Q3.

```
const arr = [4, 6, 7, 8, 9, 10, 10];
const findVariance = (arr = []) => {
   if(!arr.length){
      return 0;
   };
   const sum = arr.reduce((acc, val) => acc + val);
   const { length: num } = arr;
   const median = sum / num;
   let variance = 0;
   arr.forEach(num => {
      variance += ((num - median) * (num - median));
   });
   variance /= num;
   return variance;
};
console.log(findVariance(arr))
```

Q1.

```
var Node = function (name) {
    this.children = [];
    this.name = name;
}

Node.prototype = {
    add: function (child) {
        this.children.push(child);
    },

    remove: function (child) {
        var length = this.children.length;
        for (var i = 0; i < length; i++) {
            if (this.children[i] === child) {
                this.children.splice(i, 1);
                return;
            }
        }
    },

    getChild: function (i) {
        return this.children[i];
    },

    hasChildren: function () {
        return this.children.length > 0;
    }
}

// recursively traverse a (sub)tree

function traverse(indent, node) {
    console.log(Array(indent++).join("--") + node.name);

    for (var i = 0, len = node.children.length; i < len; i++) {
```

```
        traverse(indent, node.getChild(i));
    }
}

function run() {
    var tree = new Node("root");
    var left = new Node("left")
    var right = new Node("right");
    var leftleft = new Node("leftleft");
    var leftright = new Node("leftright");
    var rightleft = new Node("rightleft");
    var rightright = new Node("rightright");

    tree.add(left);
    tree.add(right);
    tree.remove(right);  // note: remove
    tree.add(right);

    left.add(leftleft);
    left.add(leftright);

    right.add(rightleft);
    right.add(rightright);

    traverse(1, tree);
}
```

Q4.

```
class productId
{
       constructor( productId, ProductName,Productprice)
       {
              this.productId=productId;
              this.ProductName=ProductName;
              this.Productprice=Productprice;
       }
}
let ob1=new productId(1111,aaaa,3345);
let ob2=new productId(22,bbb,3456);
```