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JavaScript Assignment 13

1. Write a JavaScript program to get an array from the user and return the:

- a) Sum of all elements in the array using reduce()
- b) Average of all elements in the array using reduce()

Sample Input:

[1, 2, 3, 4, 5]

Output:

15

3

//To take input from user in Browser

```
let arr = prompt("Enter array values");
```

```
arr = arr.split(",");
```

```
arr = arr.map(i => parseInt(i));
```

```
//let arr = [ 1, 2, 3, 4, 5 ];
```

//a) Sum of all elements in the array using reduce()

```
let sum = arr.reduce((sum, ele) => sum+ele);
```

```
console.log(sum);
```

//b) Average of all elements in the array using reduce()

```
let avg = arr.reduce((sum,ele,index,ar) => (sum+ele/ar.length),0);
```

```
console.log(avg);
```

2. Write a JavaScript program to

a) Calculate grades on basis of marks

>90 = A

>80 = B

>70 = C

>60 = D

>50 = E

else = F

b) Map the grades of each student

c) Group students according to the grades they have received and display.

// a) Calculate grades on basis of marks

```
let students = [  
  { name: "John", marks: "92" },  
  { name: "Oliver", marks: "85" },  
  { name: "Michael", marks: "79" },  
  { name: "Dwight", marks: "95"},  
  { name: "Oscar", marks: "64" },  
  { name: "Kevin", marks: "48" }  
];
```

// b) Map the grades of each student

```
students.map(item => {  
  if(item.marks >= 90 ){  
    item["Grade"] = "A";  
  }else if(item.marks >= 80 ){  
    item["Grade"] = "B";  
  }else if(item.marks >= 70 ){  
    item["Grade"] = "C";  
  }else if(item.marks >= 60 ){  
    item["Grade"] = "D";  
  }else if(item.marks >= 50 ){  
    item["Grade"] = "E";  
  }else {  
    item["Grade"] = "F";  
  }  
})
```

```
console.log(students);
```

// c) Group students according to the grades they have received and display

```
let group= students.reduce((acc, obj) => {  
  const prop = obj["Grade"];  
  acc[prop] = acc[prop] || [];  
  acc[prop].push(obj);  
  return acc;  
},{})  
console.log(group);
```