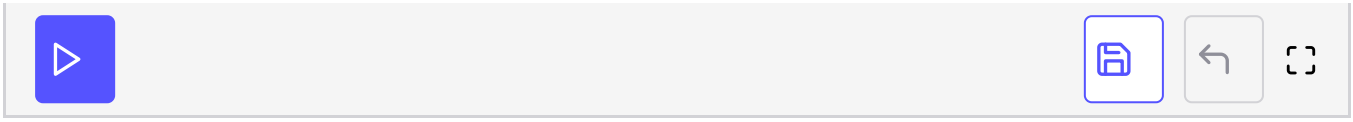
Switch Scope

In this lesson you will see two ways to use the switch statement and how those ways can affect the scope of variable declaration.

A `switch` statement is similar to an `if` statement. The condition set between the two parentheses must be met to reach one of the cases. If not, the `default` case will be entered.

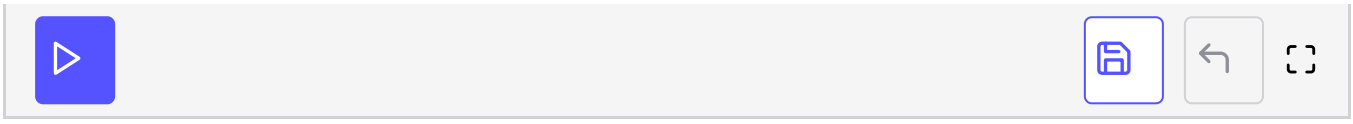
```
function switchFunction(a: number): void {
    switch (a) {
        case 1:
            let variableInCase1 = "test";
            console.log(variableInCase1);
            break;
        case 2:
            let variableInCase2 = "test2";
            console.log(variableInCase2);
            break;
        default:
          console.log("Default");
    }
}
switchFunction(1);
switchFunction(2);
switchFunction(3);
```



Not adding the keyword `break` will fall through the `case` underneath. A quick modification of the previous example shows that the value `1` will now print `test2` twice because the value `1` gets into the `case 2`.

```
function switchFunction(a: number): void {
    switch (a) {
        case 1:
            let variableInCase1 = "test";
            console.log(variableInCase1);
        case 2:
            let variableInCase2 = "test2";
            console.log(variableInCase2);
            break;
        default:
```

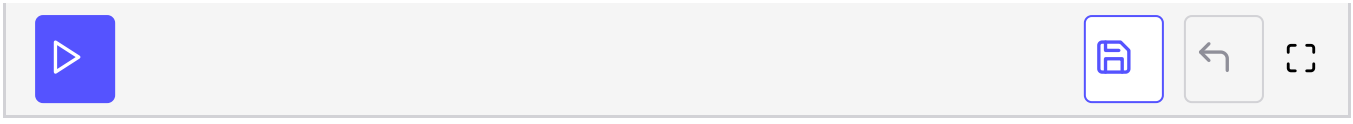
```
            console.log("Default");
    }
}
switchFunction(1);
switchFunction(2);
switchFunction(3);
```



The `switch` statement requires using curly brackets after the colon and after the `break` statement. Otherwise, variables defined within the parent scope are shared. This is not a constraint with TypeScript but it is with ECMAScript.

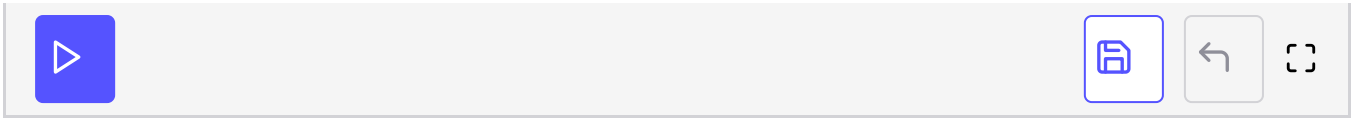
```
function switchFunction(a: number): void {
    switch (a) {
        case 1:
            let variableInCase1 = "test";
            console.log(variableInCase1);
            break;
        case 2:
            let variableInCase2 = "test2";
            console.log(variableInCase2);
            break;
    }
}

switchFunction(1);
switchFunction(2);
```



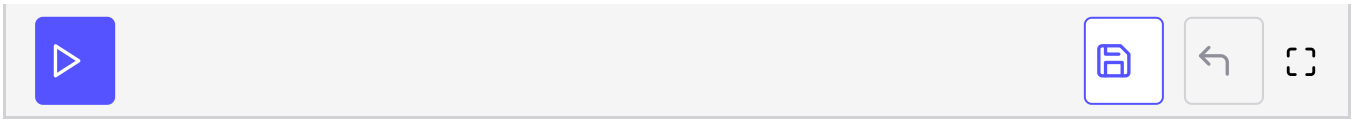
The previous code can be problematic. For example, let's change the variable to use the same name. The scope is expanded to the whole `switch` case. The following code does not compile in TypeScript.

```
function switchFunction(a: number): void {
    switch (a) {
        case 1:
            let variableInCase1 = "test";
            console.log(variableInCase1);
            break;
        case 2:
            let variableInCase1 = "test2";
            console.log(variableInCase2);
            break;
    }
}
switchFunction(1);
switchFunction(2);
```



To avoid stumbling into a situation where variables are shared across cases, it is suggested to use curly braces at each case.

```
function switchFunction(a: number): void {
    switch (a) {
        case 1: {
            let variableInCase1 = "test";
            console.log(variableInCase1);
            break;
        }
        case 2: {
            let variableInCase1 = "test2";
            console.log(variableInCase1);
            break;
        }
    }
}
switchFunction(1);
switchFunction(2);
```



It’s a good practice to always use curly brackets around each `case`. Adding the bracket makes the scope explicit and ensures that code from one `case` does not impact other cases.