THA 7

1. Write a JavaScript program to list the properties of a JavaScript object. Sample object: var student = { name : "David Rayy", sclass : "VI", rollno : 12 };
 Sample Output: name,sclass,rollno

```javascript
function _keys(obj)
 {
    if (!isObject(obj)) return [];
    if (Object.keys) return Object.keys(obj);
    var keys = [];
    for (var key in obj) if (_.has(obj, key)) keys.push(key);
    return keys;
 }
function isObject(obj)
{
    var type = typeof obj;
    return type === 'function' || type === 'object' && !!obj;
 }
console.log(_keys({red: "#FF0000", green: "#00FF00", white:
"#FFFFFF"}));
```

 2. Write a JavaScript program to delete the rollno property from the following object. Also print the object before or after deleting the property. Sample object: var student = { name : "David Rayy", sclass : "VI", rollno : 12 };

```javascript
var student =  {
  name : "David Rayy",
  sclass : "VI",
  rollno : 12   };
console.log(student);
delete student.rollno;
console.log(student);
```

```javascript
Object.objsize = function(Myobj) {
    var osize = 0, key;
    for (key in Myobj) {
        if (Myobj.hasOwnProperty(key)) osize++;
    }
    return osize;
};

var student = {
name : "David Rayy",
sclass : "VI",
rollno : 12 };

var objsize = Object.objsize(student);
console.log('Size of the current object : '+objsize);
```

```javascript
var library = [
    {
        title: 'Bill Gates',
        author: 'The Road Ahead',
        readingStatus: true
    },
    {
        title: 'Steve Jobs',
        author: 'Walter Isaacson',
        readingStatus: true
    },
    {
        title: 'Mockingjay: The Final Book of The Hunger Games',
        author: 'Suzanne Collins',
        readingStatus: false
    }];

for (var i = 0; i < library.length; i++)
    {
```

```javascript
      var book = "'" + library[i].title + "'" + ' by ' +
library[i].author + ".";
      if (library[i].readingStatus) {
        console.log("Already read " + book);
      } else
      {
       console.log("You still need to read " + book);
      }
     }
```

5. Write a JavaScript program to get the volume of a Cylinder with four decimal places using object classes. Volume of a cylinder : $V = \pi r^2 h$ where r is the radius and h is the height of the cylinder. Try To Attempt : Difficult Level Increased

```javascript
function Cylinder(cyl_height, cyl_diameter) {
  this.cyl_height = cyl_height;
  this.cyl_diameter = cyl_diameter;
}

Cylinder.prototype.Volume = function () {
  var radius = this.cyl_diameter / 2;
  return this.cyl_height * Math.PI * radius * radius;
};

var cyl = new Cylinder(7, 4);
// Volume of the cylinder with four decimal places.
console.log('volume =', cyl.Volume().toFixed(4));
```

6. Write a JavaScript program to sort an array of JavaScript objects. Sample Object : var library = [{ title: 'The Road Ahead', author: 'Bill Gates', libraryID: 1254 }, { title: 'Walter Isaacson', author: 'Steve Jobs', libraryID: 4264 }, { title: 'Mockingjay: The Final Book of The Hunger Games', author: 'Suzanne Collins', libraryID: 3245 }]; Expected Output: [[object Object] { author: "Walter Isaacson", libraryID: 4264, title: "Steve Jobs" }, [object Object] { author: "Suzanne Collins", libraryID: 3245, title: "Mockingjay: The Final Book of The Hunger Games" }, [object Object] { author: "The Road Ahead", libraryID: 1254, title: "Bill Gates" }]

```javascript
var library = [
    {
        title: 'Bill Gates',
        author: 'The Road Ahead',
        libraryID: 1254
    },
    {
        title: 'Steve Jobs',
        author: 'Walter Isaacson',
        libraryID: 4264
    },
    {
        title: 'Mockingjay: The Final Book of The Hunger Games',
        author: 'Suzanne Collins',
        libraryID: 3245
    }];

var sort_by = function(field_name, reverse, initial){

    var key = initial ?
        function(x)
            {
                return initial(x[field_name]);
            } :
        function(x)
            {
                return x[field_name];
            };

    reverse = !reverse ? 1 : -1;

    return function (x, y) {
        return x = key(x), y = key(y), reverse * ((x > y) - (y > x));
    } ;
};
```

```javascript
var newobj = library.sort(sort_by('libraryID', true, parseInt));

console.log(newobj);
```