

If-Else Statements in TypeScript

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If-else statements are fundamental decision-making constructs in TypeScript. They allow you to execute specific code blocks based on certain conditions. Here's a brief overview and an example to illustrate their usage.

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Basic Syntax:



```
1 if (condition) {  
2     // code to be executed if condition is true  
3 } else {  
4     // code to be executed if condition is false  
5 }  
6
```

Example 1: Checking if a Number is Positive or Negative

```
1 let num: number = 5;  
2  
3 if (num > 0) {  
4     console.log(` ${num} is a positive number. `);  
5 } else {  
6     console.log(` ${num} is a negative number. `);  
7 }  
8 // Display at Terminal : 5 is a positive number.
```

Example 2: Checking Even or Odd Number

```
1 let number: number = 7;  
2  
3 if (number % 2 === 0) {  
4     console.log(` ${number} is an even number. `);  
5 } else {  
6     console.log(` ${number} is an odd number. `);  
7 }  
8 // Display at Terminal : 7 is an odd number.
```

Example 3: Nested if-else

```
1 let age: number = 25;  
2  
3 if (age < 13) {  
4     console.log("You are a child.");  
5 } else if (age >= 13 && age < 20) {  
6     console.log("You are a teenager.");  
7 } else if (age >= 20 && age < 60) {  
8     console.log("You are an adult.");  
9 } else {  
10    console.log("You are a senior citizen.");  
11 }  
12 // Display at Terminal : You are an adult.
```

Example 4: Multiple Conditions with if-else

```
1  let a: number = 10;
2  let b: number = 20;
3
4  if (a > b) {
5      console.log("a is greater than b.");
6  } else if (a < b) {
7      console.log("a is less than b.");
8  } else {
9      console.log("a is equal to b.");
10 }
11 // Display at Terminal :a is less than b.
```

Example 5:

Using else-if

for Grade Evaluation

```
1 let marks: number = 85;
2 let grade: string;
3
4 if (marks >= 90) {
5     grade = 'A';
6 } else if (marks >= 80) {
7     grade = 'B';
8 } else if (marks >= 70) {
9     grade = 'C';
10 } else if (marks >= 60) {
11     grade = 'D';
12 } else {
13     grade = 'F';
14 }
15
16 console.log(`Your grade is ${grade}.`);
17
18 // Display at Terminal : Your grade is B.
```

Example 6: if-else with Logical Operators

```
1 let isRaining: boolean = true;
2 let isCold: boolean = false;
3
4 if (isRaining && isCold) {
5     console.log("It's raining and cold. Stay inside.");
6 } else if (isRaining && !isCold) {
7     console.log("It's raining but not cold. Take an umbrella.");
8 } else if (!isRaining && isCold) {
9     console.log("It's not raining but it's cold. Wear a jacket.");
10 } else {
11     console.log("The weather is fine. Enjoy your day.");
12 }
13 // Display at Terminal :It's raining but not cold. Take an umbrella.
```

Explanation:

- Single if-else Statement: This allows you to run one block of code if the condition is true and another if it's false.
- Nested if-else Statements: These are used when you have multiple conditions to check in sequence.
- Logical Operators: Combine multiple conditions within the same if statement using logical operators like && (AND), || (OR), and ! (NOT).

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Summary:

Using if-else statements in TypeScript helps in making decisions based on various conditions, allowing your program to respond dynamically to different inputs and states.

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Thank You

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