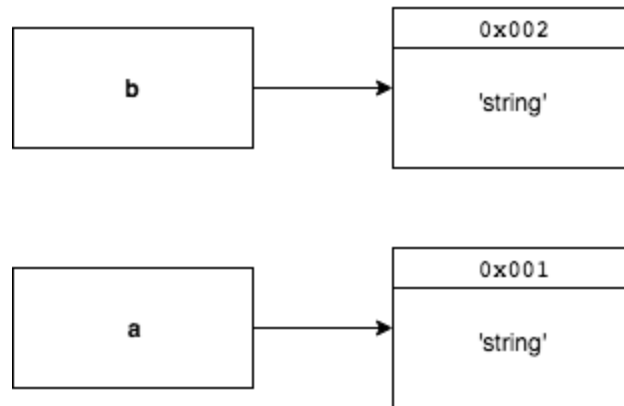# Difference between copy by value and copy by reference:
## Copy by value:
- When a varialble 'a' is assigned to another variable 'b'. Variable 'b' will point to a different memory address but the same value as variable 'a'.
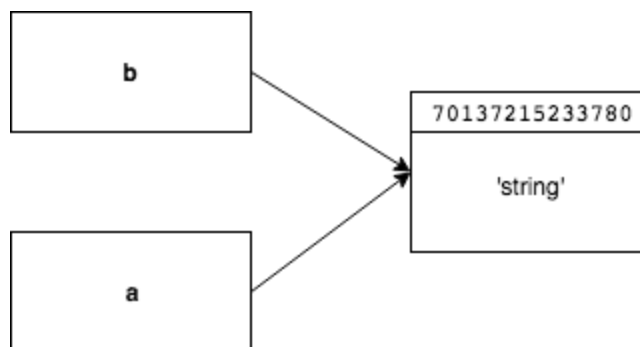- Copy by value has access only to value and not to memory address.



**For Example:**

Str1 = asdf
Str2=str1
Str1 = erhjt
Console.log(str1,str2)

Output → erhjt asdf

## Copy by Reference:
- When a variable 'a' is assigned to another variable 'b'. Then the variable 'b' contains both the value of variable 'a' and also its memory address.
- Copy by reference has access to both the value and its memory.



**For Example:**
Numarr = [1,2,3];
Numarr1 = numarr;
Numarr1[0] = 100;
Numarr[2] = 999;

Console.log(numarr, numarr1);
OUTPUT -- [100,2,999] [100,2,999]


## How to copy by value a composite data type (array+objects)?

**HTML  file:**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>inde2</title>
</head>
<body>
        <script src="demo2.js"></script>
</body>
</html>
```

**JS File:**

```
var person = { firstname : 'mansoor',
lastname: 'bro' };
//using spread...
let p1 = { ...person };
console.log(p1);
//using Object.assign() method
let p2 = Object.assign({}, person);
console.log(p2);
 person.firstname = 'bean';
console.log(person);
```