**Task-3**

**Question 1**

**Problem 0 : Playing with JSON object’s Values:**

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

}

]

};

**i. Add height and weight to Fluffy**

cat.height = 15;

cat.weight = 9;

**ii. Fluffy name is spelled wrongly. Update it to Fluffyy**

cat.name = "Fluffyy";

**iii. List all the activities of Fluffyy’s catFriends**

for(let friends of cat.catFriends){

for(let activity of friends.activities){

console.log(activity);

}

}

**iV. Print the catFriends names**

for(let friends of cat.catFriends){

console.log(friends.name);

}

**v. Print the total weight of catFriends**

let total\_weight = cat.catFriends.reduce((total,current) =>{

return total + current.weight;

},0);

console.log(total\_weight);

**Vi. Print the total activities of all cats**

let total\_activities = 0;

total\_activities+= cat.activities.length;

console.log(cat.catFriends.reduce((total,current)=>{

return total + current.activities.length;

},total\_activities));

**vii. Add 2 more activities to bar & foo cats**

for(let i=0; i<cat.catFriends.length; i++){

cat.catFriends[i].activities.push("playing");

cat.catFriends[i].activities.push("scratching");

}

**viii. Update the fur color of bar**

cat.catFriends[0].furcolor = "Pink";

console.log(cat);

**Problem 1 : Write a function called “printAllValues” which returns an newArray of all the input object’s values.**

var obj = {name : "RajiniKanth", age : 33, hasPets : false};

function printAllValues(obj) {

let newArray = [];

for(let i in obj){

newArray.push(obj[i]);

}

return newArray;

}

console.log(printAllValues(obj));

**// ---> output : [ 'RajiniKanth', 33, false ]**

**Problem 2 : Write a function called “printAllKeys” which returns an newArray of all the input object’s keys.**

function printAllKeys(obj) {

let newArray = [];

for(let i in obj){

newArray.push(i);

}

return newArray;

}

console.log(printAllKeys(obj));

**// ---> output : [ 'name', 'age', 'hasPets' ]**

**Problem 3 : Write a function called “convertObjectToList” which converts an object literal into an array of arrays.**

var obj = {name: "ISRO", age: 35, role: "Scientist"};

function convertObjectToList(obj) {

let newArray = [];

for(let i in obj){

newArray.push([i,obj[i]]);

}

return newArray;

}

console.log(convertObjectToList(obj));

**// ---> output : [ [ 'name', 'ISRO' ], [ 'age', 35 ], [ 'role', 'Scientist' ] ]**

**Problem 4 : Write a function ‘transformFirstAndLast’ that takes in an array, and returns an object with:**

**1) the first element of the array as the object’s key, and**

**2) the last element of the array as that key’s value.**

var array = ["GUVI", "I", "am", "Geek"];

function transformFirstAndLast(arr) {

let newObject = {};

let n = arr.length;

newObject[arr[0]] = arr[n-1];

return newObject;

}

console.log(transformFirstAndLast(array));

**// ---> output : { GUVI: 'Geek' }**

**Problem 5 : Write a function “fromListToObject” which takes in an array of arrays, and returns an object with each pair of elements in the array as a key-value pair.**

var array = [["make", "Ford"], ["model", "Mustang"], ["year", 1964]];

function fromListToObject(arr) {

let newObject = {};

let n = arr.length;

for(let i=0; i<n; i++){

newObject[arr[i][0]] = arr[i][1];

}

return newObject;

}

console.log(fromListToObject(array));

**// ---> output : { make: 'Ford', model: 'Mustang', year: 1964 }**

**Problem 6 : Write a function called “transformGeekData” that transforms some set of data from one format to another.**

var arr= [[["firstName", "Vasanth"], ["lastName", "Raja"], ["age", 24], ["role", "JSWizard"]], [["firstName", "Sri"], ["lastName", "Devi"], ["age", 28], ["role", "Coder"]]];

function transformEmployeeData(arr) {

var tranformEmployeeList = [];

let len = arr.length;

let n,object

for(let i=0; i<len; i++){

n = arr[i].length;

object = {};

for(let j=0; j<n; j++){

object[arr[i][j][0]] = arr[i][j][1];

}

tranformEmployeeList.push(object);

}

return tranformEmployeeList;

}

console.log(transformEmployeeData(arr));

**/\* ---> output :**

**[ { firstName: 'Vasanth',**

**lastName: 'Raja',**

**age: 24,**

**role: 'JSWizard' },**

**{ firstName: 'Sri', lastName: 'Devi', age: 28, role: 'Coder' } ] \*/**

**Problem 7 : Write an “assertObjectsEqual” function from scratch.**

**Assume that the objects in question contain only scalar values (i.e., simple values like strings or numbers).**

var actual = {foo: 5, bar: 6};

var expected = {foo: 5, bar: 6};

var expected\_1 = {foo: 6, bar: 5};

function assertObjectsEqual(actual, expected, testName){

actualStr = JSON.stringify(actual)

expectedStr = JSON.stringify(expected)

if(actualStr == expectedStr){

return "Passed"

} else{

return "FAILED ["+testName+"] Expected "+actualStr+", but got "+expectedStr

}

}

console.log(assertObjectsEqual(actual, expected, 'test1'))

console.log(assertObjectsEqual(actual, expected\_1, 'test2'))

**// Output :**

**Passed**

**FAILED [test2] Expected {"foo":5,"bar":6}, but got {"foo":6,"bar":5}**

**Problem 8 : You function should take the object and a pair of strings and should return if the quest is present and if its valid answer**

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”

}

]

function chksecurityQuestions(securityQuestions,question,answer) {

for (var i = 0; i < securityQuestions.length; i++)

{

for (keys in securityQuestions[i]){

if(keys == "question"){

if(securityQuestions[i].question == question && securityQuestions[i] .expectedAnswer == answer){

return true;

}

}

}

}

return false;

}

**// Test case1:**

var ques = “What was your first pet’s name?”;

var ans = “FlufferNutter”;

var status = chksecurityQuestions(securityQuestions, ques, ans);

console.log(status);

**//Test case2:**

var ques = “What was your first pet’s name?”;

var ans = “DufferNutter”;

var status = chksecurityQuestions(securityQuestions, ques, ans);

console.log(status);

**Problem 9 : Write a function to return the list of characters below 20 age**

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)

{

var newObj = [];

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

if (arr[i].age < 20){

newObj.push(arr[i]);

}

}

return newObj;

}

console.log(returnMinors(students));

**// Output :**

**[ { name: 'Maari', age: 18 },**

**{ name: 'Bhallala Deva', age: 17 },**

**{ name: 'Baahubali', age: 16 },**

**{ name: 'Chulbul Pandey', age: 19 } ]**