Normal Style function

```
function functionName() {


}
```

Expression Style function

```
let functionName= function() {


}
```

Arrow function : arrow style function extension of expression style function. In arrow function, function keyword replace by arrow. In Arrow style function it return value without return keyword.

```
let functionName = ()=>console.log(“This is arrow function”);
```

in arrow function if we want to write only single line then curly braces as well as return keyword not required. If we want to write more than one line code then curly braces as well as return keyword must be need to use.

callback : passing the function name or function body or function itself to another function as a parameter is known as callback.

```
var a=10;

let b:number=20;

a=30;

b=40;
```

Array : array is use to store more than one value of same types in typescript

But in JavaScript different types.

Syntax to declare array in typescript

```
let num1:number[]=[];          literal style

let num2:Array<number>=[];     generic style
```

once we store the value in array. To get specific value from array we need to use

index position. Array index position start from zero till size-1.

let num1:number[]=[10,20,30,40];

console.log(num1[0]);

arrayDemo.ts

```
// let num1:number[]=[];       // literal style
// let num2:Array<number>=[];  // generic style
// let num3:number[]=[100,200,300,400];   // created array as well as assign
the value.
// console.log(num1.length);   // it is use to check the size of the array
// console.log(num2.length)
// console.log(num3.length)
// console.log("first number in num3="+num3[0]);   //100
// console.log("second number in num3="+num3[1]);   //200
// console.log("third number is num3 = "+num3[2])  //300
// console.log("third number is num3 = "+num3[3])  //400
// console.log("All number from num3 is= "+num3);  // display all numbers
// num3.push(5);
// num3.push(6);       // add element at last
// num3.unshift(7);
// num3.unshift(8);    // add element at begining
// console.log("All number from num3 is= "+num3);
// num3.pop();         // remove the element from last
// num3.shift();       // remove the element from begining
// console.log("All number from num3 is= "+num3);

let num4:number[]=[100,200,300,400];
console.log("All elements "+num4);
//num4.splice(2,1);            //1st parameter index position, 2nd parameter
number of elment to delete
//num4.splice(1,2);      // from index 1 remove 2 elements.
//num4.splice(2,0,1000);  // 1st parameter index, 2nd parameter number of
element delete,
                        // 3rd parameter value add it. ie 3rd, 4th, 5th till
nth
//num4.splice(2,1,3000);
num4.splice(2,0,1000,2000,3000,400);// add 4 element ie 1000,2000,3000 and
4000 from 2nd index position
console.log("All elements "+num4);
```

1. Retrieve element from array using for loop
2. Retrieve elements from array using for in loop
3. Retrieve element from array using for of loop
4.

```
// let num1:number[]=[100,200,300,400,500,600,700,800,900,1000];
// // console.log("Size of array "+num1.length);
// // console.log("1st position element is "+num1[0]);
// // // retreive value using for loop
// // console.log("Retrieve value one by one using for loop")
// // for(let i=0;i<num1.length;i++){
// //     console.log("Value is "+num1[i]+" Index position "+i)
// // }
// // console.log("Retreive value one by one using for in loop");
// // for(let index in num1){
// //     console.log("Value is "+num1[index]+" Index position "+index)
// // }
// // console.log("Retreive value one by one using for of loop")
// // for(let value of num1){
// //     console.log("Value is "+value);
// // }
// console.log("Retrieve value one by one using forEach with callback")

// num1.forEach(display)

// function display(n,i){
//     console.log("Value of n "+n+" Index is "+i)
// }
// console.log("Retrieve value one by one using expression style function")
// num1.forEach(function(n,i){
//     console.log("Value of n "+n+" Index is "+i)
// })
// console.log("Retrieve value one by one using expression arrow function")
// //num1.forEach(n=>console.log("Value is "+n));
// num1.forEach((v,i)=>console.log("Value is "+v+" index "+i));



let num1:number[]=[100,200,300,400,500,600,700,800,900,1000];
let searchElement = 7000;
// let flag=0;
// for(let i=0;i<num1.length;i++){
//    if(searchElement==num1[i]){
//        flag++;
//        break;
//    }
// }
// if(flag>0){
// console.log("present")
// }else {
// console.log("not present")
// }
let flag = num1.find(v=>v==searchElement);  // if element present it return that element else return undefined
if(flag==undefined){
   console.log("element not present")
}else {
   console.log("element present")
}
```

tsc ArrayDisplay.ts --target ES6 (by default target file is ES5)

node ArrayDisplay.js

By default tsc filename.ts it will convert ES5 JS code.