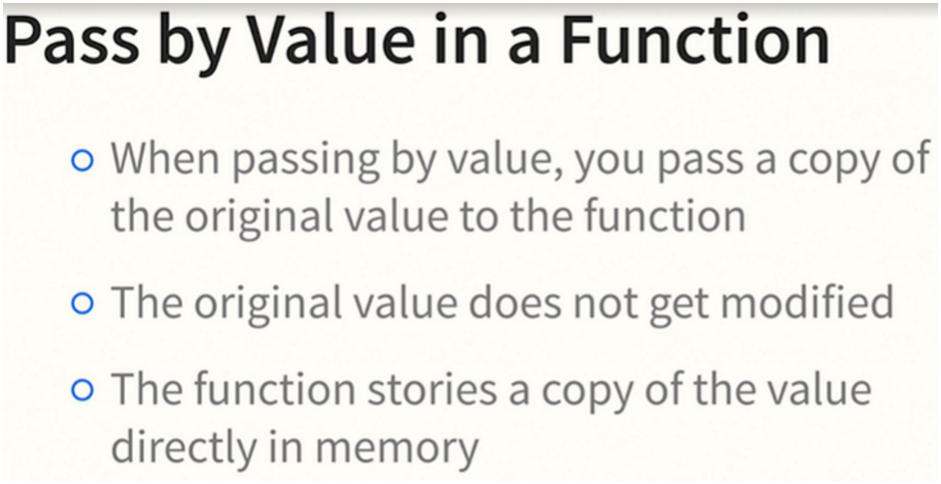
Pass by reference vs pass by value

Wednesday, May 22, 2024 12:24 PM




```
public class HelloWorld
{
    0 references
    public static void Main(string[] args)
    {
        int n = 5;
        Console.WriteLine("Num outside function: " + n);
        square(n);
        Console.WriteLine("Num outside function: " + n);
    }

    1 reference
    public static void square(int num) {
        num = num * num;
        Console.WriteLine("Num inside function: " + num);
    }
}
```

```
Num outside function: 5
Num inside function: 25
Num outside function: 5
```

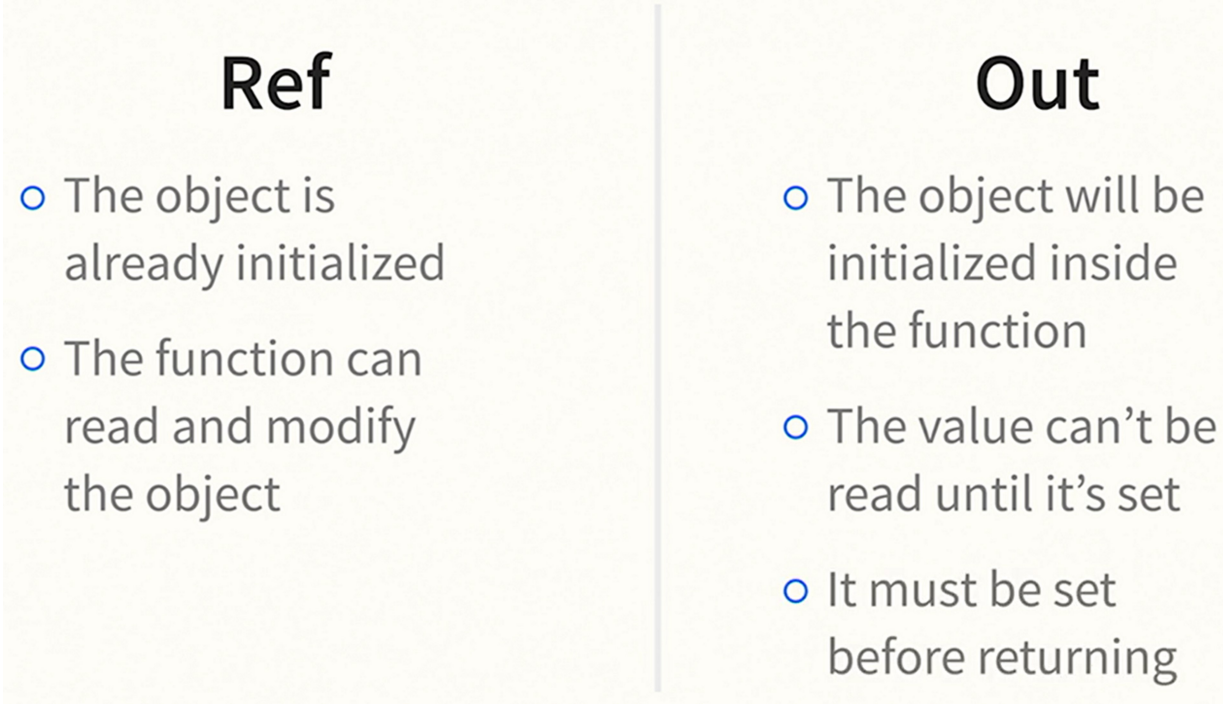
Pass by Reference in a Function

- When passing by value, you pass a reference to the value to the function
- The original value can be modified
- The function stores a reference to the location of where the value is stored and manipulates it directly

```
public class HelloWorld
{
    0 references
    public static void Main(string[] args)
    {
        int n = 5;
        Console.WriteLine("Num outside function: " + n);
        square(ref n);
        Console.WriteLine("Num outside function: " + n);
    }

    1 reference
    public static void square(ref int num) {
        num = num * num;
        Console.WriteLine("Num inside function: " + num);
    }
}
```

```
Num outside function: 5
Num inside function: 25
Num outside function: 25
```



- Pass by reference is avoided, because it has implications of changing the value.

References

https://www.linkedin.com/learning/nail-your-c-sharp-interview/pass-by-reference-vs-pass-by-value?autoSkip=true&resume=false