switch statement in TypeScript is used to perform different actions based on different conditions.

Syntax:

```
switch (expression) {
  case value1:
    // code block
    break;
  case value2:
    // code block
    break;
  // ...
  default:
    // code block executed if no case matches
}
```

Explanation:

- switch: Begins the switch block and evaluates an expression.
- expression: The value evaluated once and compared with the values of each case.
- case: Represents a value to match against the expression.
- value1, value2: The values that the expression might be equal to in different cases.
- break: Ends the switch block. If omitted, the next case will be executed even if the condition doesn't match.
- default: Executed if no case matches the expression.

Example:

```
const fruit = "Apple";

switch (fruit) {
  case "Banana":
    console.log("Banana is yellow");
    break;
  case "Apple":
    console.log("Apple is red");
    break;
  case "Orange":
    console.log("Orange is orange");
    break;
  default:
    console.log("Sorry, we don't have that fruit.");
}
```

Explanation:

- If fruit is "Banana", it logs "Banana is yellow".
- If fruit is "Apple", it logs "Apple is red".
- If fruit is "Orange", it logs "Orange is orange".
- If fruit is none of the specified cases, it logs "Sorry, we don't have that fruit.".

Expression in a **switch** statement can be any value or variable that you want to evaluate. It's the value that the **switch** statement compares to the various **case** values to determine which block of code to execute.

The **expression** can be of various types, including:

- **Strings**: For example: **"Apple"**, **"Orange"**, etc.
- **Numbers**: For example: **1**, **2**, **3**, etc.
- **Variables**: The value stored in a variable, like **fruit**, **count**, etc.
- **Constants**: Values that don't change throughout the program.
- **Enum values**: Values of an enumerated type.

This **expression** is evaluated once and then compared to each **case** value. When a match is found between the **expression** and a **case** value, the corresponding block of code is executed. If no match is found, the **default** block is executed (if it's included).

String Expression:

```
let fruit: string = "Apple";

switch (fruit) {
  case "Apple":
    console.log("This is an apple");
    break;
  // other cases...
}
```

Number Expression:

```
let num: number = 3;

switch (num) {
  case 1:
    console.log("The number is one");
    break;
  // other cases...
}
```

Boolean Expression:

```
let isTrue: boolean = true;

switch (isTrue) {
  case true:
    console.log("It's true");
    break;
  // other cases...
}
```

Variable or Constant:

```
const DAY = "Tuesday";
let today: string = "Monday";

switch (today) {
  case DAY:
    console.log("It's Tuesday");
    break;
  // other cases...
}
```

Enum Expression:

```
enum Direction {
  Up,
  Down,
  Left,
  Right
}

let move: Direction = Direction.Left;

switch (move) {
  case Direction.Left:
    console.log("Moving left");
    break;
  // other cases...
}
```

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