

# TypeScript Loops and Arrays



# For Loops

Compile code using: tsc

File: loops.ts

```
for (let i=0; i < 5; i++) {  
    console.log(i);  
}
```

C:\> tsc loops.ts

C:\> node loops.js

0  
1  
2

Run code using: node

# For Loop - Array of numbers

File: reviews.ts

```
let reviews: number[] = [5, 5, 4.5, 1, 3];  
  
for (let i=0; i < reviews.length; i++) {  
    console.log(reviews[i]);  
}
```

Index into the array

Declare an array

C:\> tsc reviews.ts

C:\> node reviews.js

5  
5  
4.5  
1  
3

# For Loops - Compute Average

File: reviews.ts

```
let reviews: number[] = [5, 5, 4.5, 1, 3];

let total: number = 0;

for (let i=0; i < reviews.length; i++) {
    console.log(reviews[i]);
    total += reviews[i];
}

let average: number = total / reviews.length;
console.log("Review average = " + average);
```

Same as: total = total + reviews[i];

```
C:\> tsc reviews.ts
C:\> node reviews.js
5
5
4.5
1
3
Review average = 3.7
```

# Arrays

File: sports.ts

```
let sportsOne: string[] = ["Golf", "Cricket", "Tennis", "Swimming";  
for (let i = 0; i < sportsOne.length; i++) {  
    console.log(sportsOne[i]);  
}
```

Index into the array

C:\> tsc sports.ts

C:\> node sports.js

Golf

Cricket

Tennis

Swimming

# Simplified For Loop

File: sports.ts

```
let sportsOne: string[] = ["Golf", "Cricket", "Tennis", "Swimming"];

for (let tempSport of sportsOne) {

    console.log(tempSport);
}
```

Current array element

C:\> tsc sports.ts

C:\> node sports.js  
Golf  
Cricket  
Tennis  
Swimming

# Conditionals

File: sports.ts

```
let sportsOne: string[] = ["Golf", "Cricket", "Tennis", "Swimming"]

for (let tempSport of sportsOne) {

    if (tempSport == "Cricket") {
        console.log(tempSport + " << My Favorite!");
    }
    else {
        console.log(tempSport);
    }
}
```

Conditional

C:\> tsc sports.ts

C:\> node sports.js

Golf

Cricket << My Favorite!

Tennis

Swimming

# Growable Arrays

Arrays in TypeScript are always  
growable / dynamic

File: growable-arrays.ts

```
let sportsTwo: string[] = ["Golf", "Cricket", "Tennis"];

sportsTwo.push("Baseball");
sportsTwo.push("Futbol");

for (let tempSport of sportsTwo) {
    console.log(tempSport);
}
```

Add elements

C:\> tsc growable-arrays.ts

C:\> node growable-arrays.js  
**Golf**  
**Cricket**  
**Tennis**  
**Baseball**  
**Futbol**