**Problem 0 : Part A (15 mins):**

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

Fluffy sorry, Fluffyy is my fav cat and it has 2 catFriends  
Write a code to get the below details of Fluffyy so that  
I can take him to vet.

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  
 }  
 ]  
}console.log(cat);

**Basic Tasks to play with JSON**

1. Add height and weight to Fluffy

cat.height=’1ft’

cat.weight=’20lb’

1. Fluffy name is spelled wrongly. Update it to Fluffyy

cat.name=’ Fluffyy’

1. List all the activities of Fluffyy’s catFriends.

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

console.log(cat.catFriends[i].activities)

1. Print the catFriends names.

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

console.log(cat.catFriends[i].name)

1. Print the total weight of catFriends

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

sum+=cat.catFriends[i].weight

console.log(sum)

1. Print the total activities of all cats (op:6)

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

sum+=cat.catFriends[i].activities.length

console.log(sum)

1. Add 2 more activities to bar & foo cats

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

{cat.catFriends[i].activities.push(‘activity1’)

cat.catFriends[i].activities.push(‘activity2’)}

1. Update the fur color of bar

cat.catFriends[0].furcolor=’black’

**Problem 0 : Part B (15 mins):**

**Iterating with JSON object’s Values**

Above is some information about my car. As you can see, I am not the best driver.  
I have caused a few accidents.  
Please update this driving record so that I can feel better about my driving skills.

var myCar = {  
 make: ‘Bugatti’,  
 model: ‘Bugatti La Voiture Noire’,  
 year: 2019,  
 accidents: [  
 {  
 date: ‘3/15/2019’,  
 damage\_points: ‘5000’,  
 atFaultForAccident: true  
 },  
 {  
 date: ‘7/4/2022’,  
 damage\_points: ‘2200’,  
 atFaultForAccident: true  
 },  
 {  
 date: ‘6/22/2021’,  
 damage\_points: ‘7900’,  
 atFaultForAccident: true  
 }  
 ]  
}

1. Loop over the accidents array. Change atFaultForAccident from true to false.

for(let i=0;i<mycar.accidents.length;i++)

mycar.accidents[i].atFaultForAccident=false

1. Print the dated of my accidents

for(let i=0;i<mycar.accidents.length;i++)

console.log(mycar.accidents[i].date)

**Real challenges starts here**

**:bowtie:**

**Problem 1 (5 mins):**

**Parsing an JSON object’s Values:**

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

Input (Object):

var object = {name: “RajiniKanth”, age: 33, hasPets : false};  
Output:

[“RajiniKanth”, 33, false]

**Sample Function proto:**

var obj = {name : “RajiniKanth”, age : 33, hasPets : false};function printAllValues(obj) {  
 // your code here

console.log(Object.keys(object))  
}

**Problem 2(5 mins) :**

**Parsing an JSON object’s Keys:**

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

Example Input:  
{name : ‘RajiniKanth’, age : 25, hasPets : true}  
Example Output:  
[‘name’, ‘age’, ‘hasPets’]

**Sample Function proto:**

function printAllKeys(obj) {  
 // your code here

console.log(Object.keys(object))  
}

**Problem 3( 7–9 mins):**

**Parsing an JSON object and convert it to a list:**

Write a function called “convertObjectToList” which converts an object literal into an array of arrays.  
Input (Object):  
var object = {name: “ISRO”, age: 35, role: “Scientist”};  
Output:  
[[“name”, “ISRO”], [“age”, 35], [“role”, “Scientist”]]

**Sample Function proto:**

var obj = {name: “ISRO”, age: 35, role: “Scientist”};  
function convertListToObject(obj) {  
 // your code here

var arr2=[]

for(key in object)

{

let arr1=[]

arr1.push(key,object[key])

arr2.push(arr1)

}

console.log(arr2)  
}

**Problem 4( 5 mins):**

**Parsing a list and transform the first and last elements of it:**

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.  
Input (Array):  
var array = [“GUVI”, “I”, “am”, “Geek”];  
Output:  
var object = {  
GUVI : “Geek”  
}

**Sample Function proto:**

var arr = [“GUVI”, “I”, “am”, “a geek”];function transformFirstAndLast(arr) {

let newobject={}

newobject.arr[0]=arr[arr.length-1]  
   
 return newObject;  
}

**Problem 5 ( 7 -9 mins):**

**Parsing a list of lists and convert into a JSON object:**

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.  
Input (Array):  
var array = [[“make”, “Ford”], [“model”, “Mustang”], [“year”, 1964]];  
Output:  
var object = {  
make : “Ford”  
model : “Mustang”,  
year : 1964  
}

**Sample Function proto:**

var arr = [[“make”, “Ford”], [“model”, “Mustang”], [“year”, 1964]];function fromListToObject(arr) {  
 var newObject = {};  
 for(let i=0;i<arr.length;i++)

newobject[arr[i][0]]=arr[i][1]  
 return newObject;  
}

**Problem 6 (10 mins):**

**Parsing a list of lists and convert into a JSON object:**

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

Input (Array):  
var array = [[[“firstName”, “Vasanth”], [“lastName”, “Raja”], [“age”, 24], [“role”, “JSWizard”]], [[“firstName”, “Sri”], [“lastName”, “Devi”], [“age”, 28], [“role”, “Coder”]]];  
Output:  
[  
{firstName: “Vasanth”, lastName: “Raja”, age: 24, role: “JSWizard”},  
{firstName: “Sri”, lastName: “Devi”, age: 28, role: “Coder”}  
]

**Sample Function proto:**

var arr= [[[“firstName”, “Vasanth”], [“lastName”, “Raja”], [“age”, 24], [“role”, “JSWizard”]], [[“firstName”, “Sri”], [“lastName”, “Devi”], [“age”, 28], [“role”, “Coder”]]];function transformEmployeeData(arr) {  
 var tranformEmployeeList = [];  
   
 //Your code

let obj={}

for(let j=0;j<arr.length;j++)

{

for(let i=0;i<arr[0].length;i++)

obj[arr[j][i][0]]=arr[j][i][1]

transformEmployeeList.push(obj)

obj={}

}

return tranformEmployeeList;  
}

**Problem 7 (10 — 20 mins):**

**Parsing two JSON objects and Compare:**

Read this : <https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/JSON/stringify>

Write an “assertObjectsEqual” function from scratch.  
Assume that the objects in question contain only scalar values (i.e., simple values like strings or numbers).  
It is OK to use JSON.stringify().  
Note: The examples below represent different use cases for the same test. In practice, you should never have multiple tests with the same name.  
Success Case:  
Input:  
var expected = {foo: 5, bar: 6};  
var actual = {foo: 5, bar: 6}  
assertObjectsEqual(actual, expected, ‘detects that two objects are equal’);  
Output:  
Passed  
Failure Case:  
Input:var expected = {foo: 6, bar: 5};  
var actual = {foo: 5, bar: 6}  
assertObjectsEqual(actual, expected, ‘detects that two objects are equal’);  
Output:  
FAILED [my test] Expected {“foo”:6,”bar”:5}, but got {“foo”:5,”bar”:6}

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

function assertObjectsEqual(actual, expected, testName){  
 // your code here

for(let key in expected)

if(expected.key!==actual.key)

return ‘Failed’

return ‘Passed’  
}

**Problem 8(10 mins):**

**Parsing JSON objects and Compare:**

I have a mock data of security Questions and Answers. 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) {  
  
 // your code here return true or false;

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

if(securityQuestions[i].question===question)

if(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); // true//Test case2:var ques = “What was your first pet’s name?”;  
var ans = “DufferNutter”;var status = chksecurityQuestions(securityQuestions, ques, ans);console.log(status); // flase

**Problem 9(20 mins):**

**Parsing JSON objects and Compare:**

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 rarr=[]

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

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

rarr.push(arr[i].name)

return rarr;

}console.log(returnMinors(students));