a write up on Difference between copy by value and copy by reference**

   - Copy by value creates a space in memory, while copy by reference does not
   - Copy by value makes a copy of a value, but in copy by reference a value stored in memory will be referenced
   - Primitive Data Types such as String & Number are copied by value, but complex data types such as Array & objects are copied by reference

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

   There are 3 ways to do this

   - Using spread (▪▪▪) syntax

   - Using Object.assign() method
   - Using JSON.stringfy() and JSON.parse() methods

4. **Try the restcountries api. Extract and print the total population of all the countries in the console**

   The logic for this:

   ```
   var total_population = 0;
   for( let i in data) {
     total_population += parseInt(data[i].poputation);
   }
   console.log(total_population);
   ```