Swap Two Variables :

- Take the input of the two numbers.
- Store the sum of both the numbers in the first number and store the difference of both the numbers in the second number.
- Finally store the difference of both the numbers in the first number and print both the numbers.

`Ex-1 :using simple Method`

```
let value1 = 10;
let value2 = 5;
console.log('Before value1 : ',value1)
console.log('Before value2 : ',value2);
let swap;
swap = value1;
value1 = value2;
value2 = swap;
console.log('After value1 :',value1);
console.log('After value2 :',value2);
/*Output
Before value1 :  10
Before value2 :  5
After value1 : 5
After value2 : 10
*/
```

`Explination`

- We created a temp variable to store the value of a temporarily.
- We assigned the value of value2 to value1.
- The value of Swap is assigned to value2

As a result, the value of the variables are swapped.

`Note:` `You can also swap strings or other data types using this method.`

Example 2: Using es6(ES2015) De-structuring assignment :

```
let value1 = 10;
let value2 = 5;
console.log('Before value1 : ',value1)
console.log('Before value2 : ',value2);
[value1, value2] = [value2, value1];
console.log('After value1 :',value1);
console.log('After value2 :',value2);
/*Output
Before value1 :  10
Before value2 :  5
After value1 : 5
After value2 : 10
*/
```

`Explanation`

- First a temporary array is created. Here the value of will be `[5, 10]`. [value2, value1]
- The de-structuring of the array is done, `[value1, value2] = [10, 5]`.

As a result, the value of the variables are swapped.

`Example 3: Using Arithmetic Operators`

```
let value1 = 10;
let value2 = 5;
console.log("Before value1 : ", value1);
console.log("Before value2 : ", value2);

value1 = value1 + value2;
value2 = value1 - value2;
value1 = value1 - value2;

console.log("After value1 :", value1);
console.log("After value2 :", value2);
/*Output
Before value1 :  10
Before value2 :  5
After value1 : 5
After value2 : 10
*/
```

`Explanation`

Let's see how the above program swaps values. Initially, `value1` is `10` and `value2` is `5`

- `value1 = value1 + value2` assigns the value `10 + 5` to a (now 15).

- `value2 = value1 - value2` assigns the value `15 - 5` to b (now 10).
- `value1 = value1 - value2` assign the value `15 - 10` to a (now 5**).**

Finally, `value1` is `5` and `value2` is `10`

`Note : You can use arithmetic operators (+, -) if both variables are of number type.`

Example 4: Using Bitwise XOR operator:

```
let value1 = 10;
let value2 = 5;
console.log("Before value1 : ", value1);
console.log("Before value2 : ", value2);

value1 = value1 ^ value2;
value2 = value1 ^ value2;
value1 = value1 ^ value2;

console.log("After value1 :", value1);
console.log("After value2 :", value2);
/*Output
Before value1 :  10
Before value2 :  5
After value1 : 5
After value2 : 10
*/
```

`Explaination`

Let's see how the above program swaps values. Initially, `value1` is `10` and `value2` is `5`.

- `value1 = value1 ^ value2` assigns the value `10^5` to `value1` (now 15)
- `value2 = value1 ^ value2` assigns the value `15^5` to `value1` (now 10)
- `value1 = value1 ^ value2` assigns the value `15^10` to `value1` (now 5)

Finally, `value1` is `5` and `value2` is `10`.

`Note : You can use this method for only integer (whole number) values.`