Cars

let tataTiago = {name:"Tata Tiago",manufacturer:"Tata",fuelType:"petrol",bodyType:"hatchback", seatingCapacity:5,price:5000}

let nexon = {name:"Tata Nexon",manufacturer:"Tata",fuelType:"diesel",bodyType:"SUV", seatingCapacity:5,price:7000};

let mahindra = {name:"Mahindra XUV700",manufacturer:"Mahindra",fuelType:"petrol", bodyType:"SUV", seatingCapacity:5,price:7500};

let mg = {name:"MG ZS EV",manufacturer:"Mahindra",fuelType:"Electric",bodyType:"SUV", seatingCapacity:5,price:25000};

let volvo ={name:"Volvo XC90",manufacturer:"Volvo",fuelType:"petrol",bodyType:"hybrid", seatingCapacity:7,price:35000};

let list = [tataTiago,nexon,mahindra,mg,volvo]

a. Get Petrol Cars below given price

getPetrolCarsWithinPrice(list,15000)->

```
[
  Car {
    name: 'Tata Tiago',
    manufacturer: 'Tata',
    fuelType: 'petrol',
    bodyType: 'hatchback',
    seatingCapacity: 5,
    price: 5000
  },
  Car {
    name: 'Mahindra XUV700',
    manufacturer: 'Mahindra',
    fuelType: 'petrol',
    bodyType: 'SUV',
    seatingCapacity: 5,
    price: 7500
```

```
  }
]
```

b. Return the number of cars by each Manufacturer

```
groupByManufacturer(list) -> { Tata: 2, Mahindra: 2, Volvo: 1 }
```

c. Sort the list by given filter. If filter is price, show the list from cheapest to highest price, if filter is 'bodyType' , sort the list by bodyType.length.

```
sortThemByGivenFilter(list,"bodyType") ->

[
  Car {
    name: 'Tata Nexon',
    manufacturer: 'Tata',
    fuelType: 'diesel',
    bodyType: 'SUV',
    seatingCapacity: 5,
    price: 7000
  },
  Car {
    name: 'Mahindra XUV700',
    manufacturer: 'Mahindra',
    fuelType: 'petrol',
    bodyType: 'SUV',
    seatingCapacity: 5,
    price: 7500
  },
  Car {
    name: 'MG ZS EV',
    manufacturer: 'Mahindra',
    fuelType: 'Electric',
    bodyType: 'SUV',
    seatingCapacity: 5,
    price: 25000
  },
  Car {
    name: 'Volvo XC90',
    manufacturer: 'Volvo',
    fuelType: 'petrol',
    bodyType: 'hybrid',
    seatingCapacity: 7,
    price: 35000
```

```
  },
  Car {
    name: 'Tata Tiago',
    manufacturer: 'Tata',
    fuelType: 'petrol',
    bodyType: 'hatchback',
    seatingCapacity: 5,
    price: 5000
  }
]
```

d. Add another property serviceCost with given value to all the car objects in the list.

```
addServiceCostToAllCars(list,100)->

[
  Car {
    name: 'Tata Tiago',
    manufacturer: 'Tata',
    fuelType: 'petrol',
    bodyType: 'hatchback',
    seatingCapacity: 5,
    price: 5000,
    serviceCost: 1000
  },
  Car {
    name: 'Tata Nexon',
    manufacturer: 'Tata',
    fuelType: 'diesel',
    bodyType: 'SUV',
    seatingCapacity: 5,
    price: 7000,
    serviceCost: 1000
  },
  Car {
    name: 'Mahindra XUV700',
    manufacturer: 'Mahindra',
    fuelType: 'petrol',
    bodyType: 'SUV',
    seatingCapacity: 5,
    price: 7500,
    serviceCost: 1000
  },
```

```
  Car {
    name: 'MG ZS EV',
    manufacturer: 'Mahindra',
    fuelType: 'Electric',
    bodyType: 'SUV',
    seatingCapacity: 5,
    price: 25000,
    serviceCost: 1000
  },
  Car {
    name: 'Volvo XC90',
    manufacturer: 'Volvo',
    fuelType: 'petrol',
    bodyType: 'hybrid',
    seatingCapacity: 7,
    price: 35000,
    serviceCost: 1000
  }
]
```

Sensors

```
let frontDoor = {id:1,name:"Front Door Sensor",type:34,manufacturer:"Climax",
events:[{time:"100",name:"Door Closed"}, {time:"101",name:"Door Opened"}]};

let motionSensor = {id:2,name:"Motion Sensor",type:43,manufacturer:"NYCE",
events:[{time:"100",name:"Motion Detected"}]};

let porticoLight ={id:3,name:"Portico Light",type:54,manufacturer:"Osram",
events:[{time:"100",name:"Light off"}]};

let mainEntrance = {id:4,name:"Main Entrance",type:34,manufacturer:"Climax",
events:[{time:"100",name:"Door Closed"}]};
```

let list = [frontDoor, motionSensor, porticoLight, mainEntrance] ;

b.[5] **List the number of sensors by the Manufacturer.**

console.log(groupSensorsByManufacturer(list));->

{ Climax: 2, NYCE: 1, Osram: 1 }

c.[5] **Get the most recent event of given Sensor(Sensor ID). (sort the events by time, either manually of using Array methods)**

console.log(getLatestEventofSensor(list,1)); ->

{ time: '101', name: 'Door Opened' }

d.[8] **Find the Most Popular Manufacturer. Return the Manufacturer that has most number of Sensors. (use groupSensorsByManufacturer function)**

console.log("expect **Climax**:",findMostPopularManufacturer(list));