TypeScript Loops and Arrays

For Loops

For Loops

File: loops.ts

```
for (let i=0; i < 5; i++) {

}
```

For Loops

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

For Loops

Compile code using: tsc

File: loops.ts

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

```
C:\> tsc loops.ts
```

For Loops

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

```
C:\> tsc loops.ts

C:\> node loops.js
```

Run code using: node

For Loops

File: loops.ts

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

```
C:\> tsc loops.ts

C:\> node loops.js
0
1
2
3
4
```

For Loop - Array of numbers

For Loop - Array of numbers

File: reviews.ts

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

For Loop - Array of numbers

Declare an array

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Declare an array

Index into the array

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Declare an array

Index into the array

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C:\> node reviews.js
5
5
4.5
1
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For Loops - Compute Average

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For Loops - Compute Average

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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];
}
```

For Loops - Compute Average

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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];
}
```

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

For Loops - Compute Average

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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;
```

For Loops - Compute Average

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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);
```

For Loops - Compute Average

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```
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);
```

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

Arrays

Arrays

File: sports.ts

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

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Index into the array

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

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}
```

Index into the array

```
C:\> tsc sports.ts

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

Simplified For Loop

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

for (let tempSport of sportsOne) {


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

for (let tempSport of sportsOne) {

    console.log(tempSport);
}
```

Simplified For Loop

File: sports.ts

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

for (let tempSport of sportsOne) {

    console.log(tempSport);
}
```

Current array element

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

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);
    }

}
```

Conditionals

File: sports.ts

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

for (let tempSport of sportsOne) {

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

}
```

Conditional

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);
    }

}
```

```
C:\> tsc sports.ts

C:\> node sports.js
Golf
Cricket << My Favorite!
Tennis
Swimming
```

Growable Arrays

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Arrays in TypeScript are always growable / dynamic

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File: growable-arrays.ts

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

Growable Arrays

Arrays in TypeScript are always growable / dynamic

File: growable-arrays.ts

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

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

Growable Arrays

Arrays in TypeScript are always growable / dynamic

File: growable-arrays.ts

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

sportsTwo.push("Baseball");
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Add elements

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

Growable Arrays

Arrays in TypeScript are always growable / dynamic

File: growable-arrays.ts

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

sportsTwo.push("Baseball");
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Arrays in TypeScript are always growable / dynamic

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