**JS E6 Part2 (Assignment - 15-03-19)**

1. **Filter unique array members using Set.**

**Ans**:- Here is the ‘Set’ property in ES6 that uniquely stored values at therir index.

var arr=[1,2,23,3,9,4,5,5,6,4,7,3,8,9,0]

var new\_set=new Set(arr);

console.log(new\_set)

1. **Find the possible combinations of a string and store them in a MAP?**

**Ans:-** I am unable to create a logical program for this.

1. **Write a program to implement inheritance upto 3 classes.The Class must public variables and static functions.**

**Ans**:- Here is the example and contain a static function to show how to use it.

class Animal {

constructor(name) {

this.name = name; }

static speak() {

console.log(this.name + ' makes a noise.'); }

}

class Dog extends Animal {

constructor(name) {

super(name); // call the super class constructor and pass in the name parameter

}

speak() {

console.log(this.name + ' barks.');

}

}

class Lion extends Animal {

constructor(name) {

super(name); // call the super class constructor and pass in the name parameter

}

speak() {

console.log(this.name + ' roar.');

}

}

let a=new Animal("Elephants");

Animal.speak();

let d = new Dog('Mitzie');

d.speak(); // Mitzie barks.

let l=new Lion("Simba");

l.speak();

1. **Write a program to implement a class having static functions**

**Ans**:- Segment of above code is just implemented here.

class Animal {

constructor(name) {

this.name = name;

}

static speak() {

console.log(this.name + ' makes a noise.');

}

}

let a=new Animal("Elephants");

Animal.speak();

1. **Import a module containing the constants and method for calculating area of circle, rectangle, cylinder.**

Ans:-Here script tag wasn’t working in HTML code so I use directly import and export keywords in js.

module1.js

export function AreaOfCircle(r){

return 3.14\*(r\*r);

}

export function AreaOfRect(l,b){

return l\*b;

}

export function AreaOfCylinder(h,r){

return (2\*3.14\*r\*h+2\*3.14\*r\*r);

}

Exec.js

import {AreaOfRect,AreaOfCircle,AreaOfCylinder} from './module1';

document.getElementById("alpha").innerHTML=AreaOfCircle(5);

1. **Import a module for filtering unique elements in an array.**

Ans:-Just a function is imported here. Same as above.

**module2**.js

export function onlyUnique(value, index,self) {

return self.indexOf(value) === index;

}

console.log(unique)

**Exec2.js**

import {filterModule} from './module2';

// usage example:

var a = ['a', 1, 'a', 2, '1'];

var unique = a.filter( onlyUnique );

1. **Write a program to flatten a nested array to single level using arrow functions.**

**Ans:-** Here is the example of flatting the array to single level from a nested form with help of for loop.

var myArray = [[1, 2],[3, 4, 5], [6, 7, 8, 9]];

var myNewArray2 = [];

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

for (var j = 0; j < myArray[i].length; ++j)

myNewArray2.push(myArray[i][j]);

}

console.log(myNewArray2);

1. **Implement a linked list in es6 and implement addFirst() addLast(), length(), getFirst(), getLast().**

**Ans**:- Following program show linked list with help of ‘this’ operaator that refers to the current object, and parent object in class constructor.

class Node{

constructor(value){

this.data = value;

this.next = null;

}

}

class LinkedList{

constructor(value){

this.head = new Node(value);

this.tail = this.head;

}

addFirst(value){

console.log(this.head);

let new\_node = new Node(value);

new\_node.next = this.head;

this.head = new\_node;

console.log(this.head);

}

addLast(value){

let new\_node = new Node(value);

this.tail.next = new\_node;

this.tail = new\_node;

}

length(){

let temp\_head = this.head;

let length = 0;

while(temp\_head.next != null){

length++;

temp\_head = temp\_head.next;

}

return length;

}

getFirst(){

return this.head;

}

getLast(){

return this.tail;

}

toString = () => {

let temp\_head = this.head;

let str = '';

while(temp\_head != null){

str += `${temp\_head.data}`;

if(temp\_head.next!=null){

str+=`’---> ‘

}

temp\_head = temp\_head.next;

}

return str;

}

}

let my\_linkedList = new LinkedList(1);

my\_linkedList.addFirst(2);

my\_linkedList.addFirst(3);

my\_linkedList.addFirst(5);

my\_linkedList.addFirst(6);

my\_linkedList.addFirst('hello, HD');

my\_linkedList.addLast("ENDDDD");

my\_linkedList.addLast("END 222222");

console.log(my\_linkedList + '');

console.log(my\_linkedList.getFirst());

console.log(my\_linkedList.getLast());

1. **Implement Map and Set using Es6?**

**Ans:-**

var myMap = new Map();

var keyString = 'a string';

var keyObj = {};

myMap.set(keyString, "value with 'a string'");

myMap.set(keyObj, 'value with keyObj');

console.log(myMap.size);

console.log(myMap.get(keyString));

console.log(myMap.get(keyObj));

var mySet = new Set();

mySet.add(1);

mySet.add(5);

mySet.add(5); //it will not get added

mySet.add('some text');

var o = {a: 1, b: 2};

console.log(mySet.add(o));

mySet.has(1);

mySet.has(3);

mySet.size;

console.log(mySet)

1. **Implementation of stack ?**

**Ans:-**

class Stack {

constructor()

{

this.items = [];

}

push(element)

{

this.items.push(element);

}

pop()

{

if (this.items.length == 0)

return "Underflow";

return this.items.pop();

}

peek()

{

return this.items[this.items.length - 1];

}

isEmpty()

{

return this.items.length == 0;

}

printStack()

{

var str = "";

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

str += this.items[i] + " ";

return str;

}

}

var stack = new Stack();

console.log(stack.isEmpty());

console.log(stack.pop());

stack.push(10);

stack.push(20);

stack.push(30);

stack.push(50);

console.log(stack.printStack());

console.log(stack.peek());

console.log(stack.pop());

console.log(stack.printStack());