Day 2 task

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

```
let request= new XMLHttpRequest();
request.open('GET','https://restcountries.eu/rest/v2/all',true)
request.send();
request.onload = function()
  {
     let data = JSON.parse(this.response)
    for(let i in data)
    {
       console.log(data[i].name)
    }
  }
```

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

Call By Value

Here the data which the variable holds is passed to another variable . i.e the variables have different memory locations.So any change to one does not affect the other

Call By Reference

Here the location which the variable holds is passed to another variable . i.e the variables have same memory locations.So any change to one affects the other

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

There are three ways to copy by value or deep copy a composite date type.

1.using the *for loop*

```
var arr1= [1,2,3,4];
var arr2=[];
for(let i in arr1)
{
arr2.push(arr1[i]);
}
arr2[2]=12314;
console.log(arr1,arr2);
```

2.using the *spread operator*:

```
var arr1= [1,2,3,4]
var arr2=[...arr1]
arr2[2]=20
console.log(arr1,arr2)
```

3.using *array.from* method

```
var c=Array.from(arr1)
c[2]=123
console.log(arr1,c)
```

4. JSON task

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

```
//Problem 0
var cat = {
   name: "Fluffy",
   activities: ['play', 'eat cat food'],
   catFriends: [{
                name: "bar",
                activities: ['be grumpy', 'eat bread omblet'],
                weight: 8,
                furcolor: 'white'
                },
                {
                name:"foo",
                activities: ['sleep', 'pre-sleep naps'],
                weight: 3
             }]
  }
//    0.1
cat.height=34;cat.weight=34;
// 0.2
cat.name="Fluffyy";
// 0.3
console.log(cat.activities)
// 0.4
for(i=0;i<cat.catFriends.length;i++)
{
   console.log(cat.catFriends[i].name)
}
// 0.5
let sum=0;
for(i=0;i<cat.catFriends.length;i++)
{
 sum=sum+parseInt(cat.catFriends[i].weight)
}
console.log(sum)
// 0.6
```

```
let len=0
for(i=0;i<cat.catFriends.length;i++)
{
 len=len+parseInt(cat.catFriends[i].activities.length);
}
console.log(len+cat.activities.length)
// 0.7
    cat.catFriends[0].activities.push("play with wool","play with me")
    cat.catFriends[1].activities.push("play with wool","play with me")

// 0.8
cat.catFriends[0].furcolor="black"


//Problem 0 B

var myCar = {
    make: 'Bugatti',
    model: 'Bugatti La Voiture Noire',
    year: 2019,
    accidents: [
    {
    date: '3/15/2019',
    damage_points: '5000',
    atFaultForAccident: true
    },
    {
    date: '7/4/2022',
    damage_points: '2200',
    atFaultForAccident: true
    },
    {
    date: '6/22/2021',
    damage_points: '7900',
    atFaultForAccident: true
    }
    ]
  }

for(i=0;i<myCar.accidents.length;i++)
{
    myCar.accidents[i].atFaultForAccident=false
console.log(myCar.accidents[i].date)
}
```

```
console.log(myCar)



// problem 1
console.log("Problem 1")
let obj =
{
    name:'RajiniKanth',
    age:33,
    hasPets:false
};

function printAllValues(obj) {
 console.log(Object.values(obj));
}
printAllValues(obj);


// problem 2
console.log("Problem 2")
function printAllKeys(obj) {
    console.log(Object.keys(obj));
   }
printAllKeys(obj);

// Problem 3
console.log('Problem 3')
function convertObjectToLis(obj) {
    console.log(Object.entries(obj))
   }
   convertObjectToLis(obj);

 //Problem 4
console.log('Problem 4')
let arr=['GUVI','I','am','a geek'];
let func=transformFirstAndLast(arr);
function transformFirstAndLast(arr){
    var newObject={},
    key=arr.shift(),
    val=arr.pop();
    newObject[key]=val;
    return newObject;
}
```

```
console.log(func)

// Problem5
console.log('Problem 5')
var newObject = {};
var arrnew = [['make', 'Ford'], ['model', 'Mustang'], ['year', 1964]];
function fromListToObject(arr) {

 newObject=Object.fromEntries(arrnew);
 return newObject;
}
fromListToObject(arrnew)
console.log(newObject)

// Problem 6
console.log('Problem 6')
var tranformEmployeeList = [];
var arr2= [
    [['firstName', 'Vasanth'], ['lastName', 'Raja'], ['age', 24], ['role', 'JSWizard']],
     [['firstName', 'Sri'], ['lastName', 'Devi'], ['age', 28], ['role', 'Coder']]
    ];
function transformEmployeeData(arr2) {

 tranformEmployeeList=Object.fromEntries(arr2);
 return tranformEmployeeList;
}
transformEmployeeData(arr2)
console.log(tranformEmployeeList)

// problem 7
console.log('Problem 7')
var expected = {foo: 5, bar: 6};
var actual = {foo: 5, bar: 6};

// console.log(JSON.stringify(actual));
function assertObjectsEqual(actual, expected){
if(JSON.stringify(expected)==JSON.stringify(actual))
{
    console.log("Passed")
}
else{
    console.log("Failed Expected value = "+JSON.stringify(expected)+" but got
"+JSON.stringify(actual))
}
```

```
}
assertObjectsEqual(actual, expected);

 // problem 8
console.log('Problem 8')
var securityQuestions =
   [
      {
      question: 'What was your first pet’s name?',
      expectedAnswer: 'FlufferNutter'
      },
      {
      question: 'What was the model year of your first car?',
      expectedAnswer: '1985'
      },
      {
      question: 'What city were you born in?',
      expectedAnswer: 'NYC'
      }
   ]

      var ques = 'What was your first pet’s name?';
     var ans  =  'FlufferNutter';
     var status = chksecurityQuestions(securityQuestions, ques, ans);

   function chksecurityQuestions(securityQuestions,question,expectedAnswer)
   {
      for(let i in securityQuestions){
   //   if (securityQuestions[i].question===ques)
   if (securityQuestions[i].question===ques)
   {
      if(securityQuestions[i].expectedAnswer===ans)
      {
         return true
      }
      else{
         return false
      }
    }
   }
}
      console.log(status);

// problem 9
```

```
console.log('Problem 9')
var students = [
   {name: 'Siddharth Abhimanyu', age: 21},
   {name: 'Malar', age: 25},
   {name: 'Maari',age: 18},
   {name: 'Bhallala Deva',age: 17},
   {name: 'Baahubali',age: 16},
   {name: 'AAK chandran',age: 23},
   {name:'Gabbar Singh',age: 33},
   {name: 'Mogambo',age: 53},
   {name: 'Munnabhai',age: 40},
   {name: 'Sher Khan',age: 20},
   {name: 'Chulbul Pandey',age: 19},
   {name: 'Anthony',age: 28},
   {name: 'Devdas',age: 56}
   ];
  function returnMinors(arr)
  {
  for( let i in students)
      {
          if(students[i].age<20)
          {
              console.log(students[i].name);
          }
      }
   }
 returnMinors(students);
```

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

```
let request= new XMLHttpRequest();
request.open('GET','https://restcountries.eu/rest/v2/all',true)
request.send();
request.onload = function()
   {
       let data = JSON.parse(this.response);
       let total=0
      for(let i in data)
      {
          total=total+ +data[i].population;
```

```
  }
  console.log("The total Population is "+total)
}
```