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Rust Closures concept

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I am unable to understand this concept here about Rust closures. As in my code count is default `i32`. When I create mutable closure then it will take mutable reference of variable used in it as mentioned in documentation.

When I call `inc` closure in loop and try to print value of count inside loop I will get mutable borrow used error but if I print value of count outside of the loop it's fine. Even in loop when I call `inc()` closure before print macro `inc()` goes out of scope then why it provoke error.

```
fn main() {  
    let mut count = 0;  
  
    let mut inc = || {  
        count += 2;  
    };  
  
    for _index in 1..5 {  
        inc();  
        println!("{}", count);  
    }  
}
```

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asked Jan 12 at 11:03



user2618270

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When you create the closure, it borrows mutably the `count` variable. It is forbidden to access the `count` variable through another reference while the mutable borrow is alive (including the `count` variable itself). The closure is dropped when it is no longer used, at which point it releases the borrow which makes it possible to access `count` again.

```
fn main() {  
    let mut count = 0;  
  
    let mut inc = || {  
        count += 2;  
    };  
    // Now we can't access `count`  
  
    for _index in 1..5 {  
        inc();  
        // println!("{}", count);  
        // Here we can't access `count` because it is borrowed mutably by `inc`  
    }  
    // Here `inc` is dropped so `count` becomes accessible again  
    println!("{}", count);  
}
```

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edited Jan 13 at 7:30

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answered Jan 12 at 11:28
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Jmb

Thanks for your reply @Jmb,I got it. after declaration as mutable we can't access variable used in closure in between the declaration and call of closure. just one more clarification what is lifetime of closure? is it static by default ?

– user2618270

Jan 12 at 13:42

No, it is not static. The lifetime ends when it can no longer be used (no more code path leads to a statement where it is used). In this case the `inc` in the `for` loop is the last use, so after the `for` loop ends the lifetime ends, too, and it is dropped.

– starblue

Jan 12 at 18:35

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