**Typescript day1 task: Date:-2/06/2019**

### Day1

Variables, functions, arrays, iterating.

### Tasks

**- List different types in typescript and their declarations**

**Ans:-**

let test : boolean=true; //boolean

console.log ("boolean: " + test);

let num: number = 8 //number

console.log ("number : " + num);

let str: String = "saikumar" //string

console.log ("string : " + str);

let arr: number[]=[5,6,3]; //array

console.log ("number array: " + arr);

let arr2:Array<String>=["sai","kumar","puli"]; //array

console.log ("string array: " + arr2);

**- Define some functions  
 Function with parameters - with return types**

**Ans:-**//Function with parameters - with return types

function sum(a:number , b:number ) :number{

let c:number=a+b;

return c;

}

let result=sum(8,5);

console.log("sum of two numbers : " + result);

**Function with parameters - without return types**

**Ans:-**// Function with parameters - without return types

function sum(a:number , b:number ) :void{

let result:number=a+b;

console.log("sum of two numbers : " + result); }

sum(8,5);

**Function without parameters - without return types**

**Ans:-**// Function without parameters - without return types

function sum( ) :void{

let a:number,b:number;

a=56,b=52;

let result:number=a+b;

console.log("sum of two numbers : " + result); }

sum();

**Function without parameters - with return types**

**ans-** //Function without parameters - with return types

function sum( ) :number{

let a:number,b:number;

a=56,b=52;

let c:number=a+b;

return c;

}

let result:number=sum();

console.log("sum of two numbers : " + result);

**- Define the same functions for arrow functions.**

**Ans:-**

//Function with parameters - with return types

var result = (x:number,y:string):String=> {

x = 100 + x

console.log(x) ;

return y;

}

let str:String=result(100,"saikumar");

console.log(str);

//Function with parameters - without return types

var result = (x:number,y:string):void=> {

x = 100+ x

console.log(x) ;

console.log(y);

}

result(100,"saikumar");

//Function without parameters - without return types

var result = ( ):void=> {

let num1:number,num2:number;

num1=50;

num2=30;

let string:String="saikumar";

let result:number=num1\*num2;

console.log(result) ;

console.log(string);

}

result();

//Function without parameters - with return types

var result = ( ):number=> {

let num1:number,num2:number;

num1=50;

num2=30;

let string:String="saikumar";

console.log(string);

let result:number=num1\*num2;

return result;

}

let res:number=result();

console.log(res) ;

**- Define some arrays and iterate using different loops.**

**Ans:-**

let arr:number[]= [4, 5, 6];

console.log("Array using forin loop made chance to make mistake");

for (let i in arr) {

console.log(i); // "0", "1", "2",

}

console.log("Array using forin loop");

for (let i in arr) {

console.log(arr[i]); // "4", "5", "6"

}

console.log("Array using forof loop");

for (let i of arr) {

console.log(i); // "4", "5", "6"

}

console.log("Array using forEach loop");

arr.forEach(function (value){console.log(value);})

**- Define an empty string array and then add values and remove values from the array.**

**Ans:-**

var string: String[]=new Array();

string .push("saikumar");

string .push("puli");

string .push("SemanticBits");

console.log("Array after pushing elements into array :")

console.log(string);

string .pop();

console.log("Array after removing last element from array :");

console.log(string)

**- Create a function to check if a given year is a leap year or not that returns string “Leap Year” or “Not a Leap Year”**

**Leap year program:-**

var year :number;

function leapOrNot (year) : void{

if(((year%4==0)&&(year%100==0))||(year%400==0)) {

console.log("given number " + year +" is leap year");

}

else{

console.log("given number " + year +" is not a leap year");

}

}

leapOrNot(1600);

**- Practice all inbuilt methods on string and arrays.**

**String Functions:-**

var string:String="saikumar puli";

var lengthofString:number=string.length;

console.log("length of the string is :" +lengthofString); //length of the string

console.log("string.charAt(0) is:" + string.charAt(0)); // char at given position

console.log("string.charAt(0) is:" + string.charCodeAt(0)); //unicode of the charecter

var Str:String=string.concat(" SemanticBits"); //concatntin of two strings

console.log("concatnation of the string is :" +Str);

var index = string.indexOf( "kumar" ); //find the index of given string

console.log("indexOf found String :" + index );

index = string.lastIndexOf( "ma" ); //find the string of lastIndex

console.log("lastIndexOf found String :" + index );

var sliced:String = string.slice(3, -2); //slice the string

console.log(" string.slice(3, -2) is :" + sliced);

var spilt:Array<String>=string.split(" ", 2); //spilt the string by delemiter

console.log("string.split( ,1) is :" + spilt);

var re=/saikumar/gi;

var string3=string.replace(re,"srikumar"); //replace by the pattern of string by another string

console.log(string3);

var sub\_str=string.substr(2,8) ; //substr( index , number of charecters)

console.log("string.substr(2,8)is :" + sub\_str);

var sub\_string=string.substring(2,8) ; //substr( firstindex , lastindex)

console.log("string.substring (2,8)is :" + sub\_string );

var student:String ="SAIKUMAR";

var student1:String =student.toLowerCase(); //string convertion to lowercase

console.log("student.toLowerCase() is : " + student1);

console.log("student1.toUpperCase() is : " + student1.toUpperCase()); //string conversion to upper case

var city:String =new String("hyderabad");

console.log("city.valueOf() is: " + city.valueOf()); //valueOf

**Array Functions:-**

var string: String[]=new Array();

string .push("saikumar");

string .push("puli");

string .push("SemanticBits");

console.log("Array after pushing elements into array :")

console.log(string);

string .pop();

console.log("Array after removing last element from array :");

console.log(string)

var num:number[]=new Array(1,2,3,4,5,6,7,8,9);

num.forEach(function(i){

console.log(i);

})

function isBigEnough2(element, index, array) {

return (element >= 10);

}

var passed2 = [12, 55, 82, 130, 44].every(isBigEnough2);

console.log("Test Value : " + passed2 );

function isBigEnough1(element, index, array) {

return (element >= 20);

}

var passed1 = [12, 5, 8, 130, 44].filter(isBigEnough1);

console.log("Test Value : " + passed1 );

var index = [12, 5, 8, 130, 44].indexOf(8);

console.log("index is : " + index );

var arr = new Array("First","Second","Third");

var str = arr.join();

console.log("str : " + str );

var str = arr.join(", ");

console.log("str : " + str );

var str = arr.join(" + ");

console.log("str : " + str );