



A FILM BY CHRISTOPHER NOLAN

INCEPTION

FROM THE DIRECTOR OF THE DARK KNIGHT

Recursion

Adalbert **Gerald** Soosai Raj

Recursive Factorial in C

```
int rfact(int n)
{
    int result;

    if (n <= 1)
        result = 1;
    else
        result = n * rfact(n-1);

    return result;
}
```

```
rfact:
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
.L53:
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

Recursive Factorial in Assembly!

rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
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    leal -1(%ebx), %eax
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    imull %ebx, %eax
```

.L53:

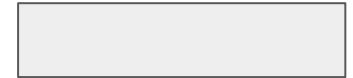
```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



%eax



%ebx



rfact:

```
    pushl %ebp
```

```
    movl %esp, %ebp
```

```
    pushl %ebx
```

```
    subl $4, %esp
```

```
    movl 8(%ebp), %ebx
```

```
    movl $1, %eax
```

```
    cmpl $1, %ebx
```

```
    jle .L53
```

```
    leal -1(%ebx), %eax
```

```
    movl %eax, (%esp)
```

```
    call rfact
```

```
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
```

```
    popl %ebx
```

```
    popl %ebp
```

```
    ret
```



%eax



%ebx

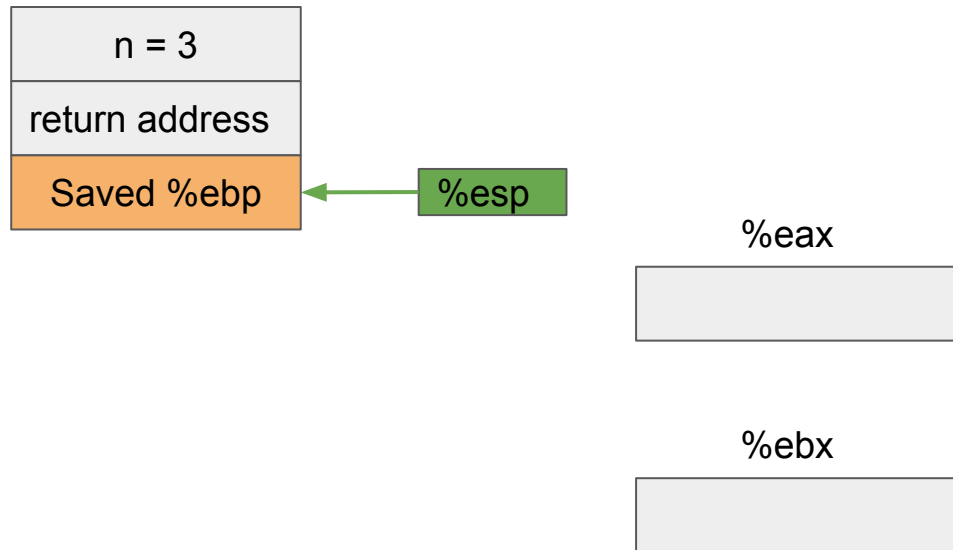


rfact:

```
    pushl %ebp
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.L53:

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    addl $4, %esp
    popl %ebx
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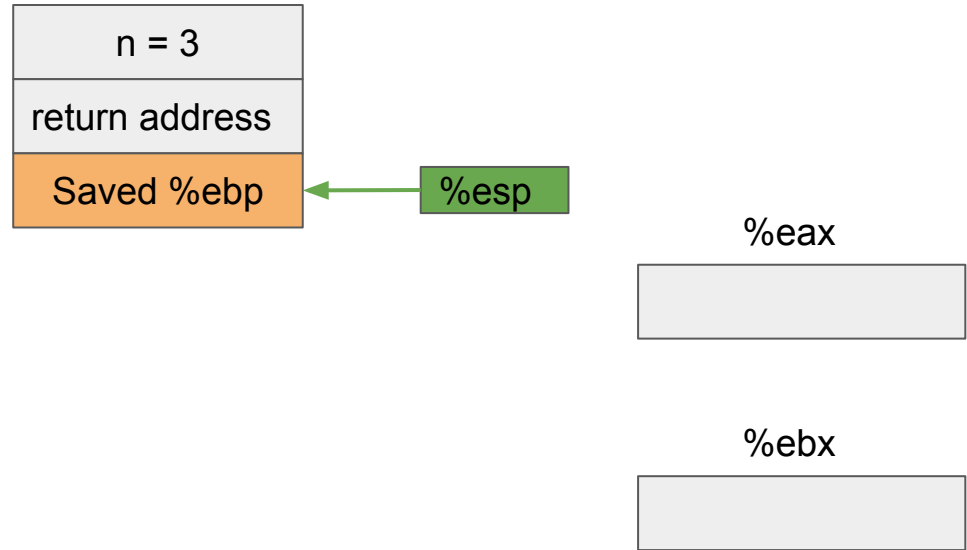


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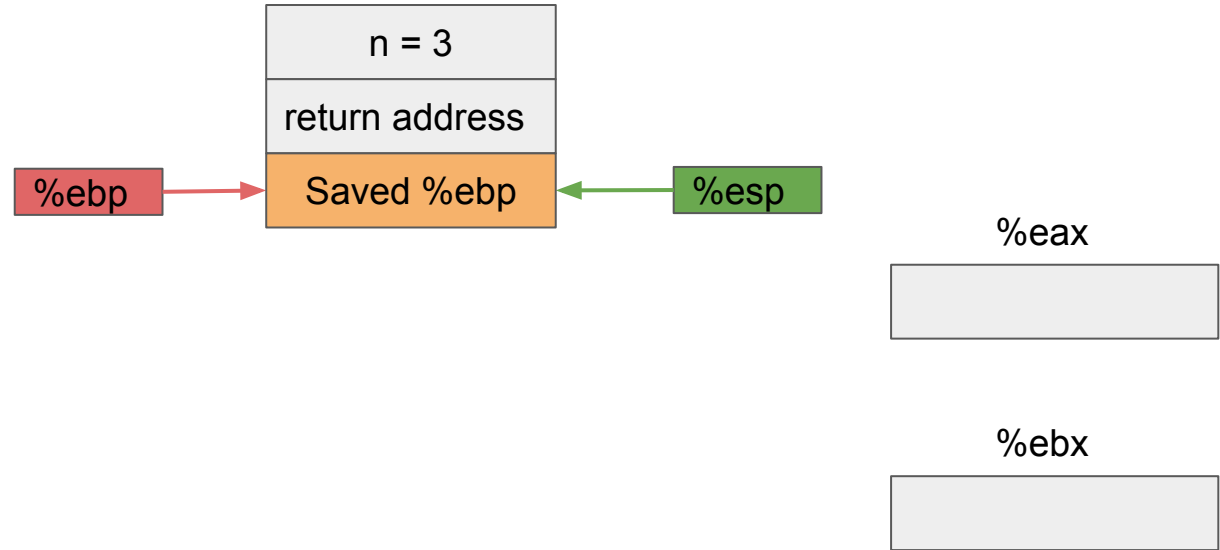


rfact:

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.L53:

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    addl $4, %esp
    popl %ebx
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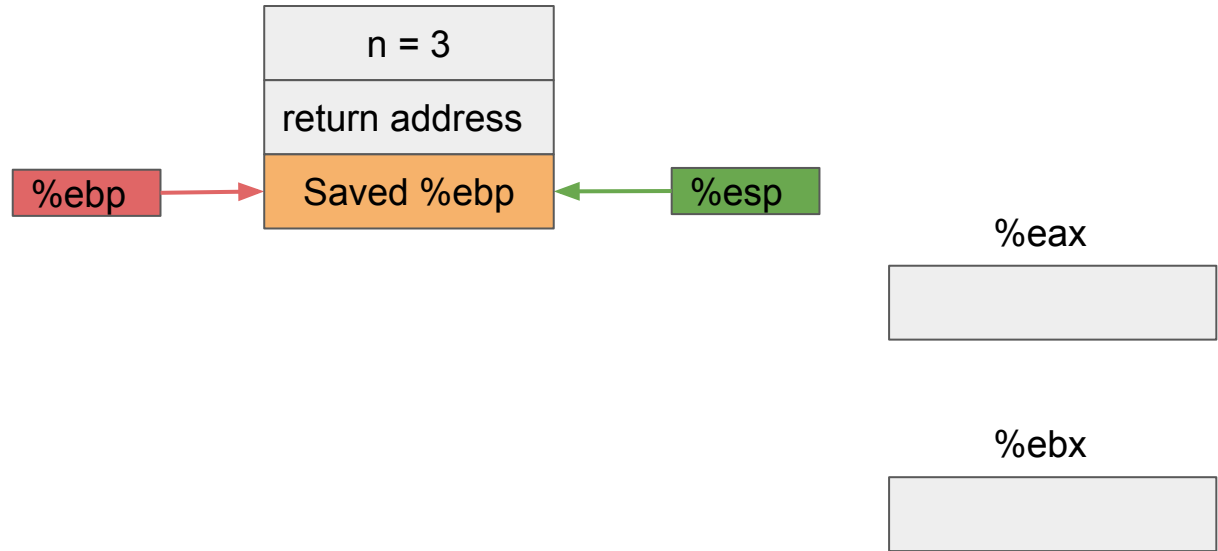


rfact:

```
    pushl %ebp
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    pushl %ebx
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    cmpl $1, %ebx
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.L53:

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    addl $4, %esp
    popl %ebx
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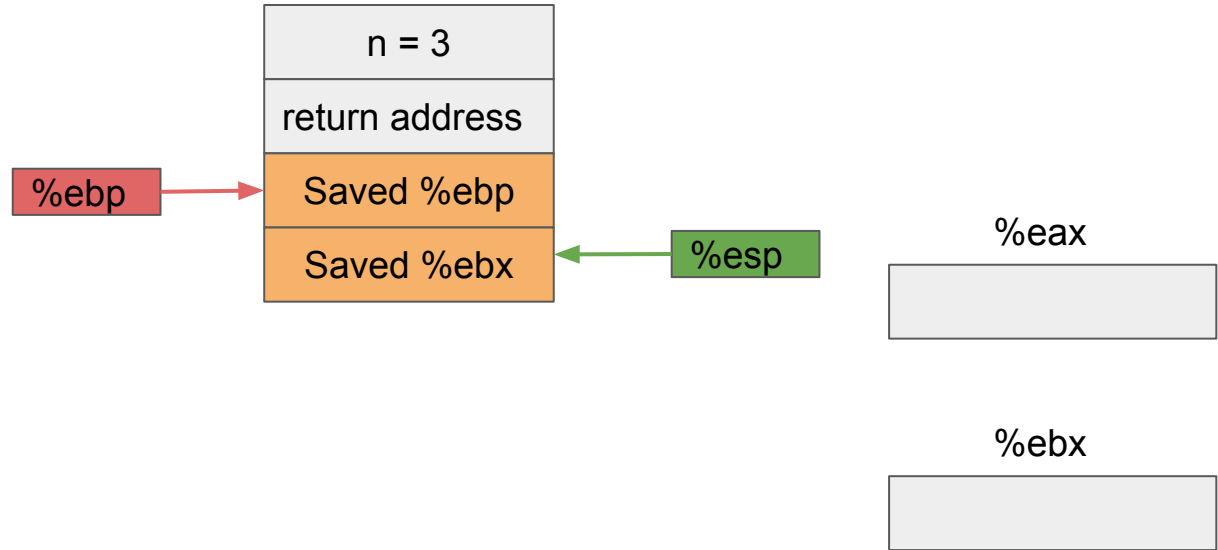


rfact:

```
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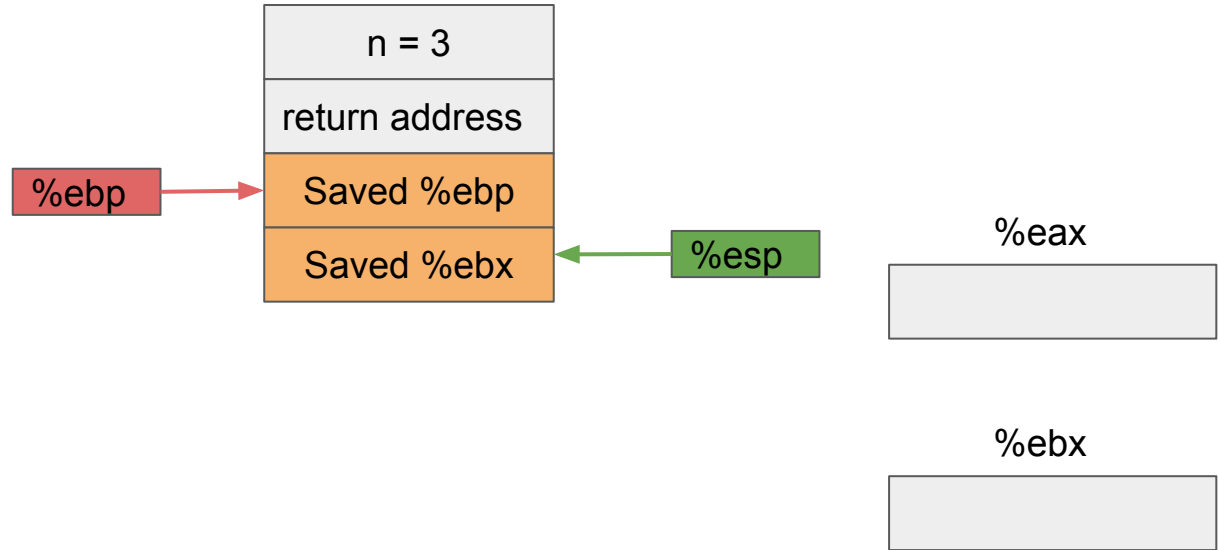


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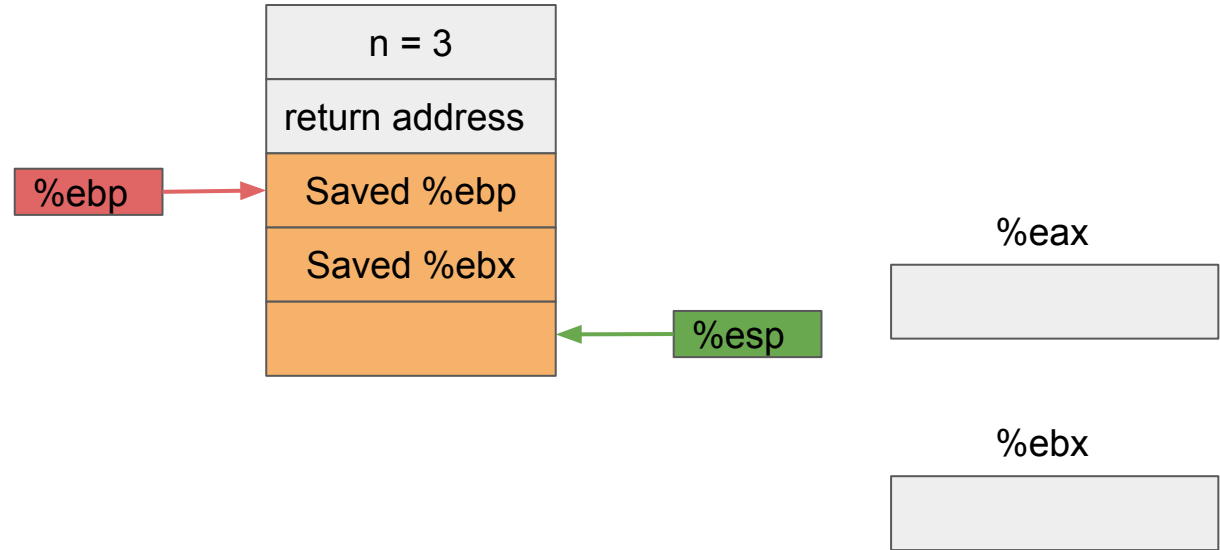


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```
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    addl $4, %esp
    popl %ebx
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    ret
```

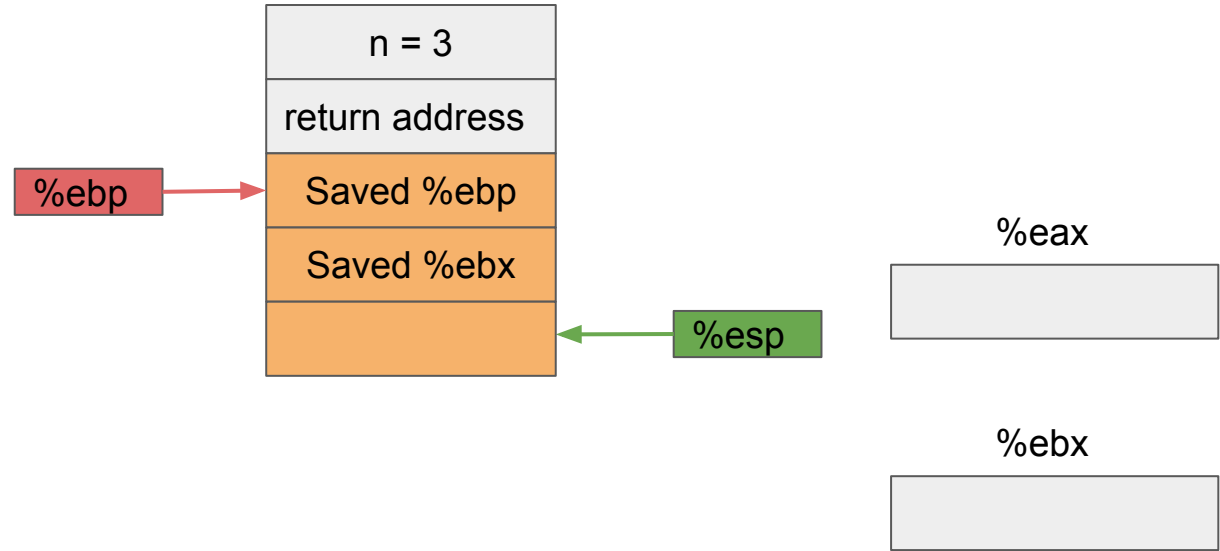


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
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    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
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.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

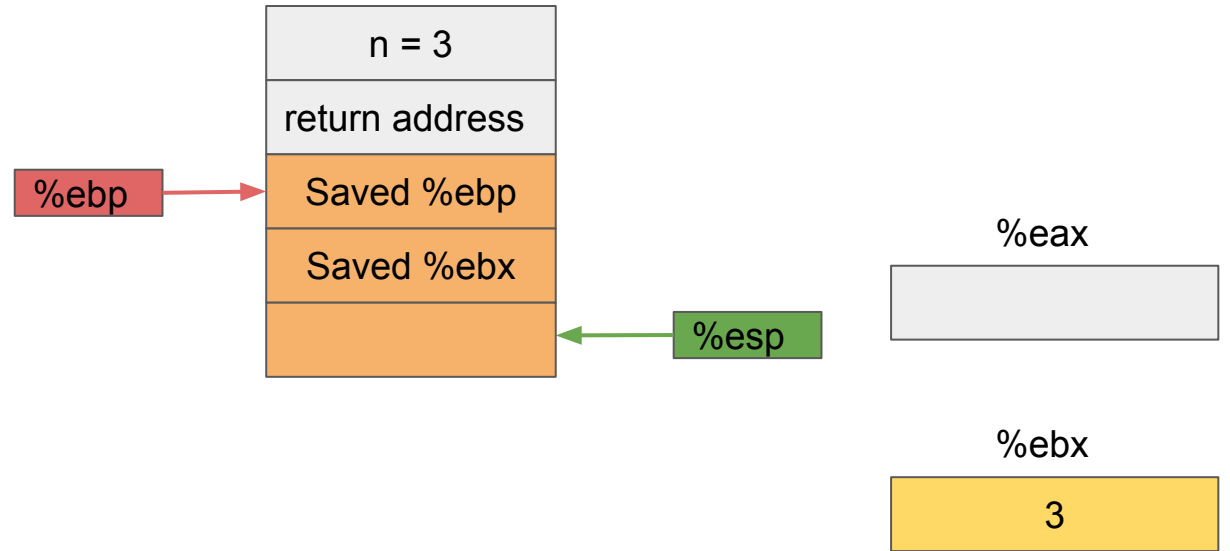


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
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    addl $4, %esp
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    ret
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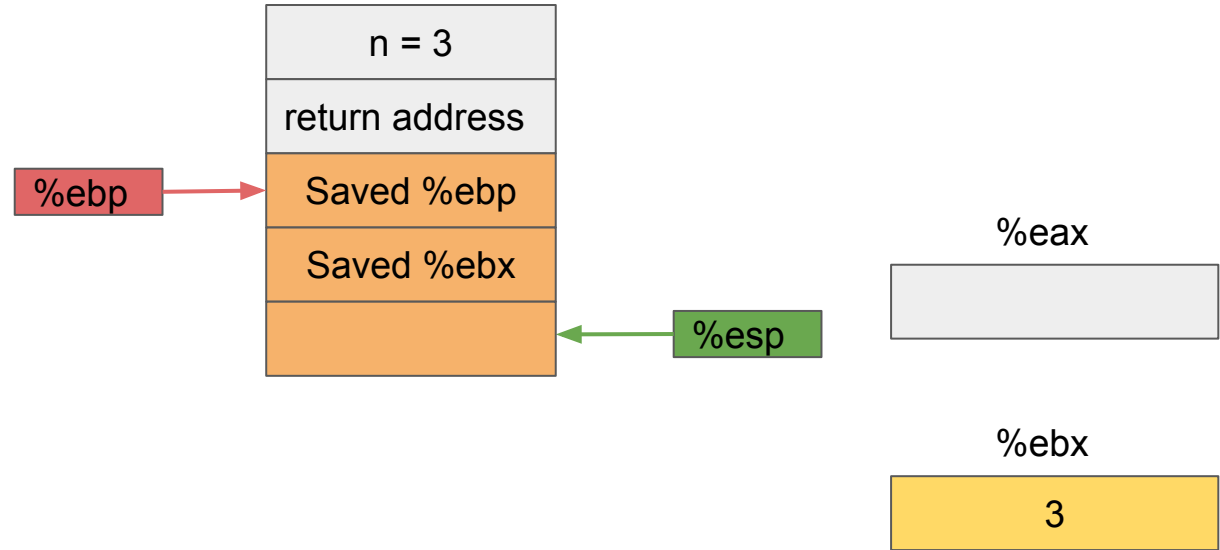


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
movl $1, %eax
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    addl $4, %esp
    popl %ebx
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    ret
```

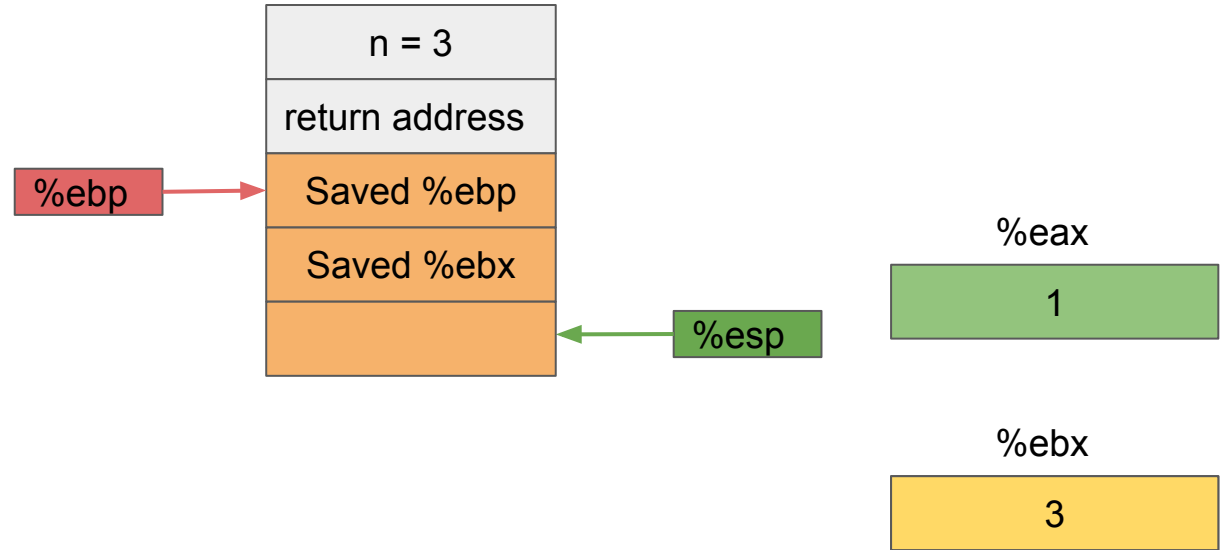


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
movl $1, %eax
    cmpl $1, %ebx
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    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
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```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

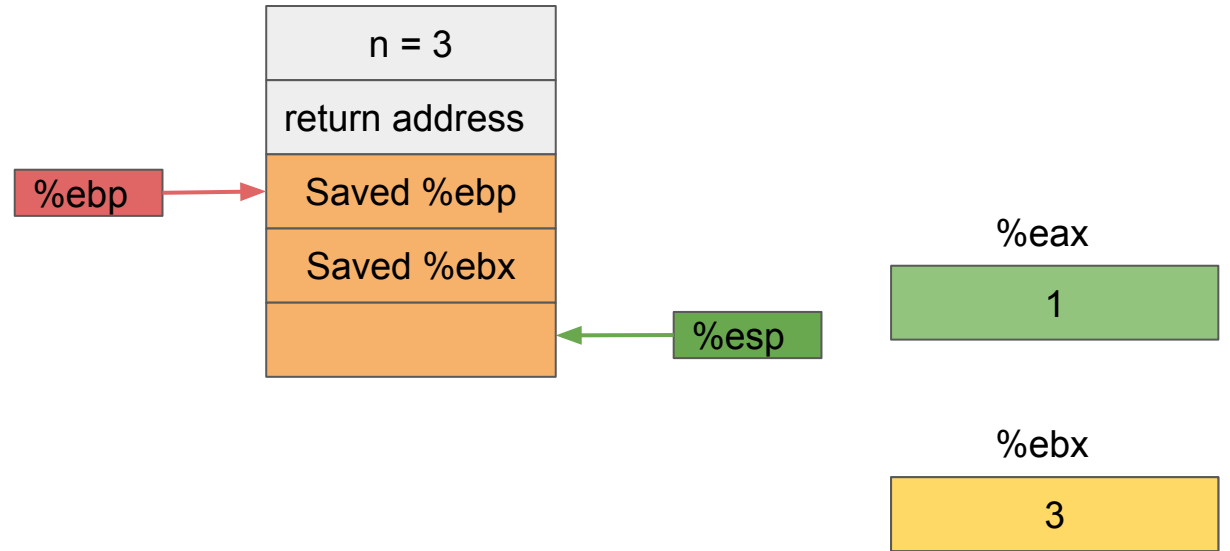


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
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.L53:

```
    addl $4, %esp
    popl %ebx
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    ret
```

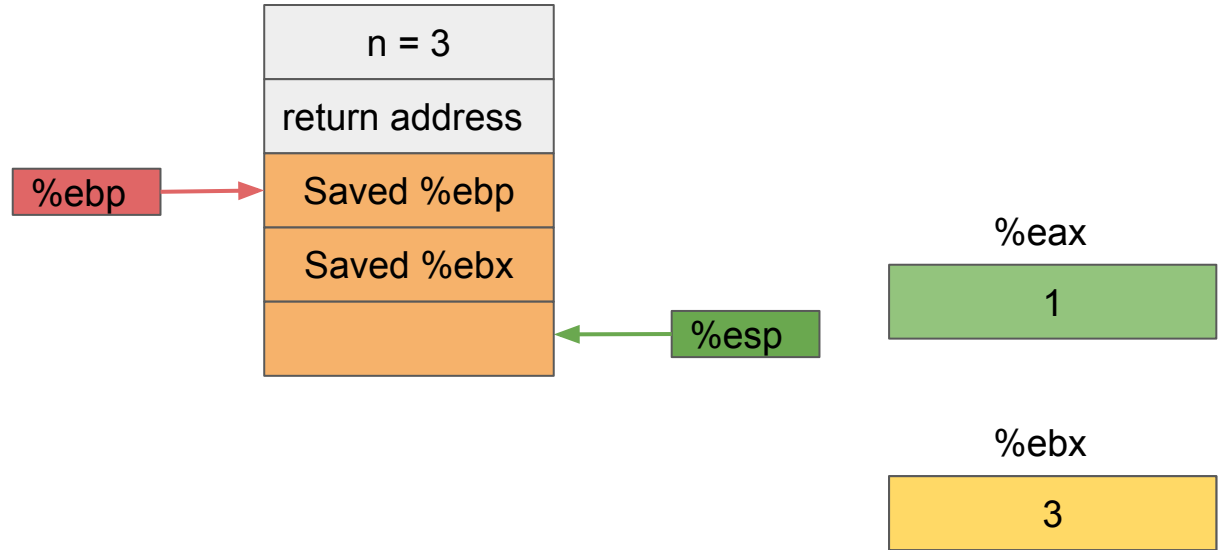


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
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.L53:

```
    addl $4, %esp
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```



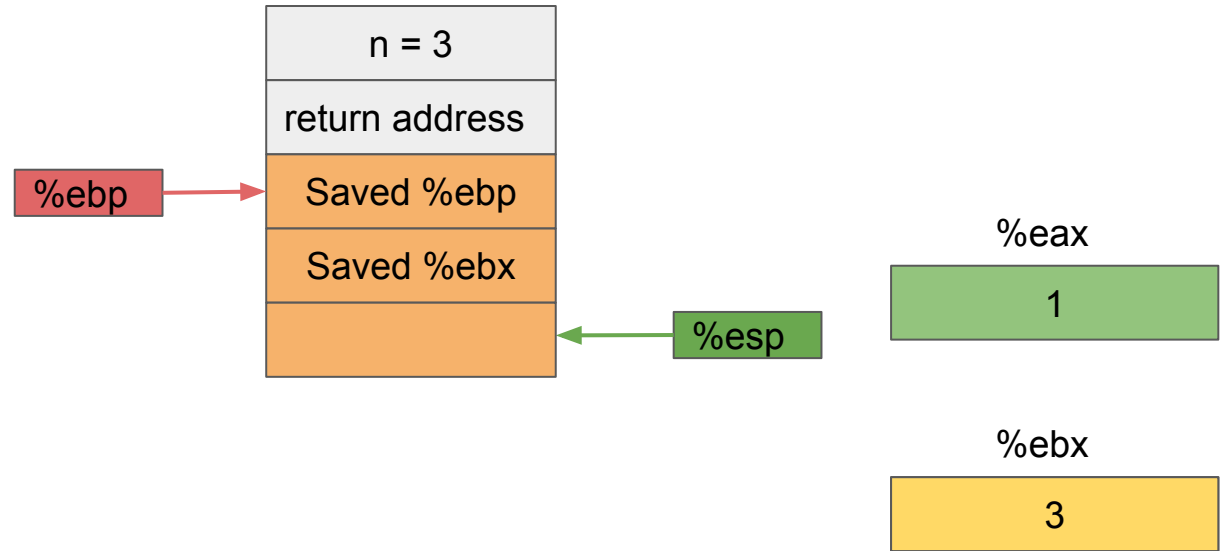
Compare 3 and 1 based on the condition $3 - 1$ and update the Control Code Registers!

rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
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    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
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.L53:

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    addl $4, %esp
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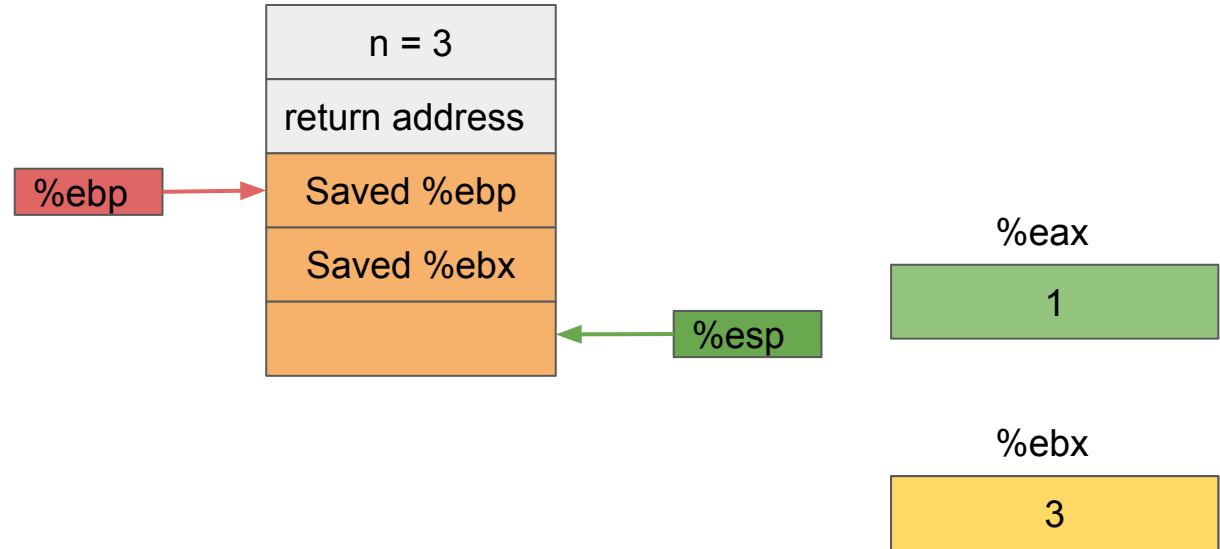


rfact:

```
    pushl %ebp
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.L53:

```
    addl $4, %esp
    popl %ebx
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    ret
```

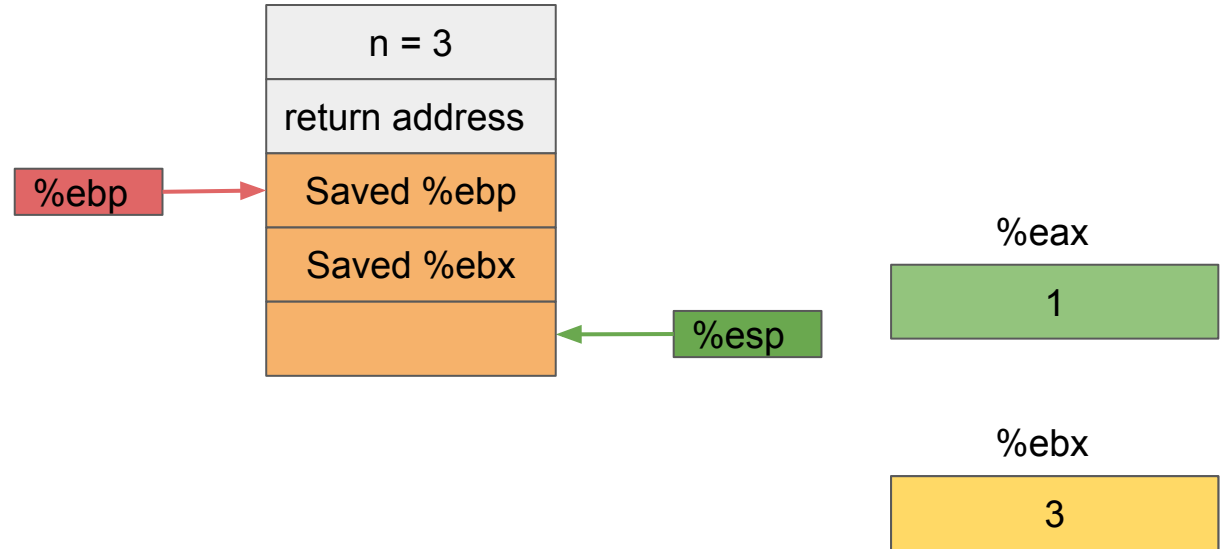


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
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.L53:

```
    addl $4, %esp
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```



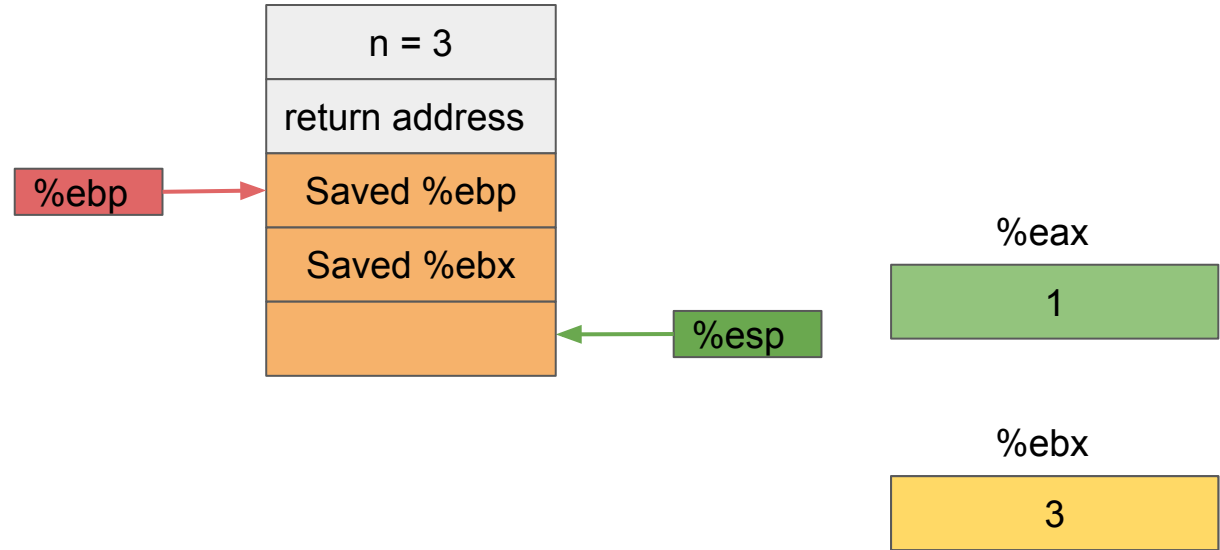
Jump if $3 \leq 1$

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```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
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    leal -1(%ebx), %eax
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    addl $4, %esp
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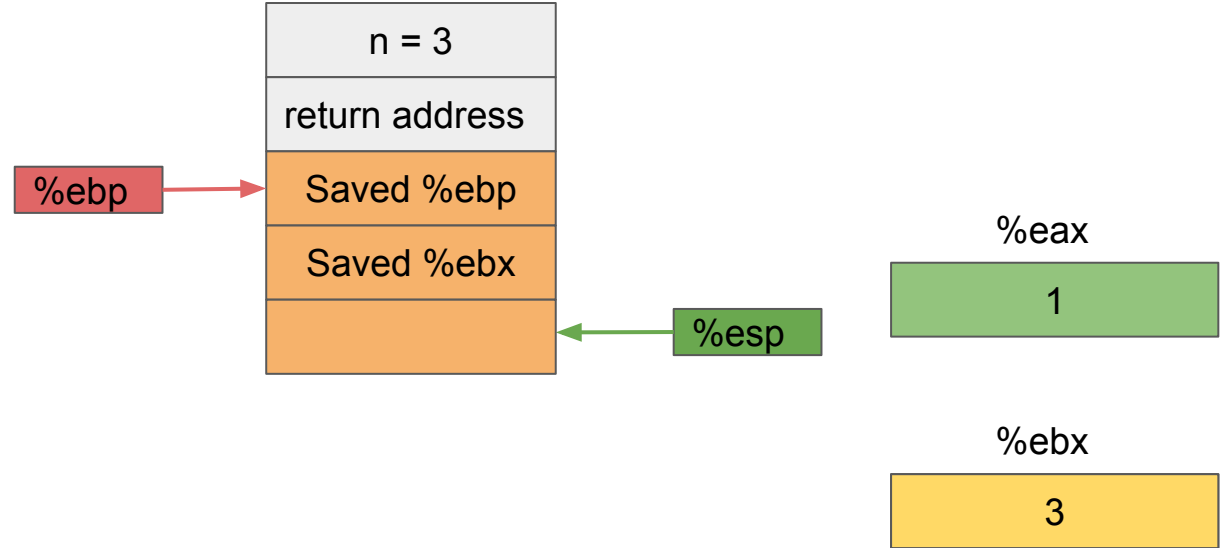


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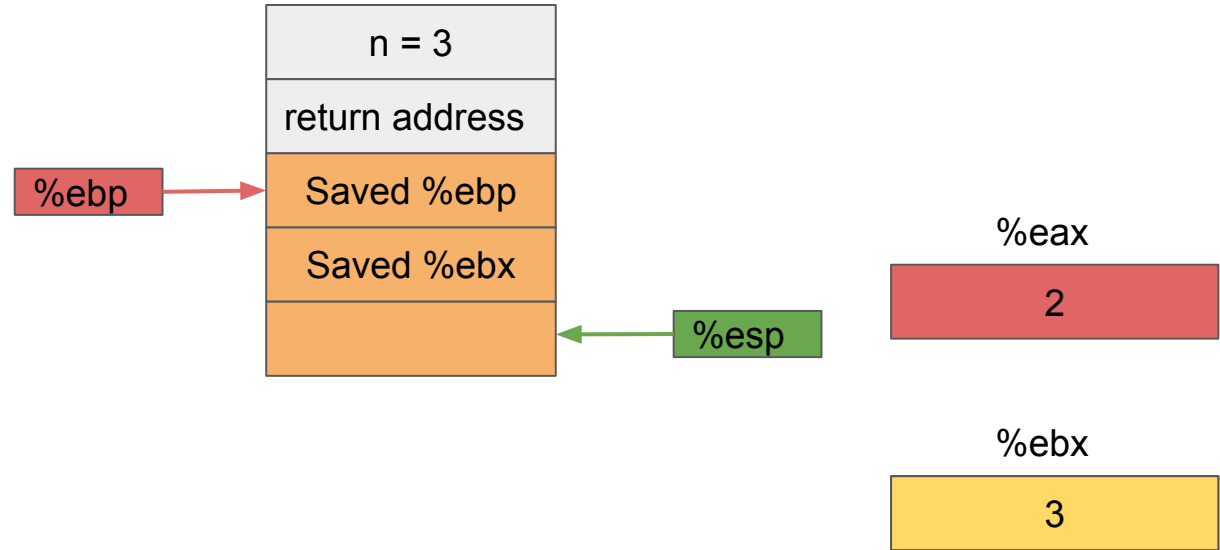


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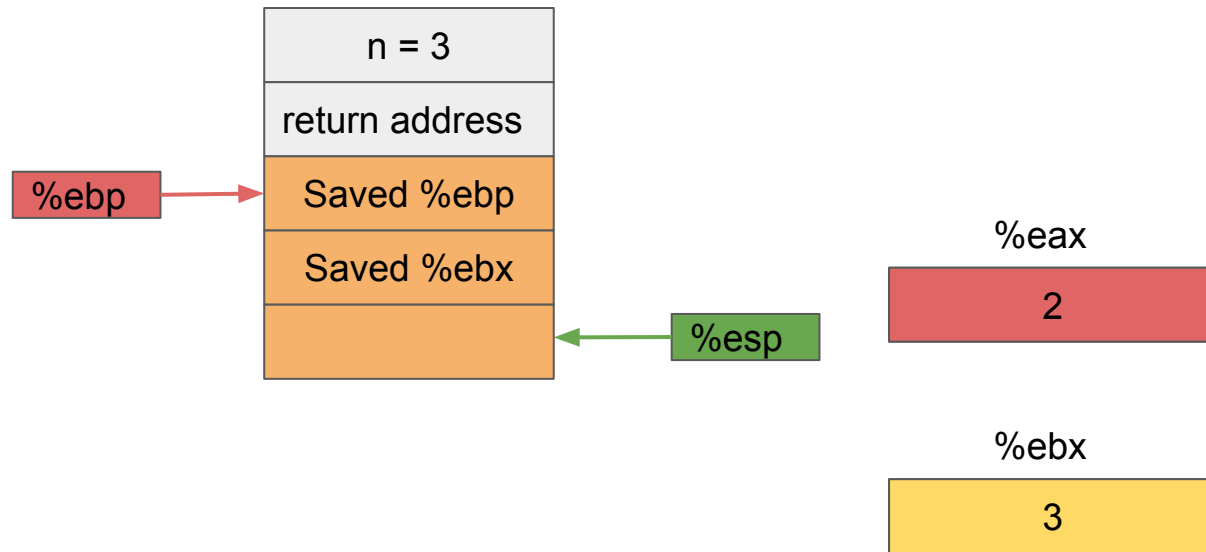


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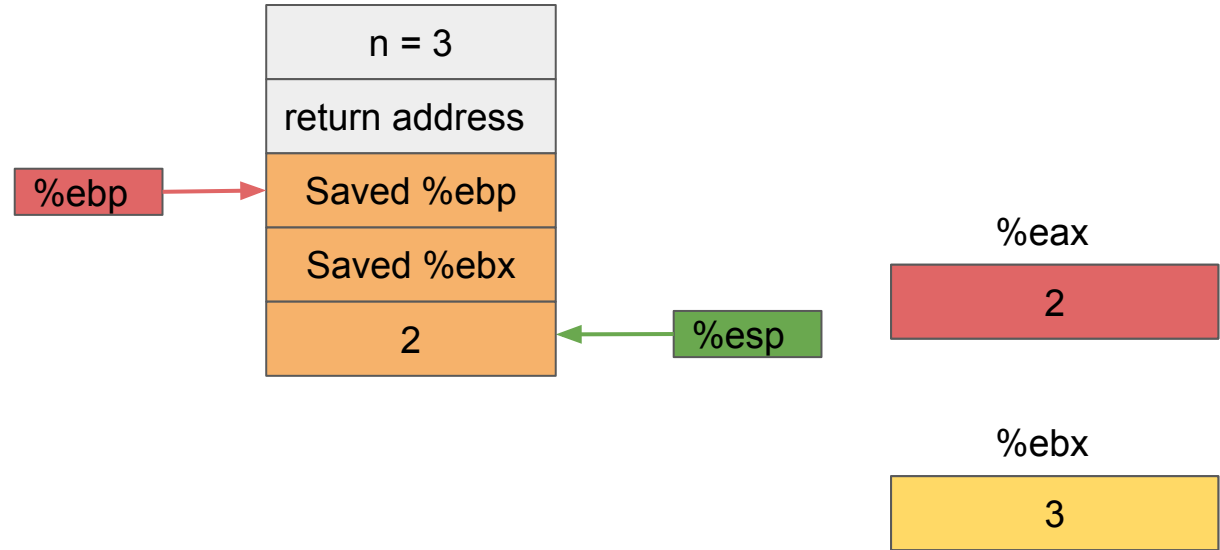


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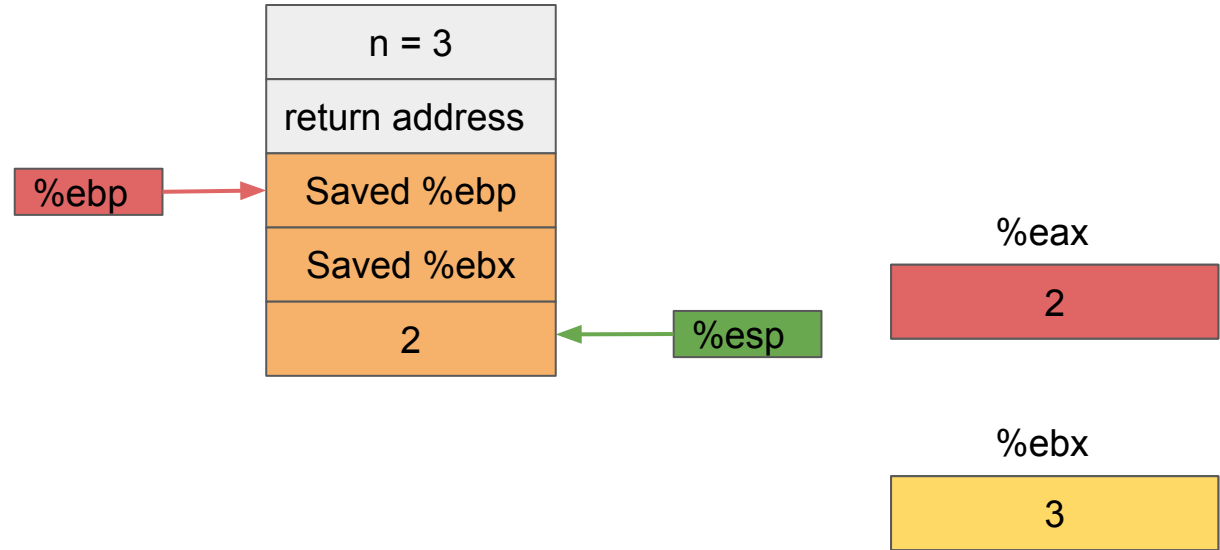


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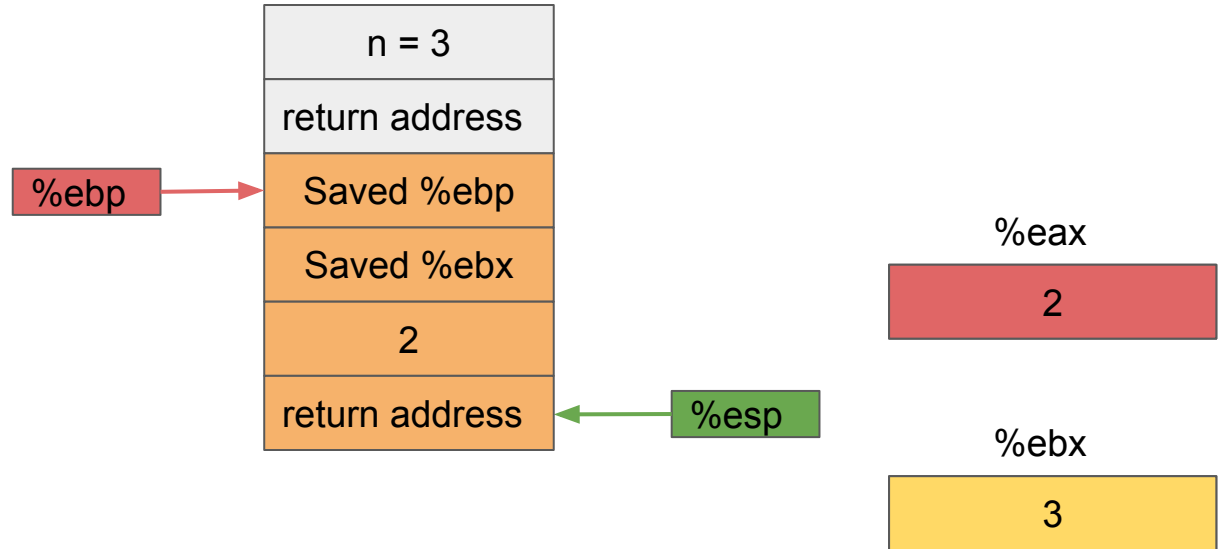


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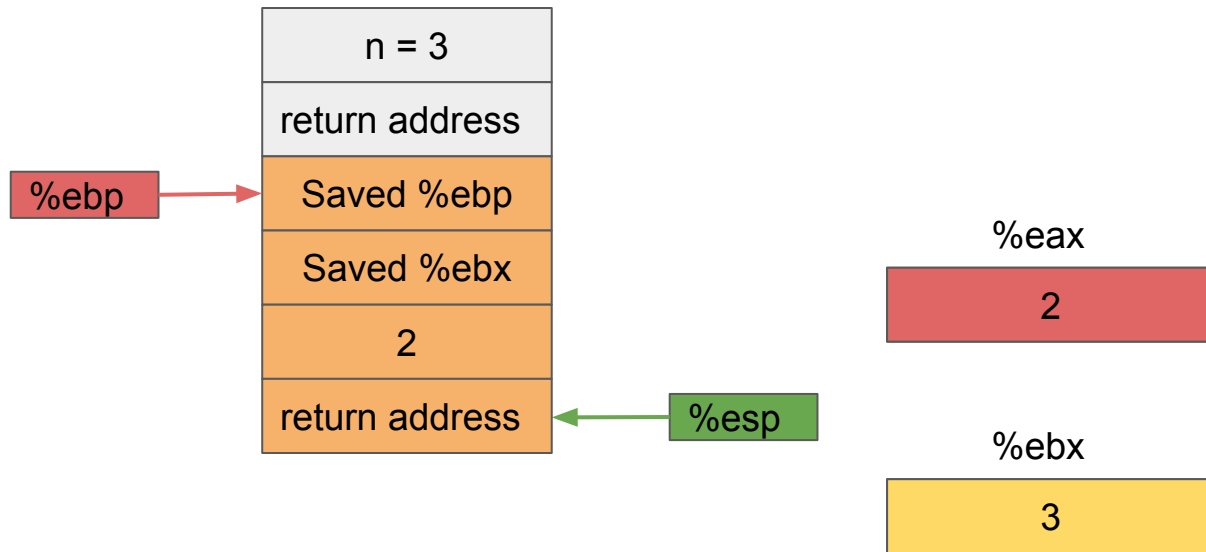


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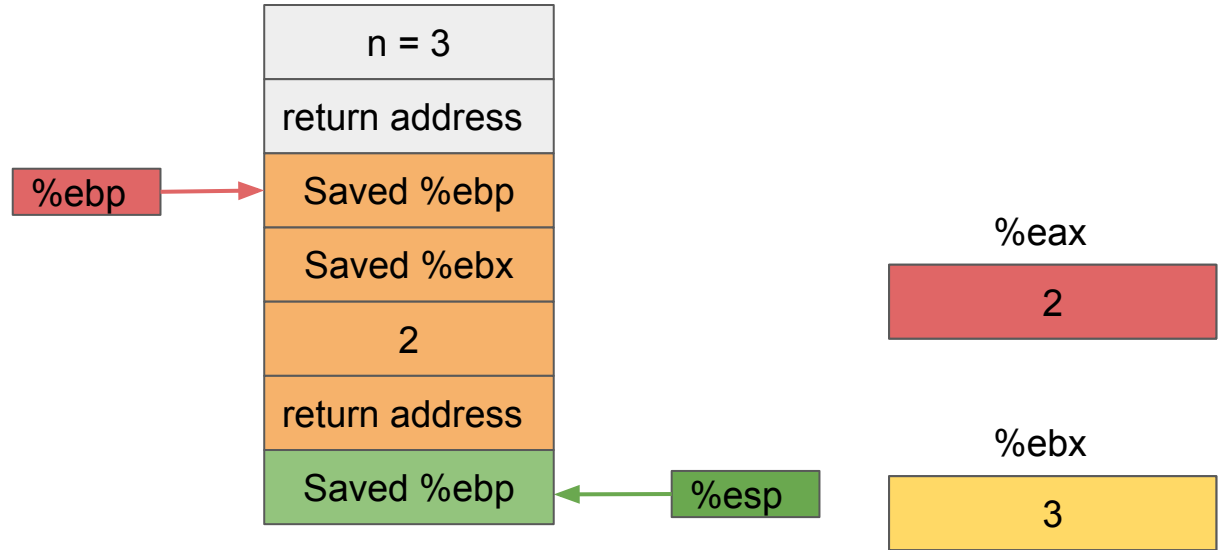


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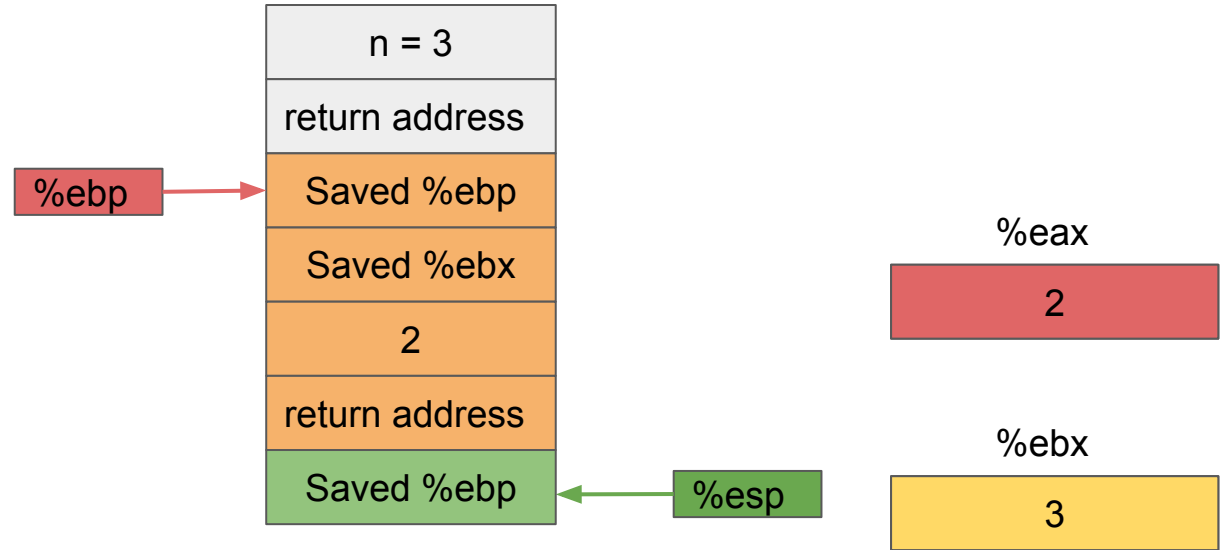


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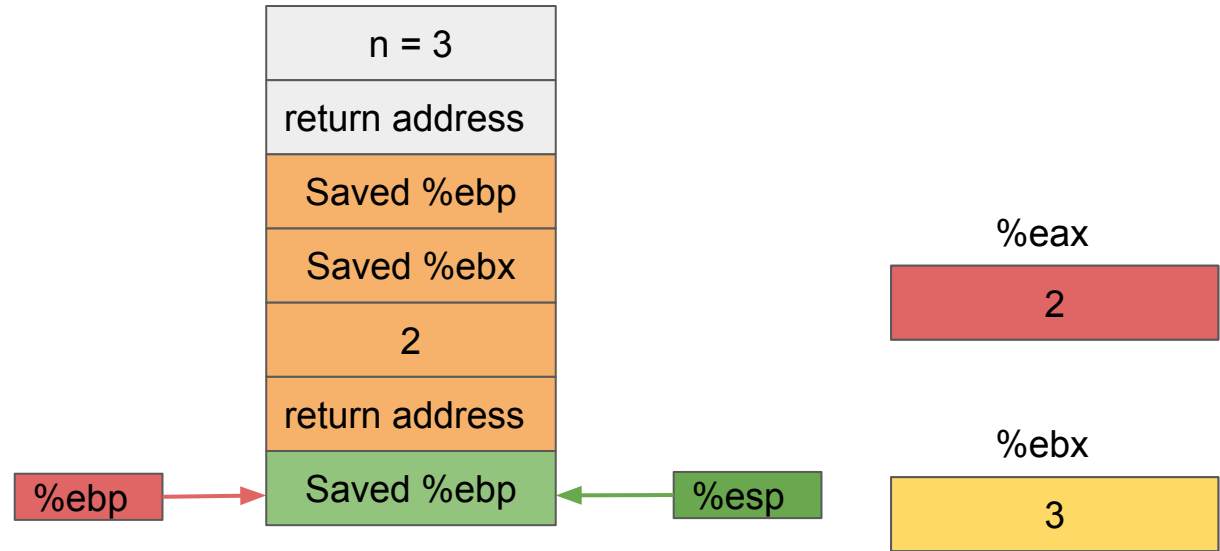


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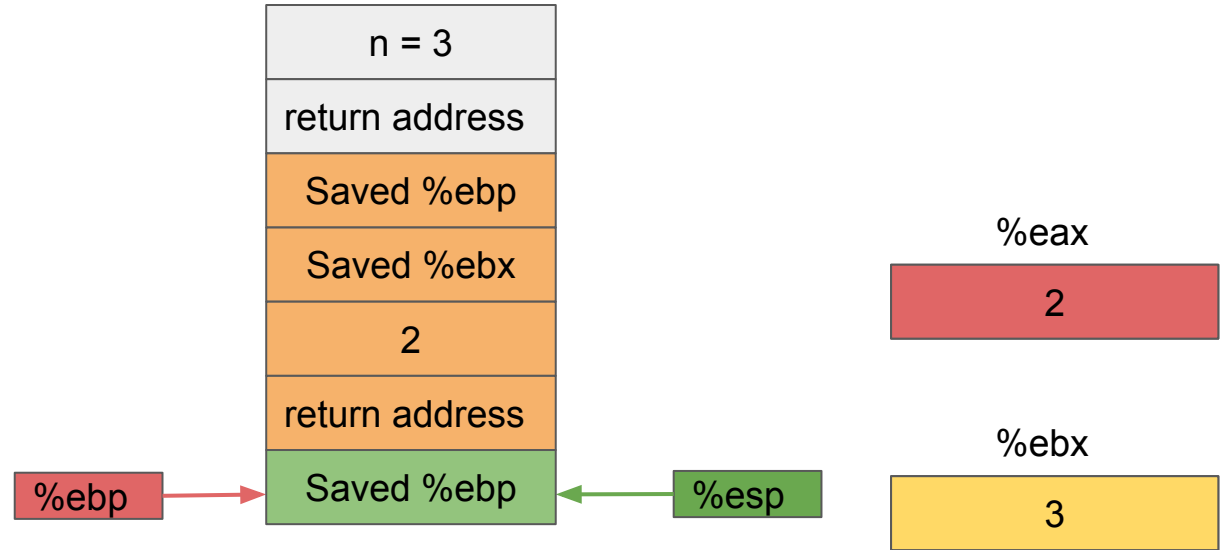


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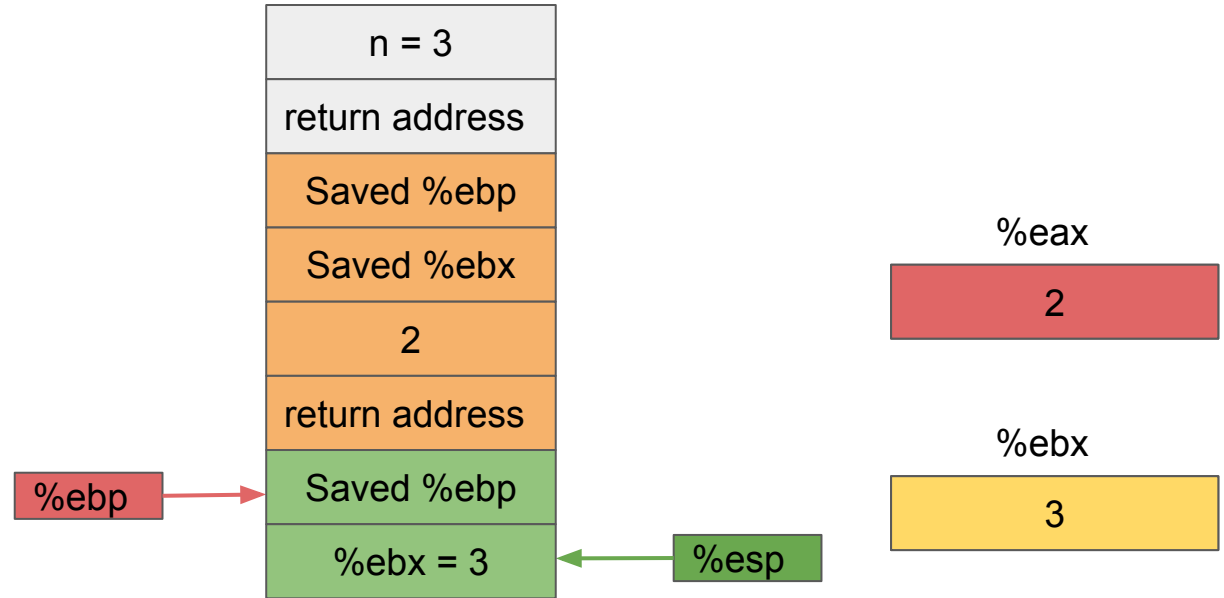


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    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

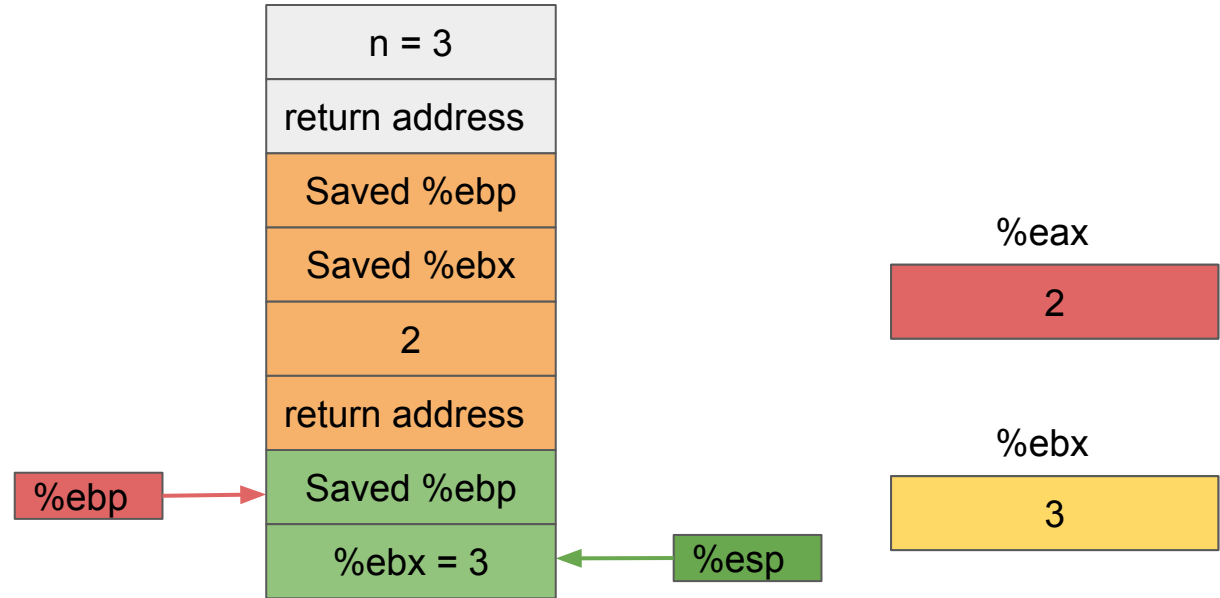


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

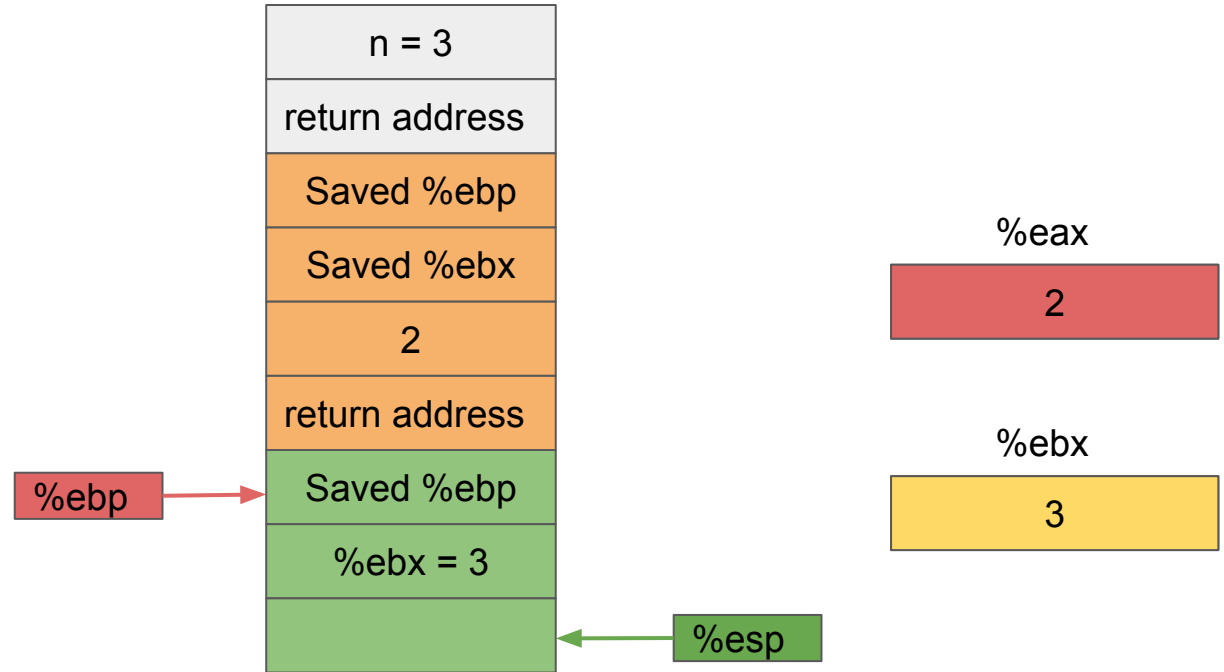


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

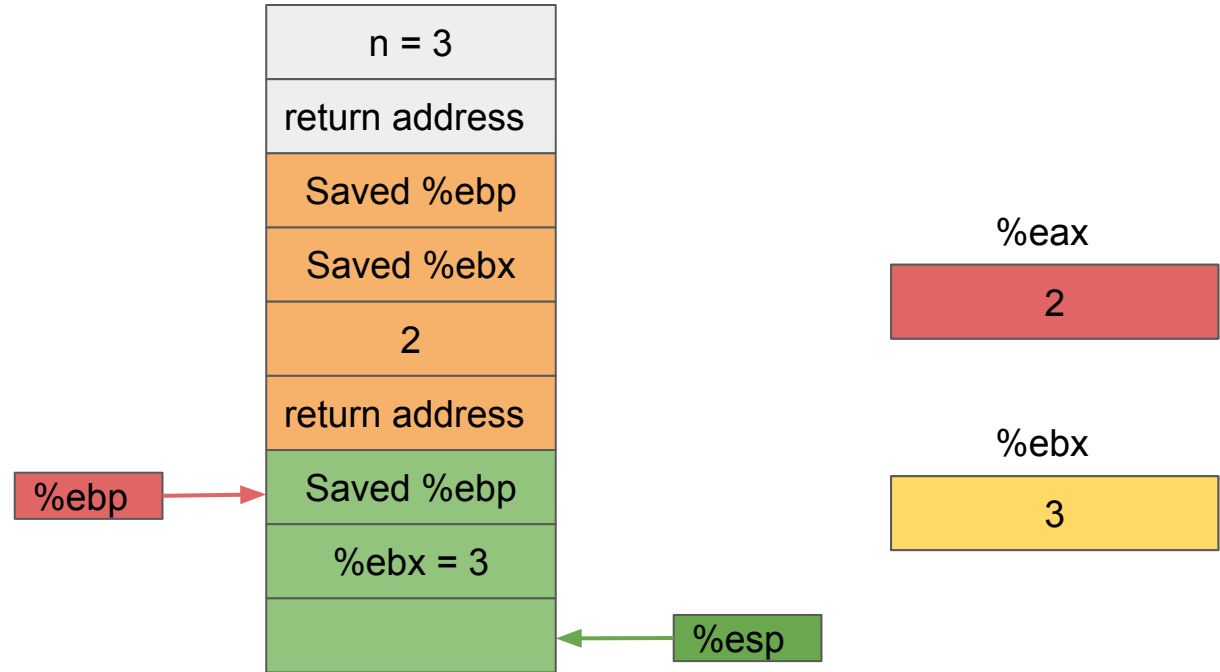


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

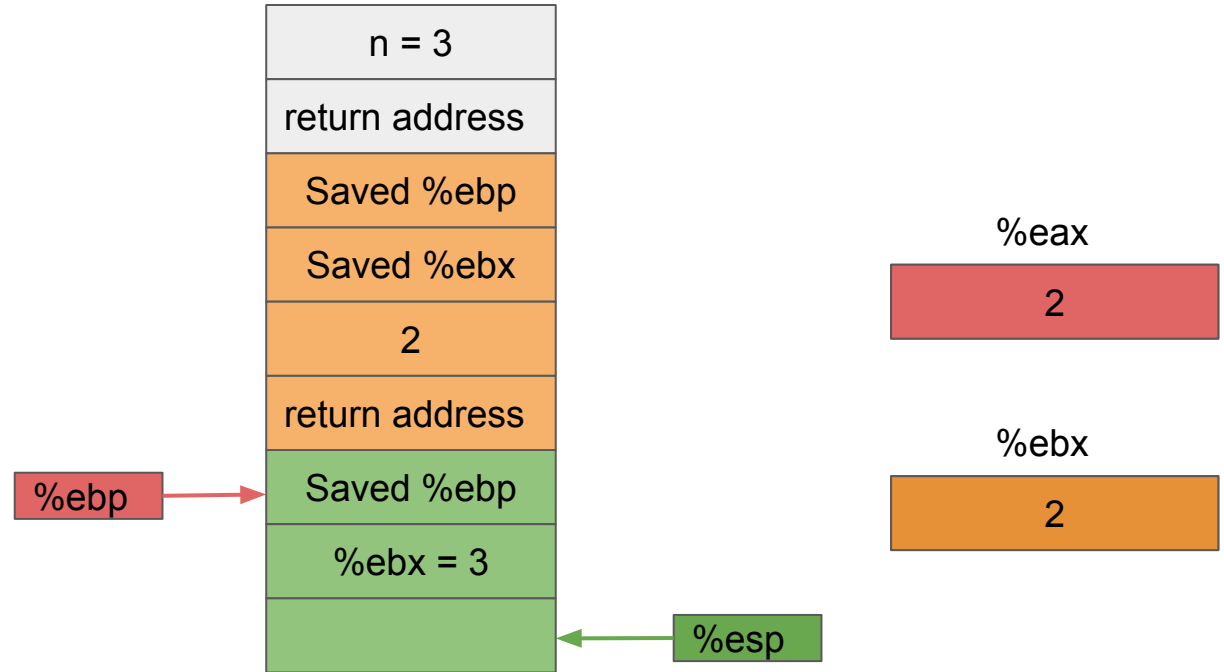


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

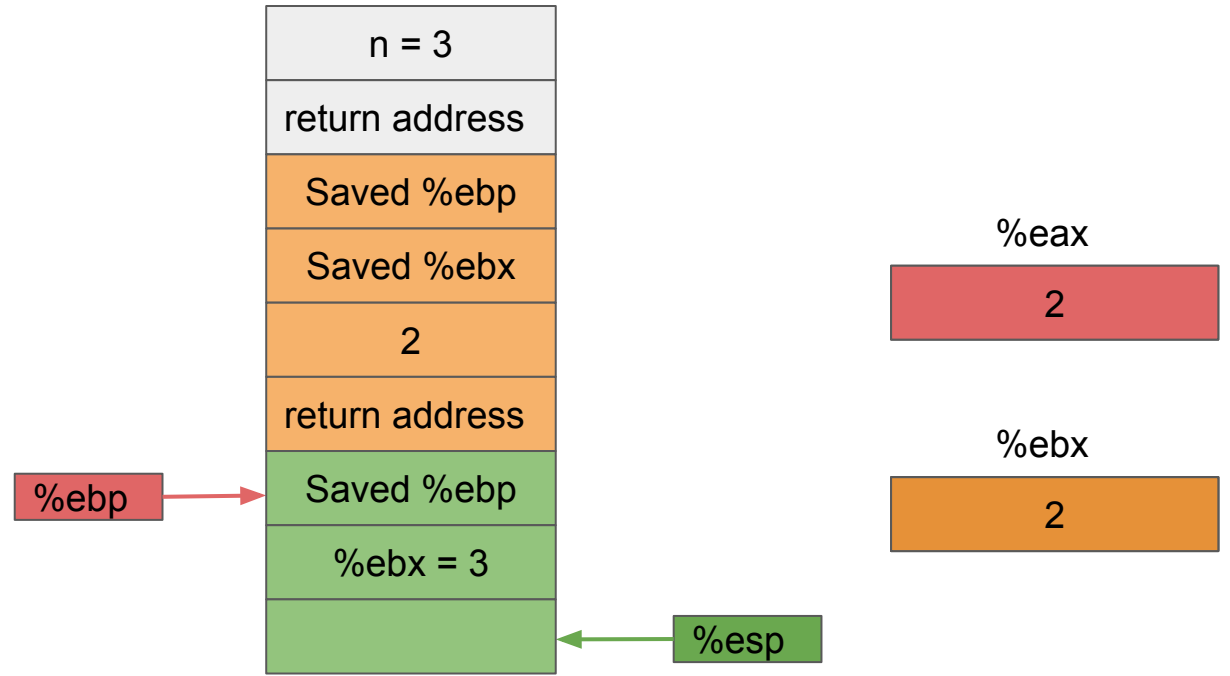


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

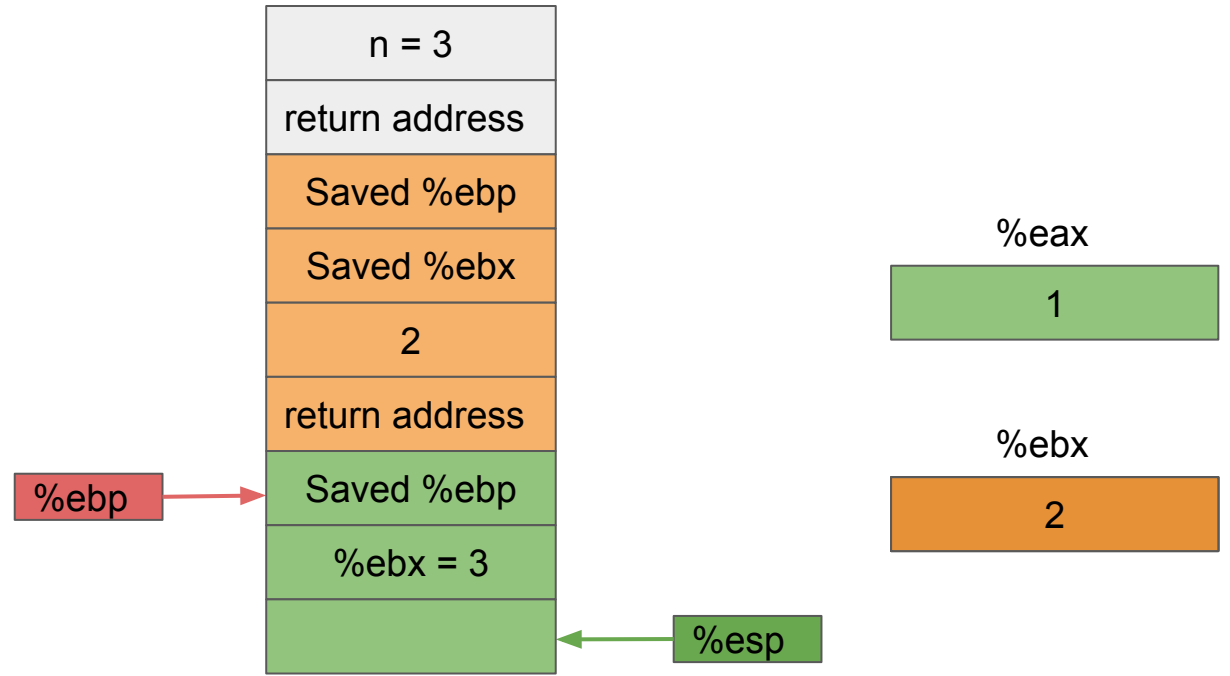


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

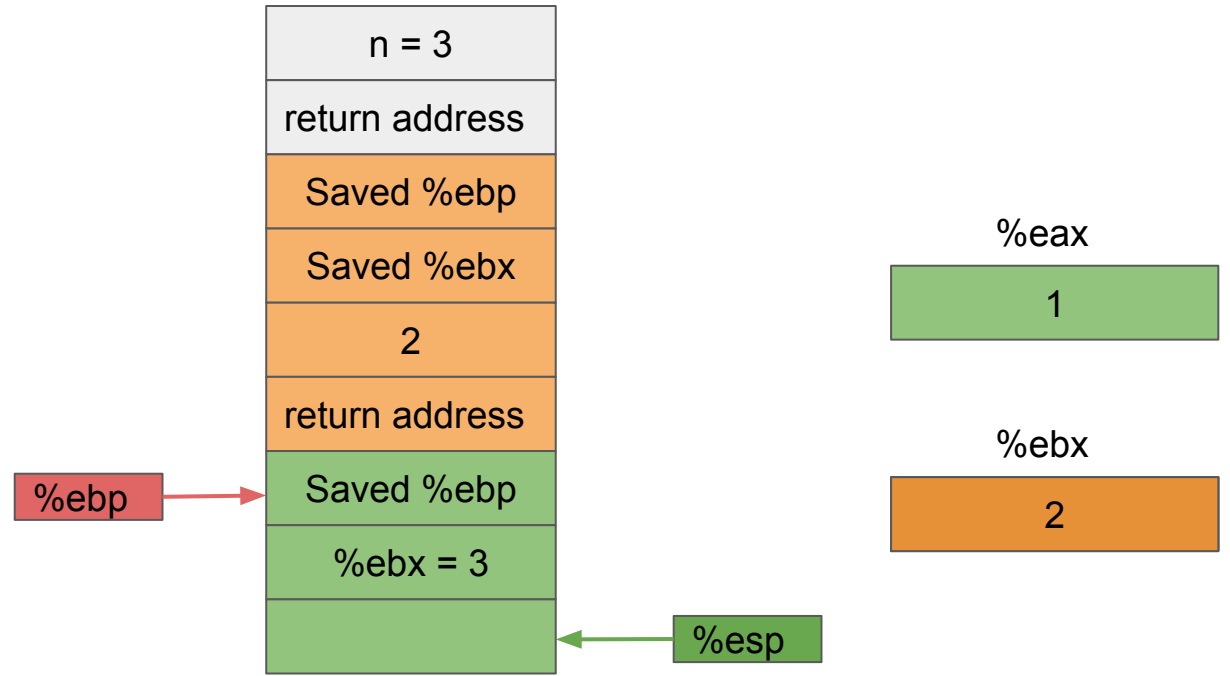


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

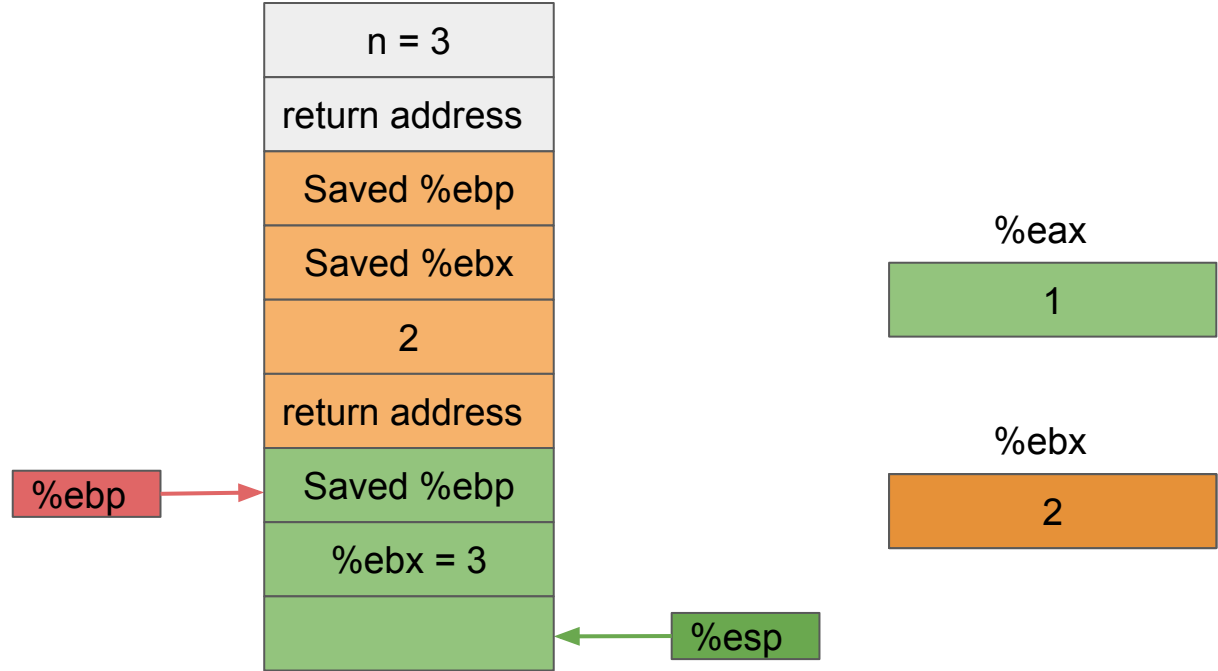


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



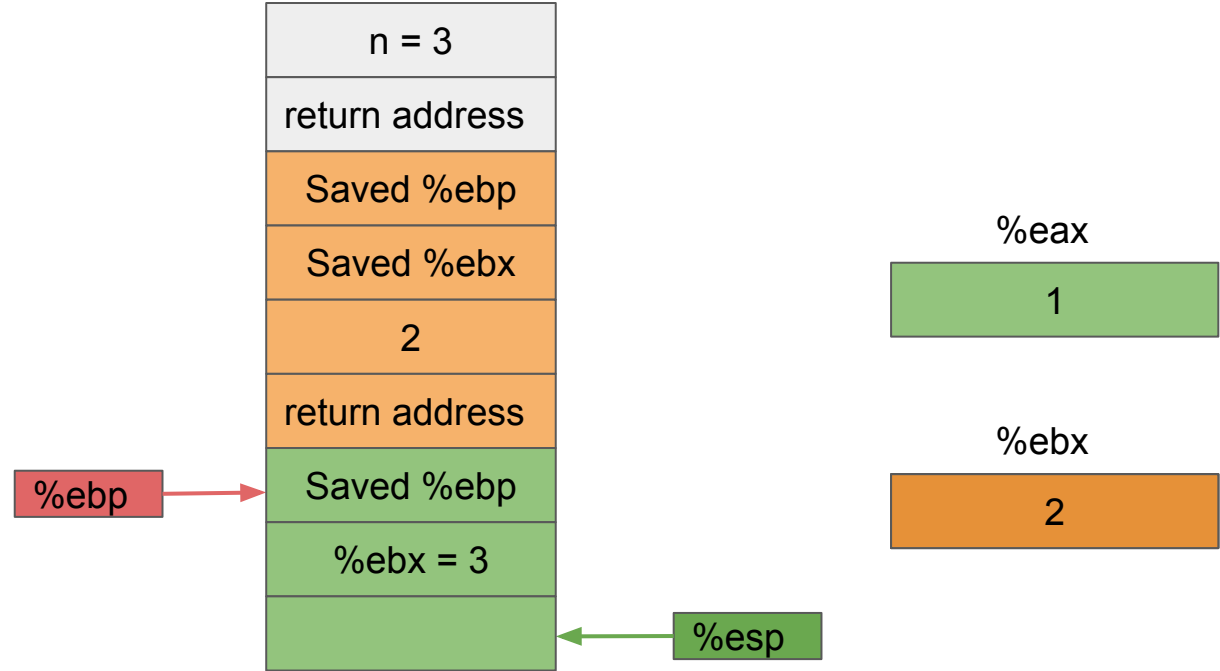
Compare 2 and 1 based on the condition 2 - 1 and update the Control Code Registers!

rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

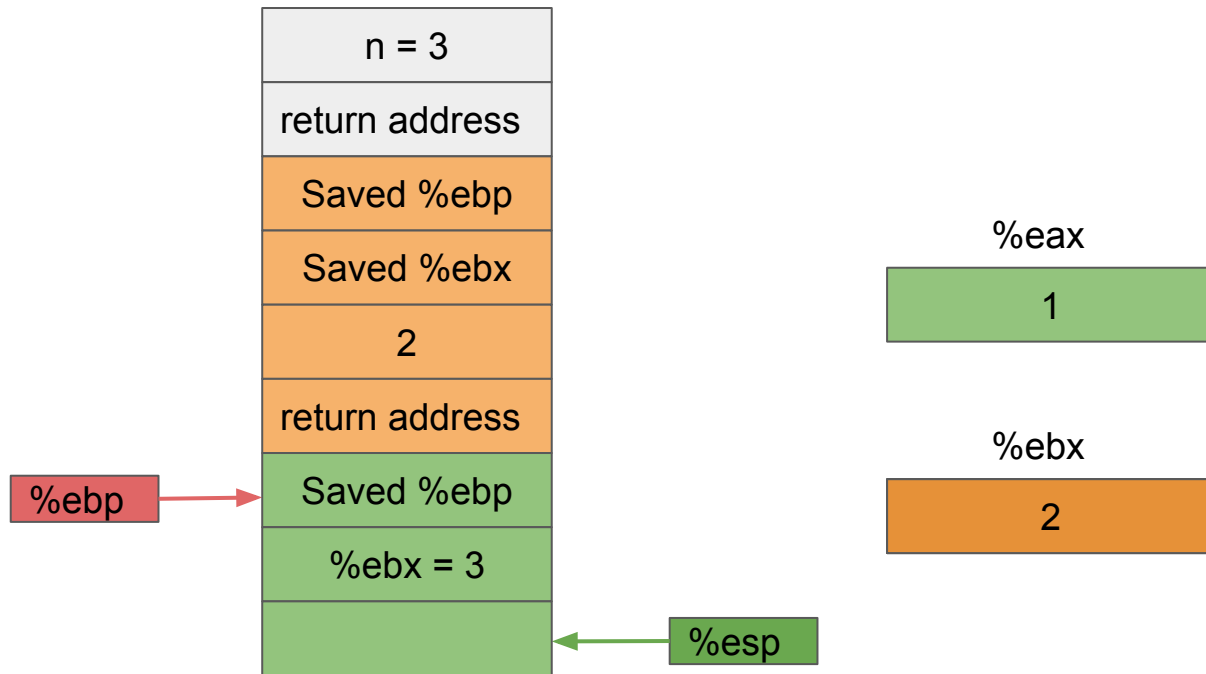


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

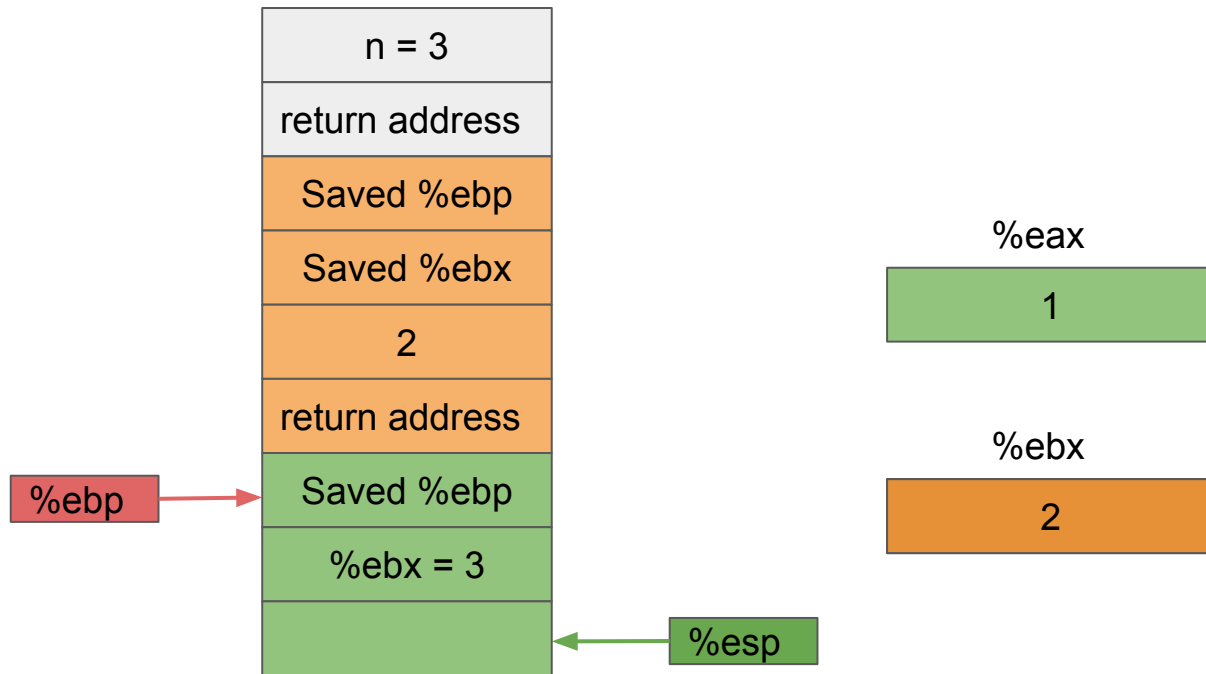


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



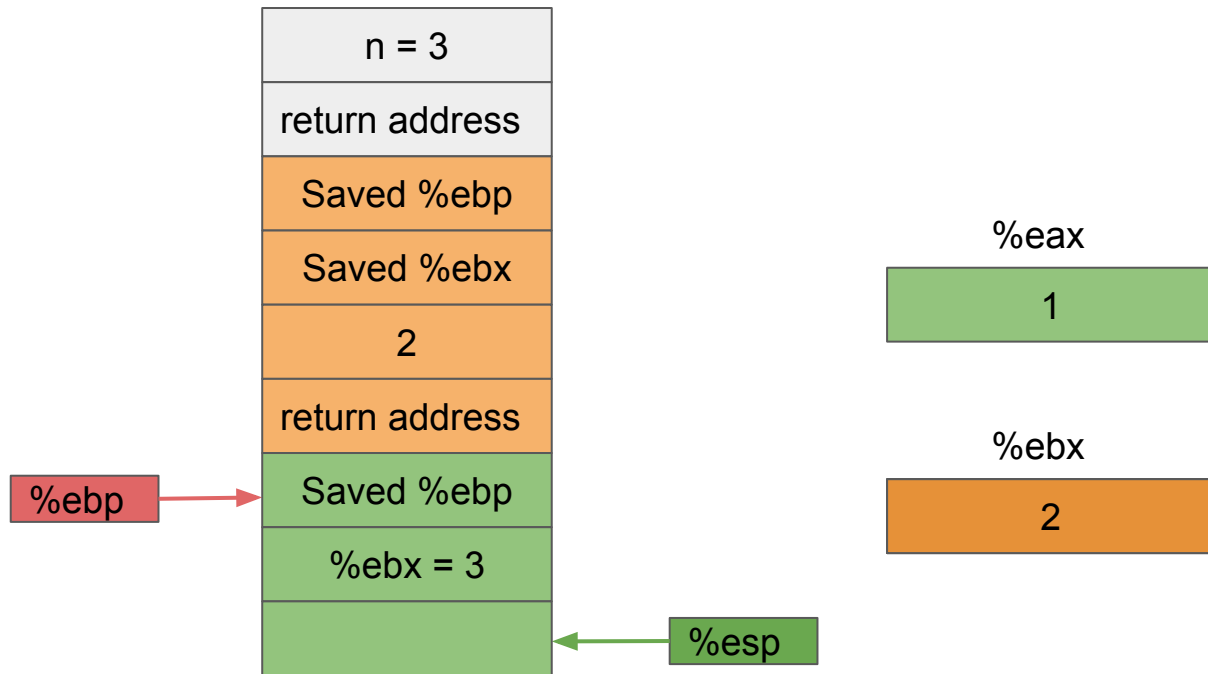
Jump if $2 \leq 1$

rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

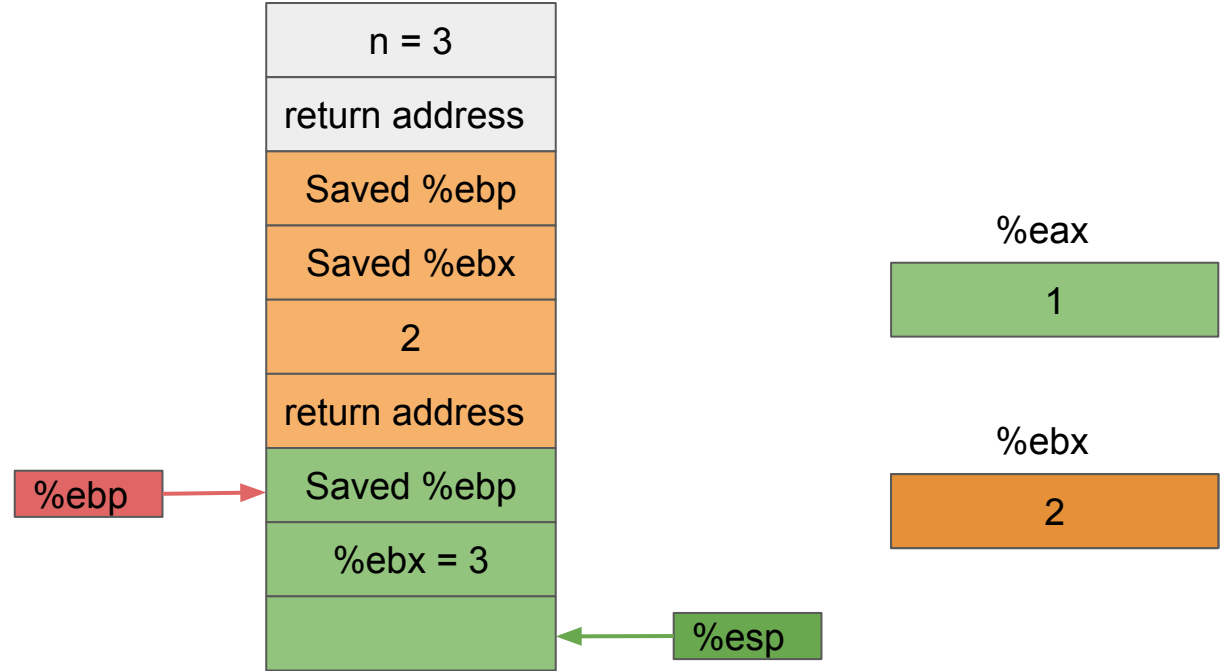


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

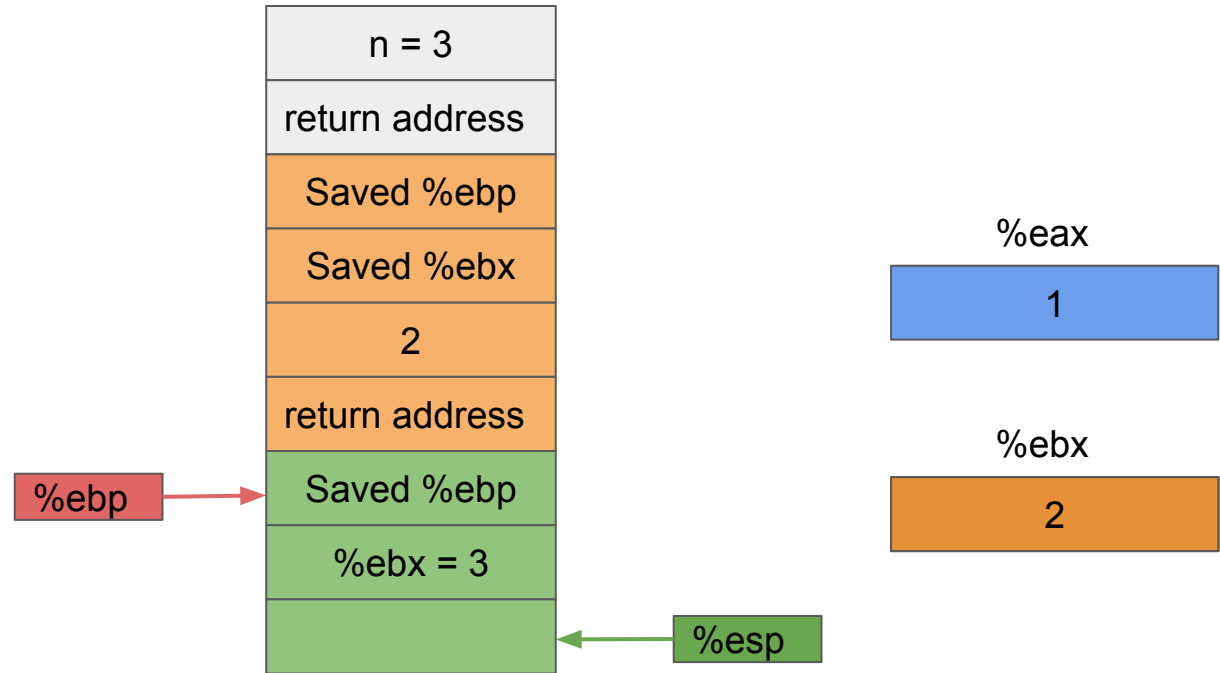


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

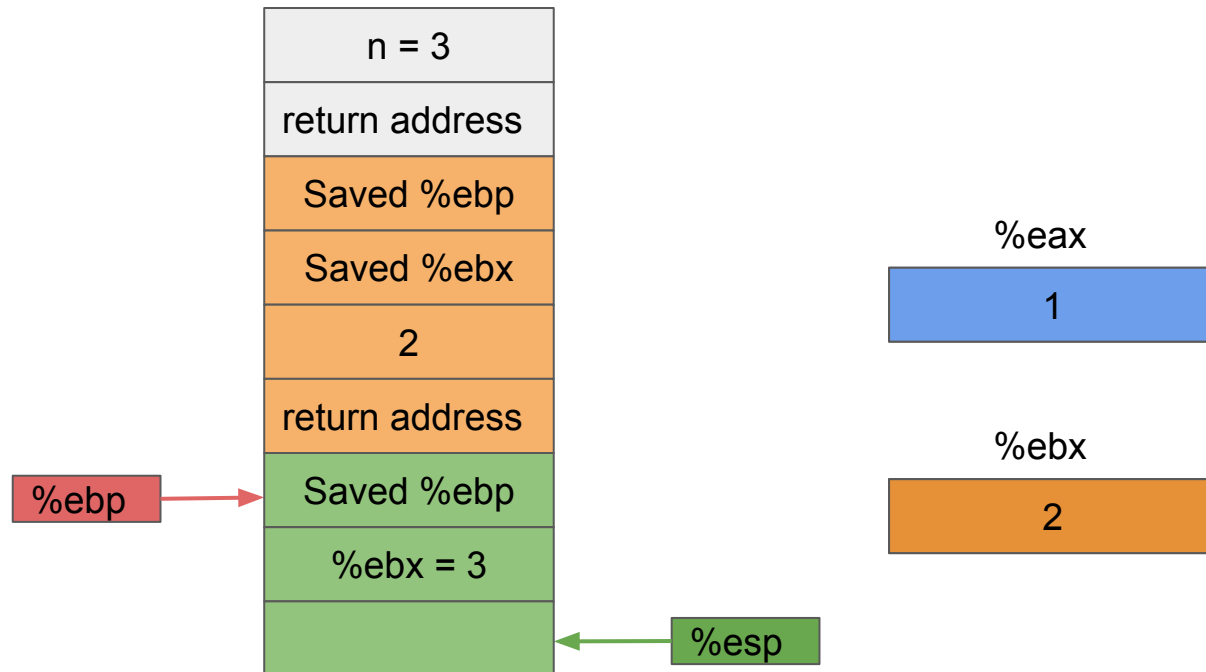


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

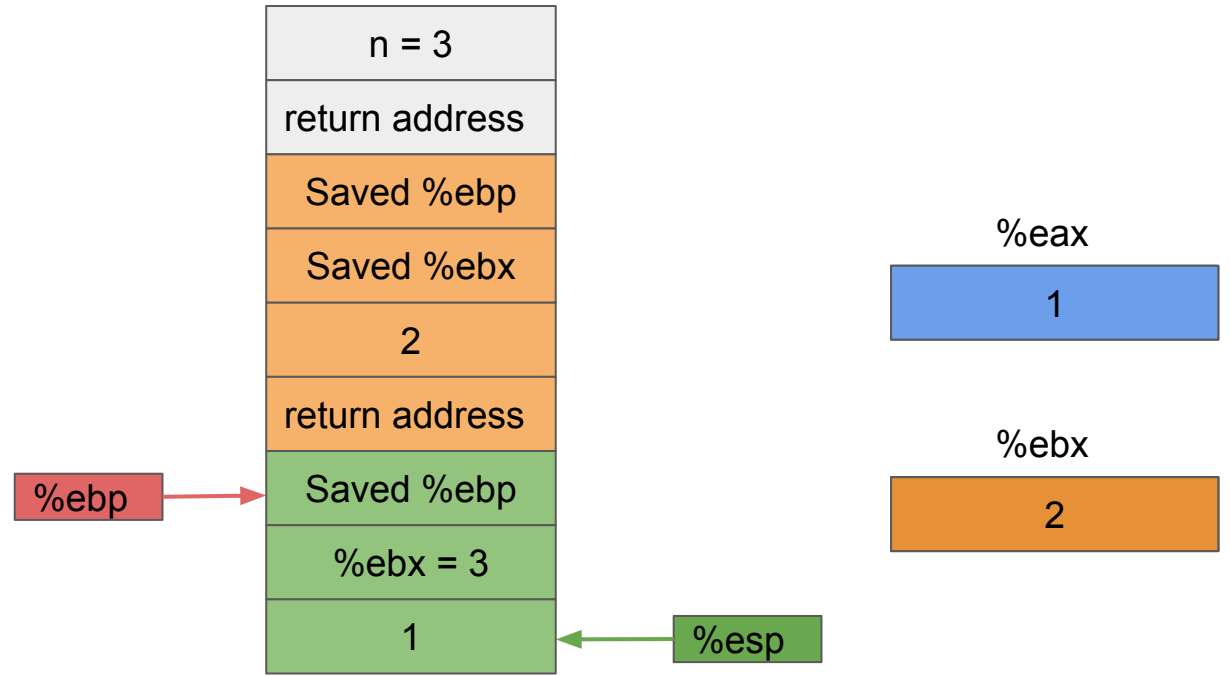


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

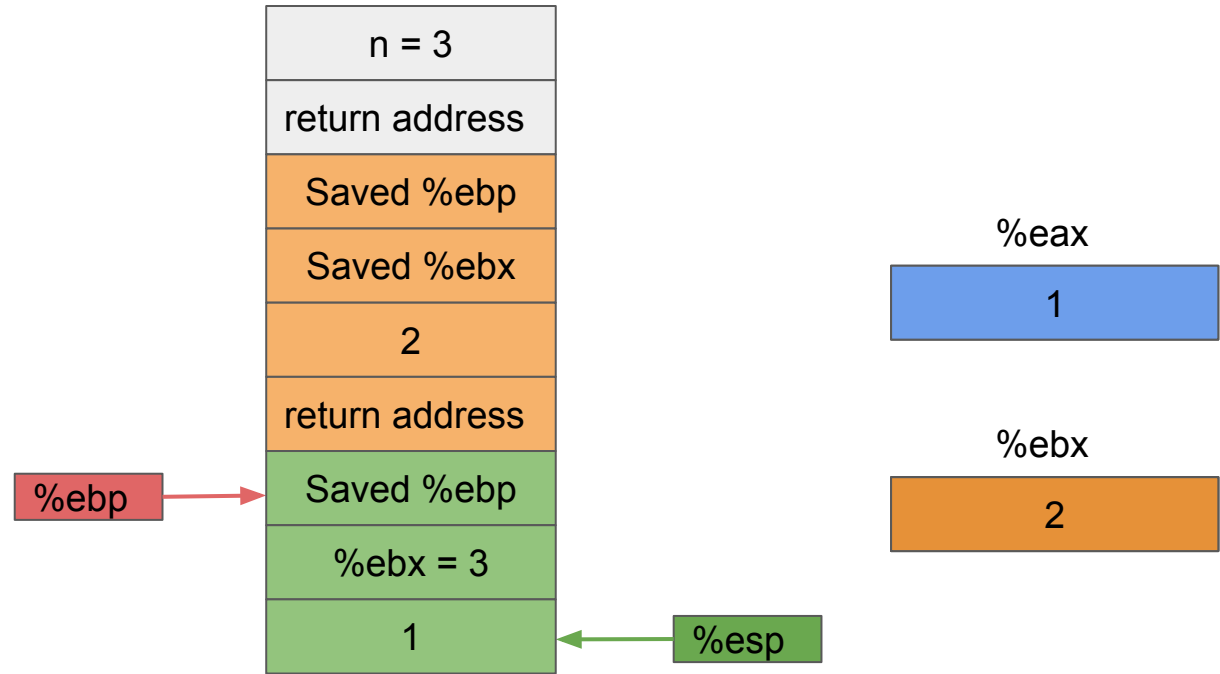


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

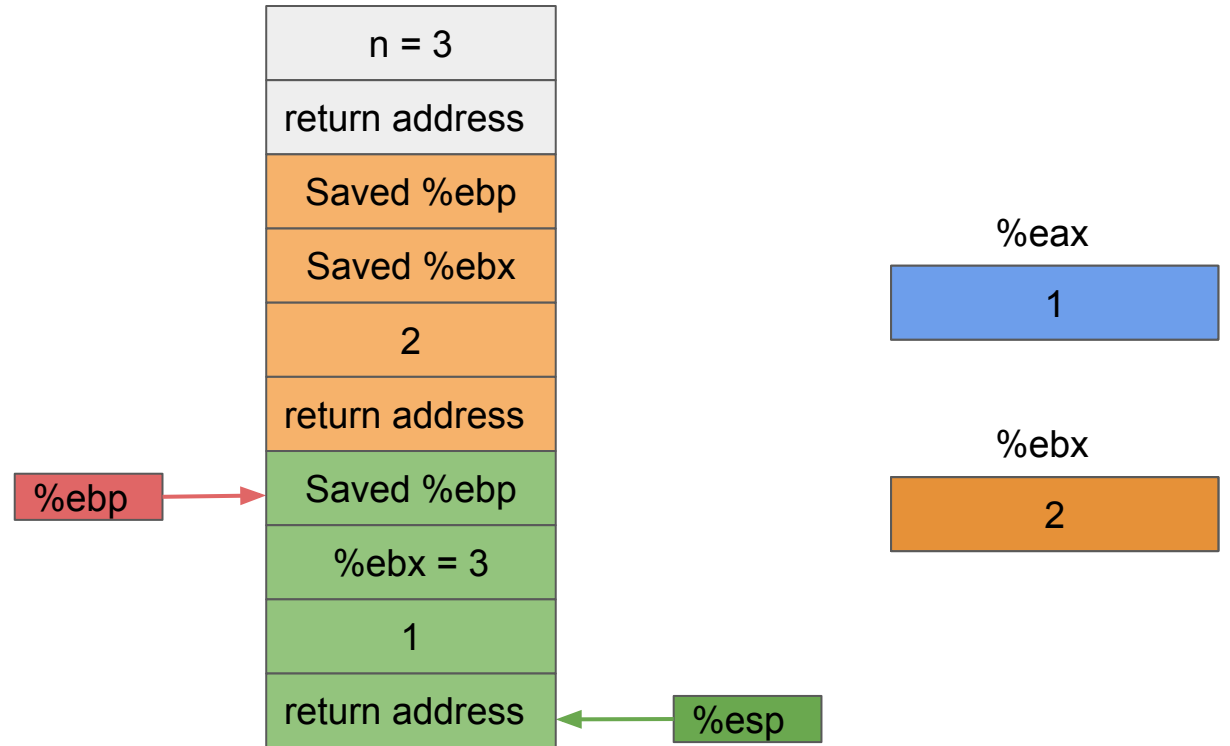


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

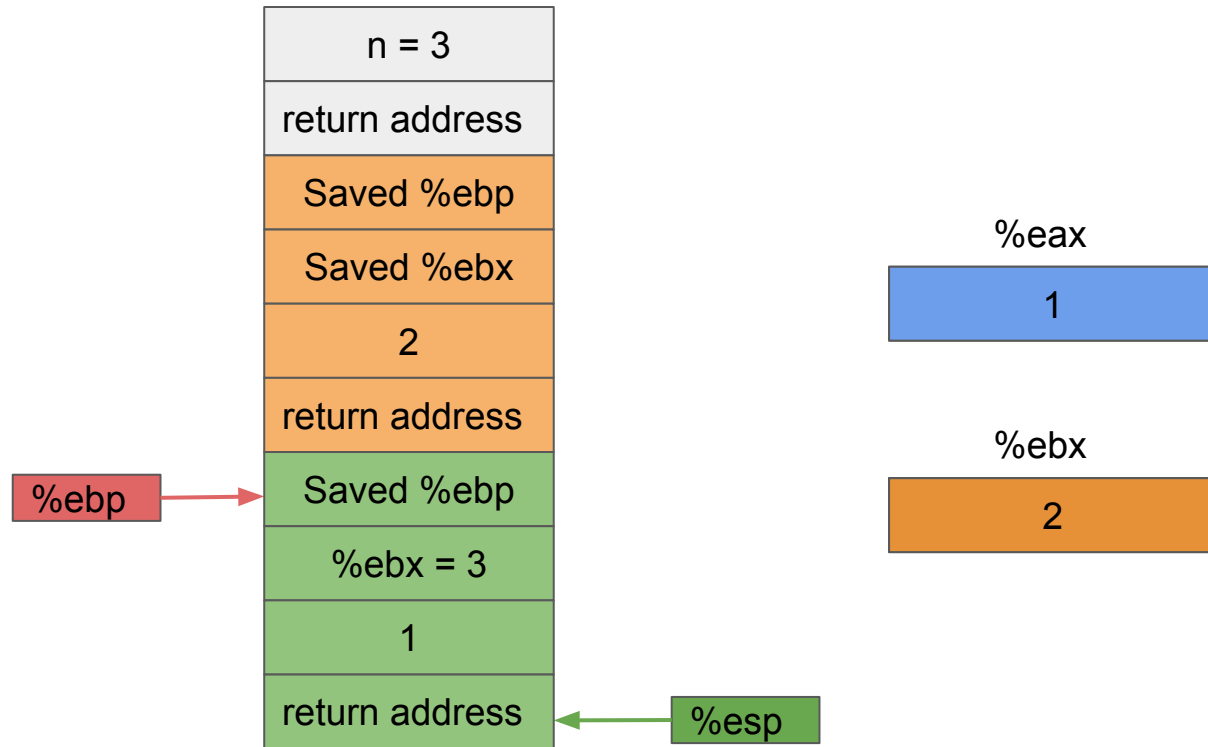
.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



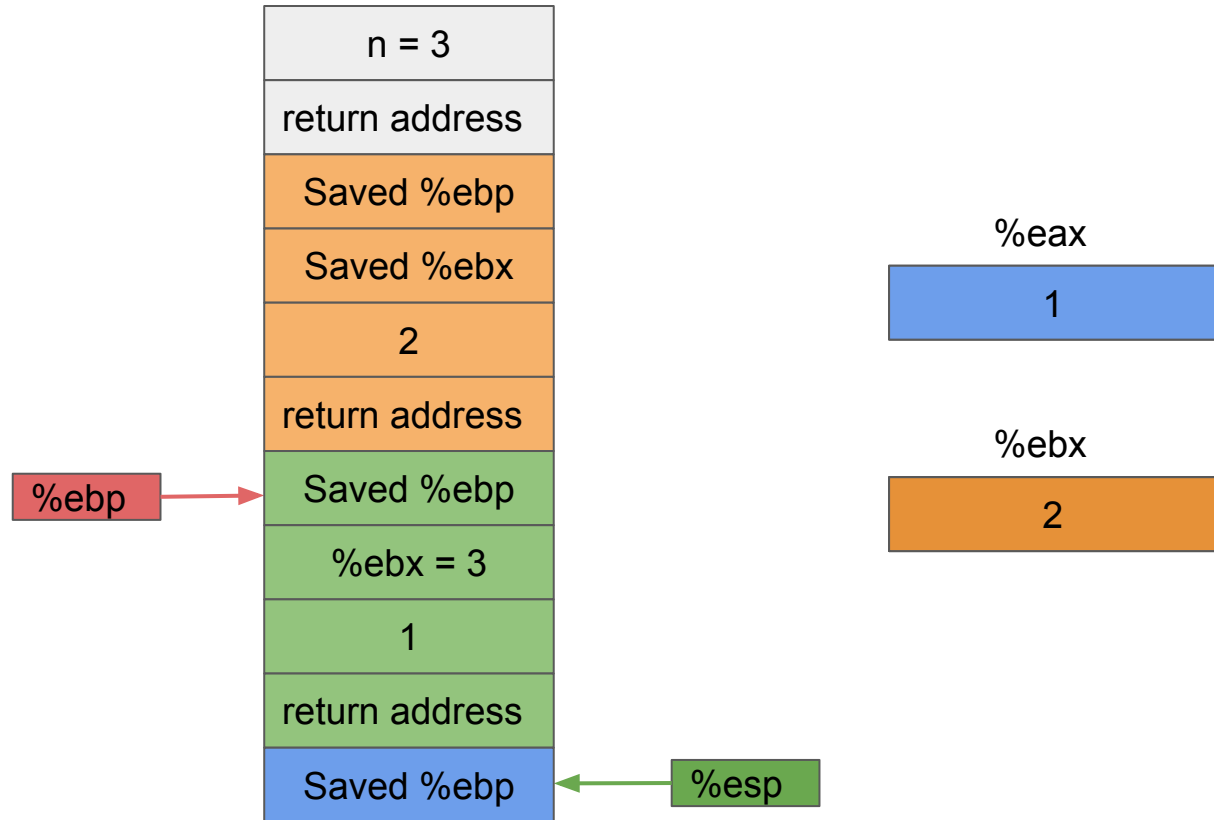
rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
.L53:
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



rfact:

```
pushl %ebp  
movl %esp, %ebp  
pushl %ebx  
subl $4, %esp  
movl 8(%ebp), %ebx  
movl $1, %eax  
cmpl $1, %ebx  
jle .L53  
leal -1(%ebx), %eax  
movl %eax, (%esp)  
call rfact  
imull %ebx, %eax  
.L53:  
addl $4, %esp  
popl %ebx  
popl %ebp  
ret
```

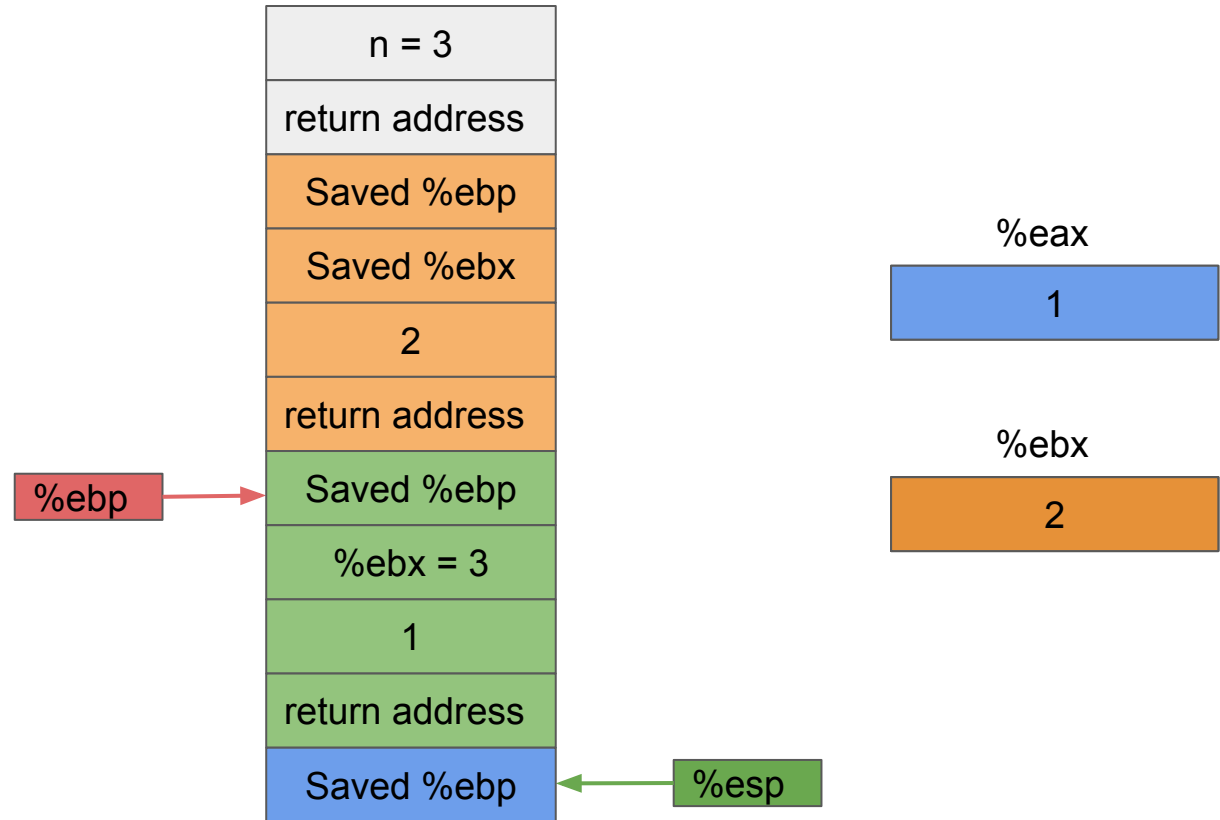


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

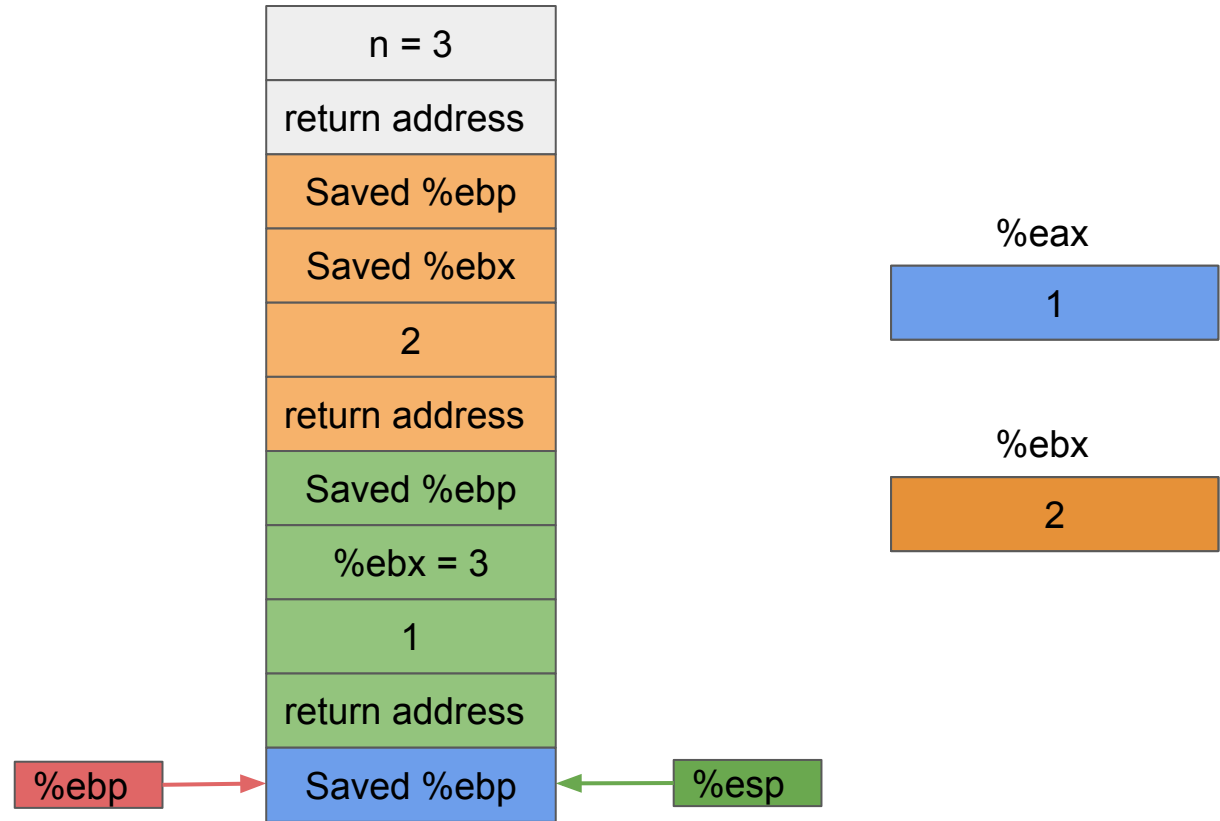


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

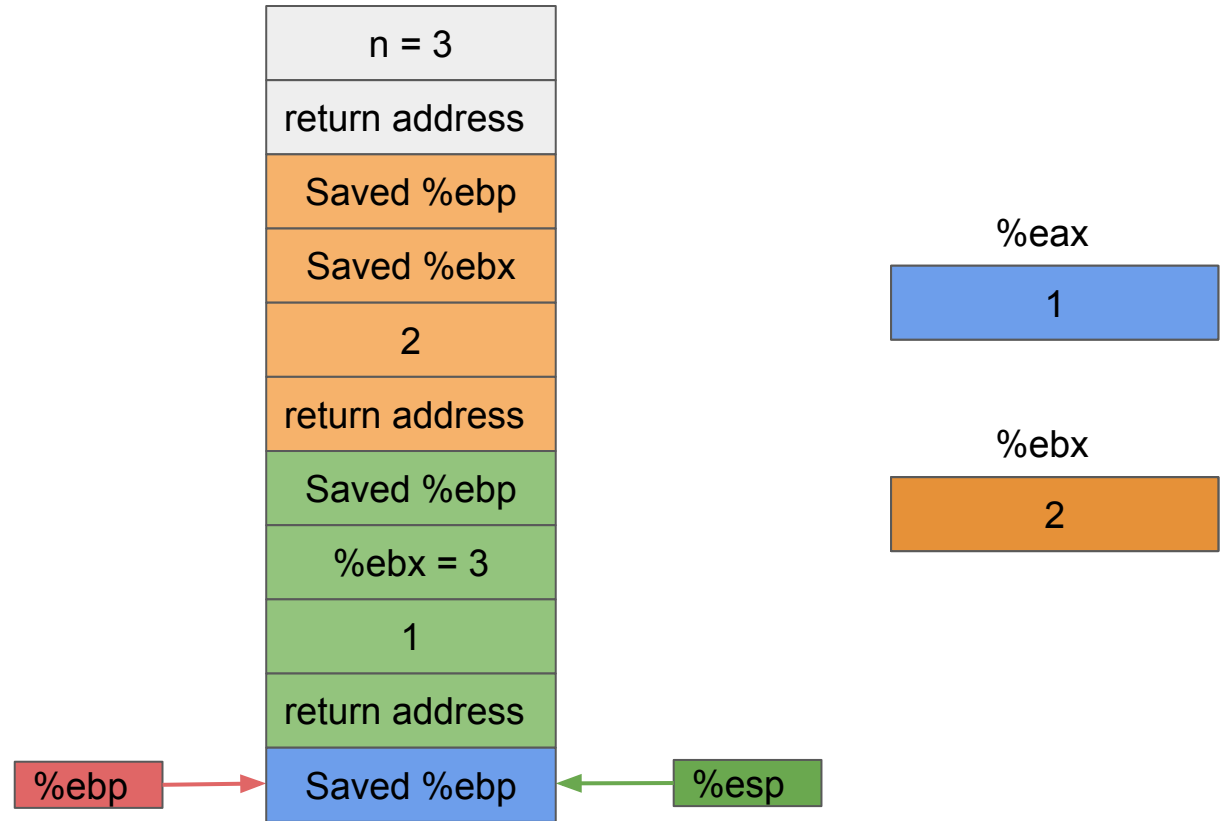


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

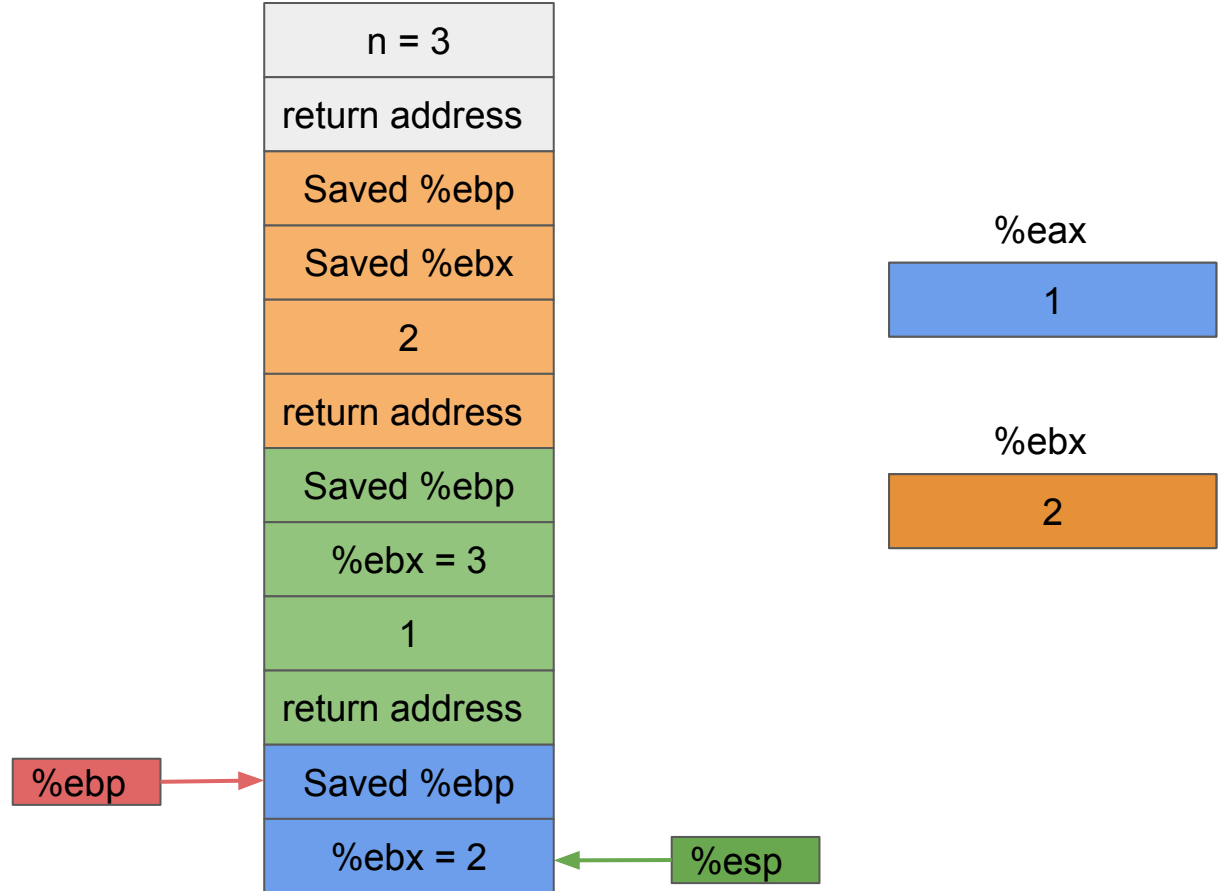


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

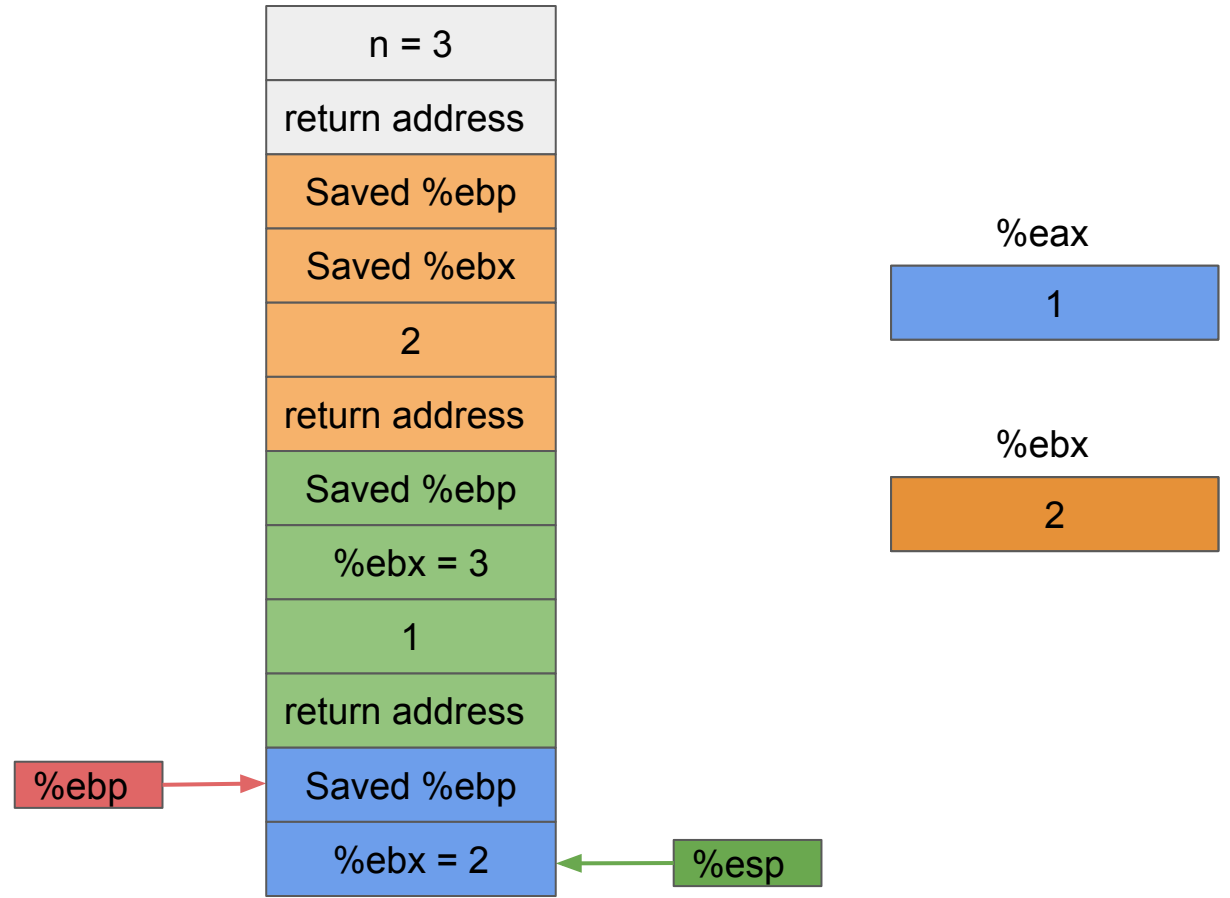


rifact:

```
pushl %ebp
movl %esp, %ebp
pushl %ebx
subl $4, %esp
movl 8(%ebp), %ebx
movl $1, %eax
cmpl $1, %ebx
jle .L53
leal -1(%ebx), %eax
movl %eax, (%esp)
call rifact
imull %ebx, %eax
```

.L53:

```
addl $4, %esp
popl %ebx
popl %ebp
ret
```

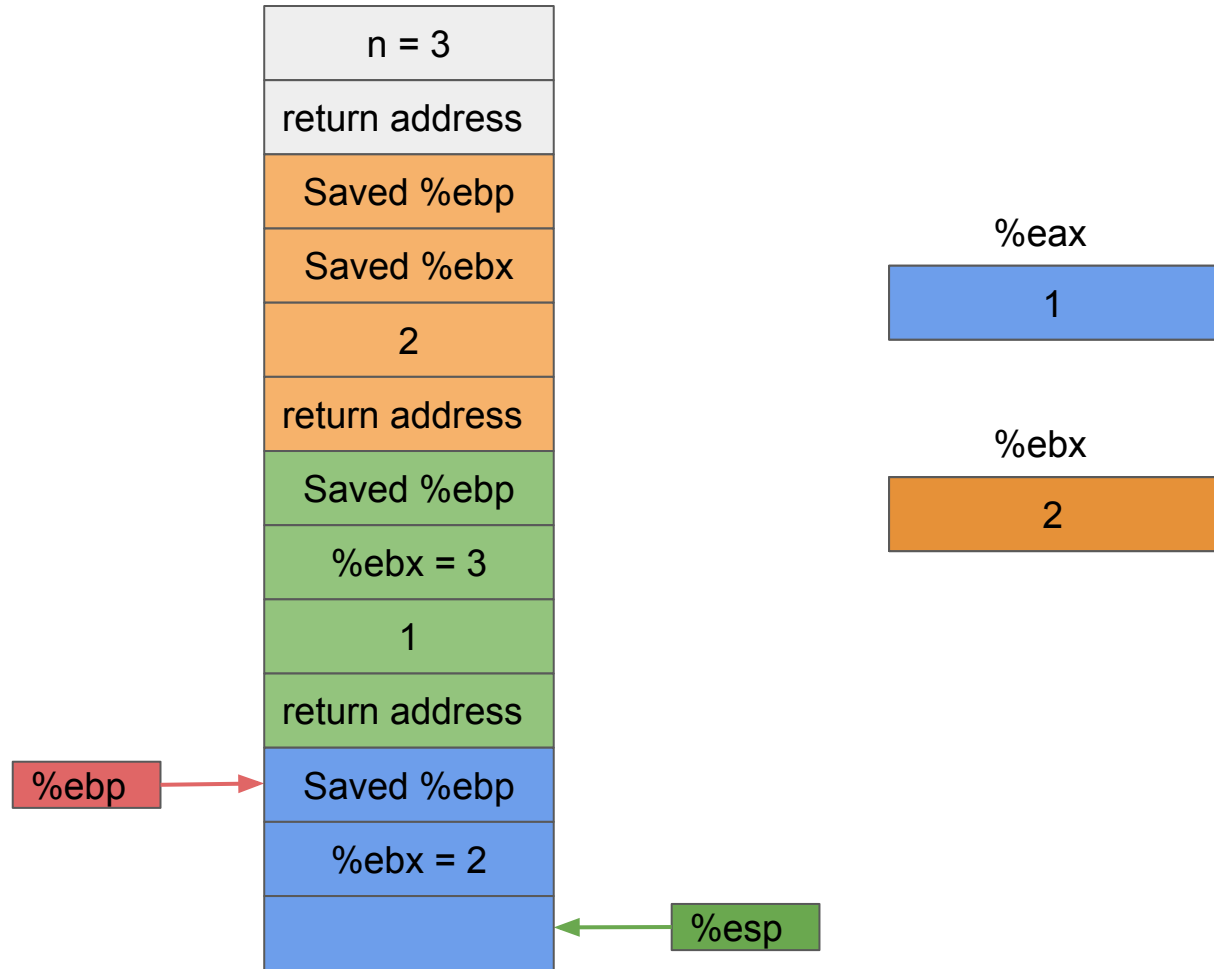


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

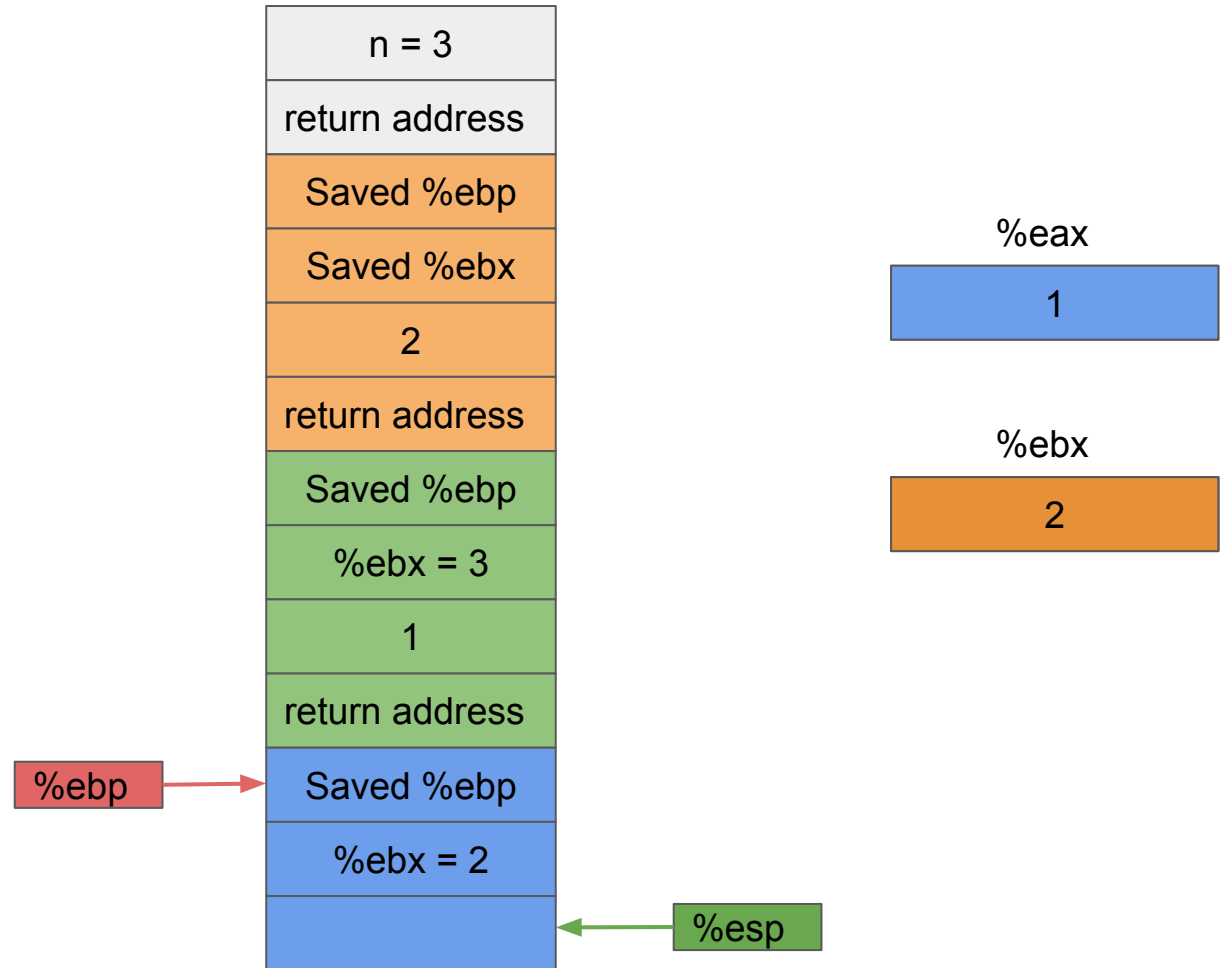


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

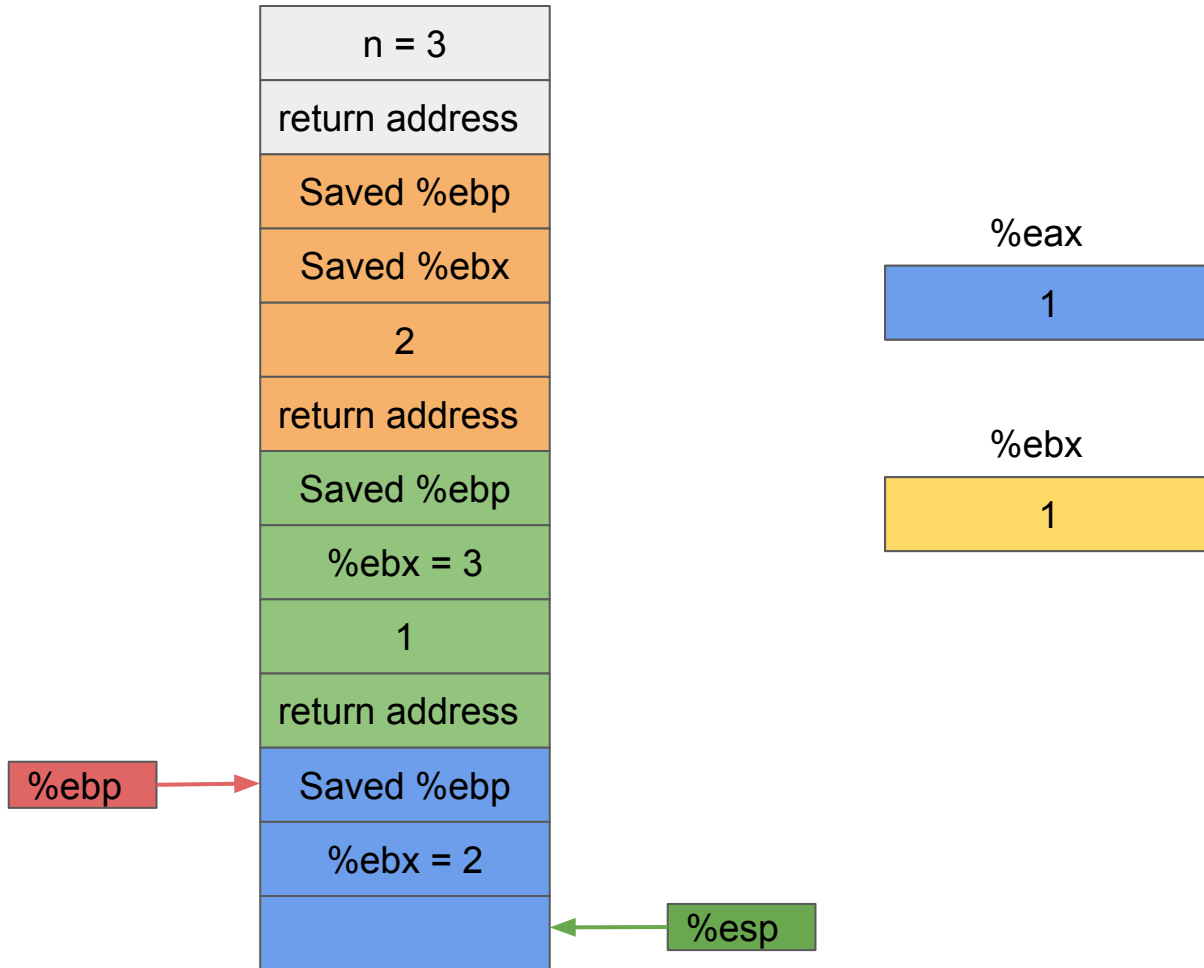


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

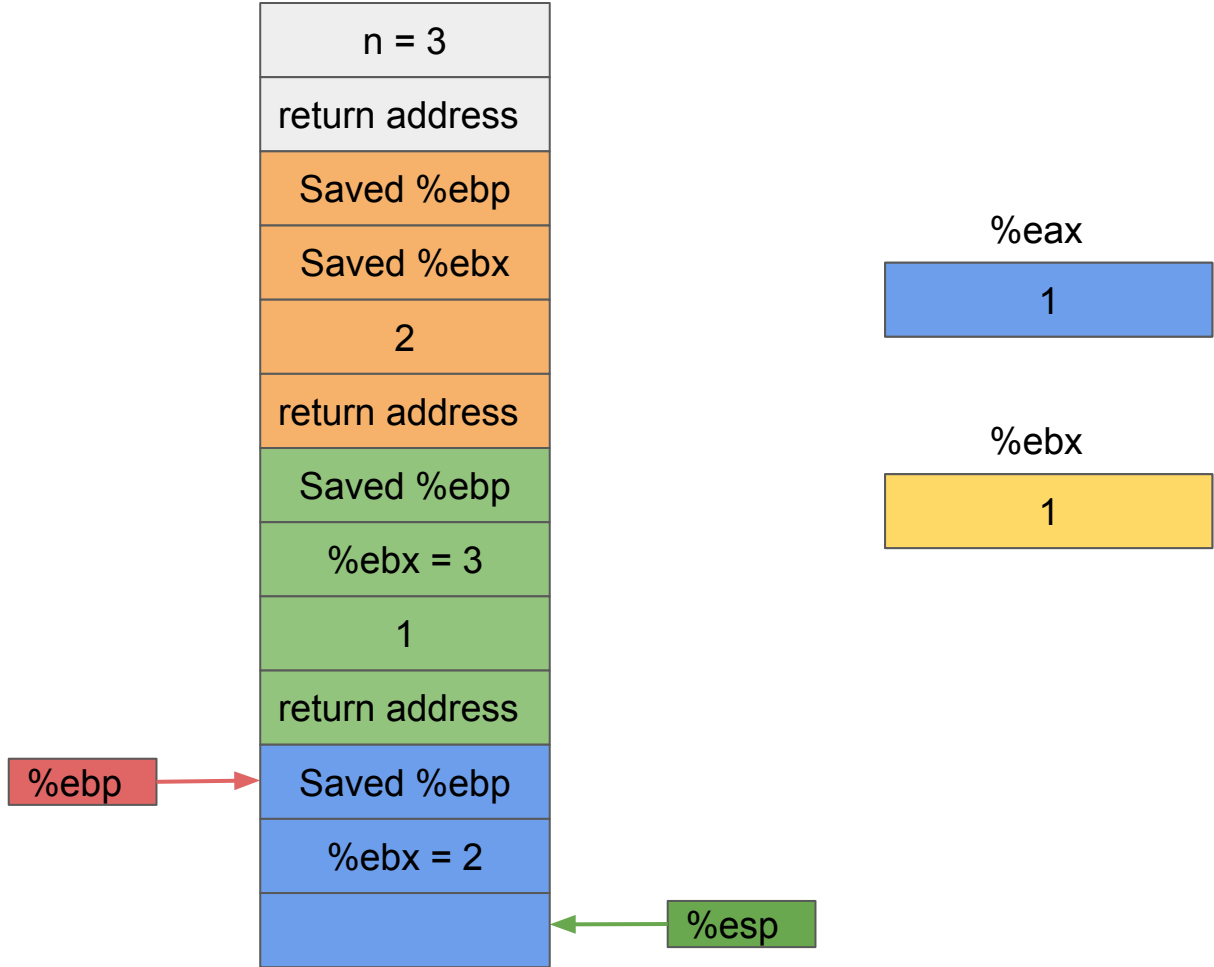


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



rifact:

```

pushl %ebp
movl %esp, %ebp
pushl %ebx
subl $4, %esp
movl 8(%ebp), %ebx
movl $1, %eax
cmpl $1, %ebx
jle .L53
leal -1(%ebx), %eax
movl %eax, (%esp)
call rifact
imull %ebx, %eax

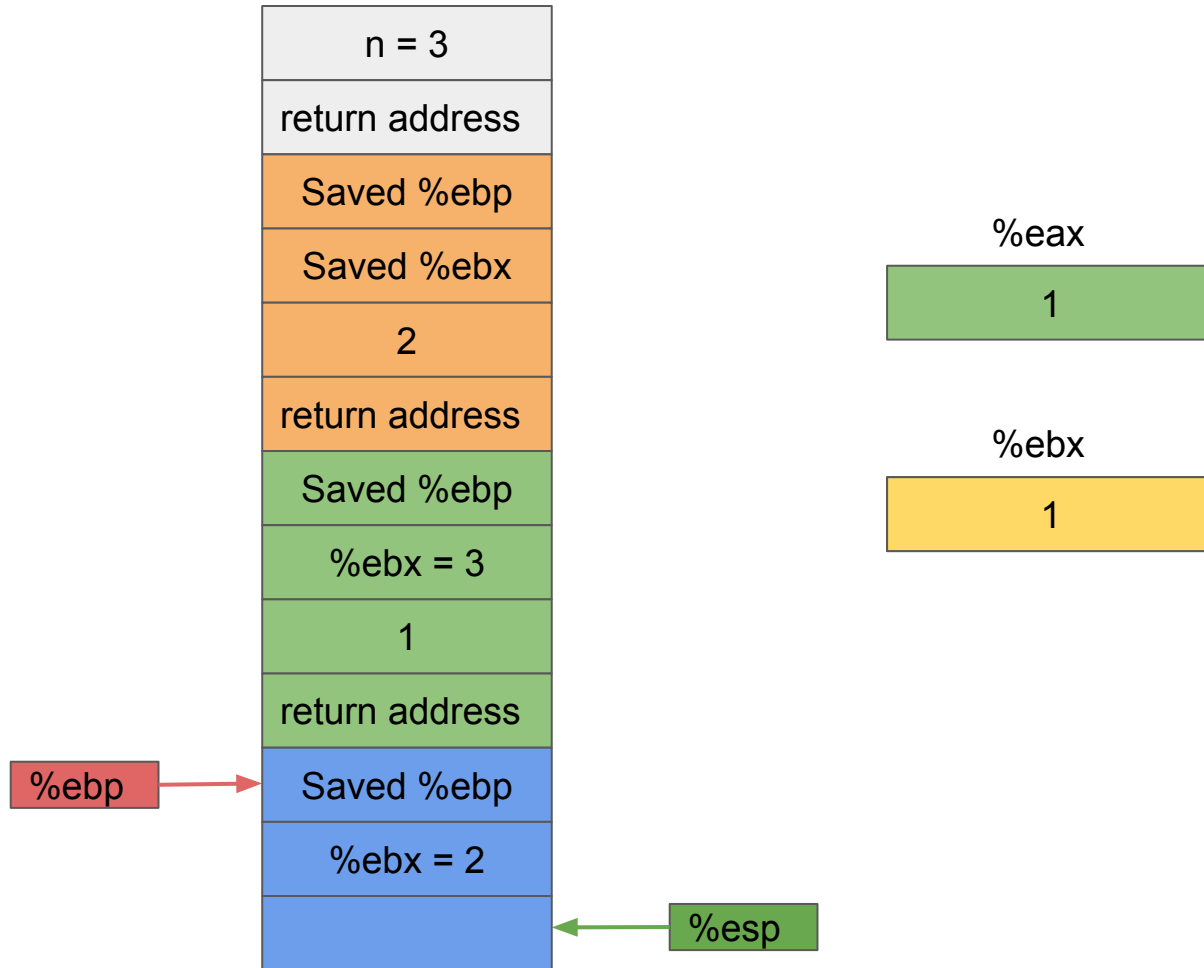
```

.L53:

```

addl $4, %esp
popl %ebx
popl %ebp
ret

```

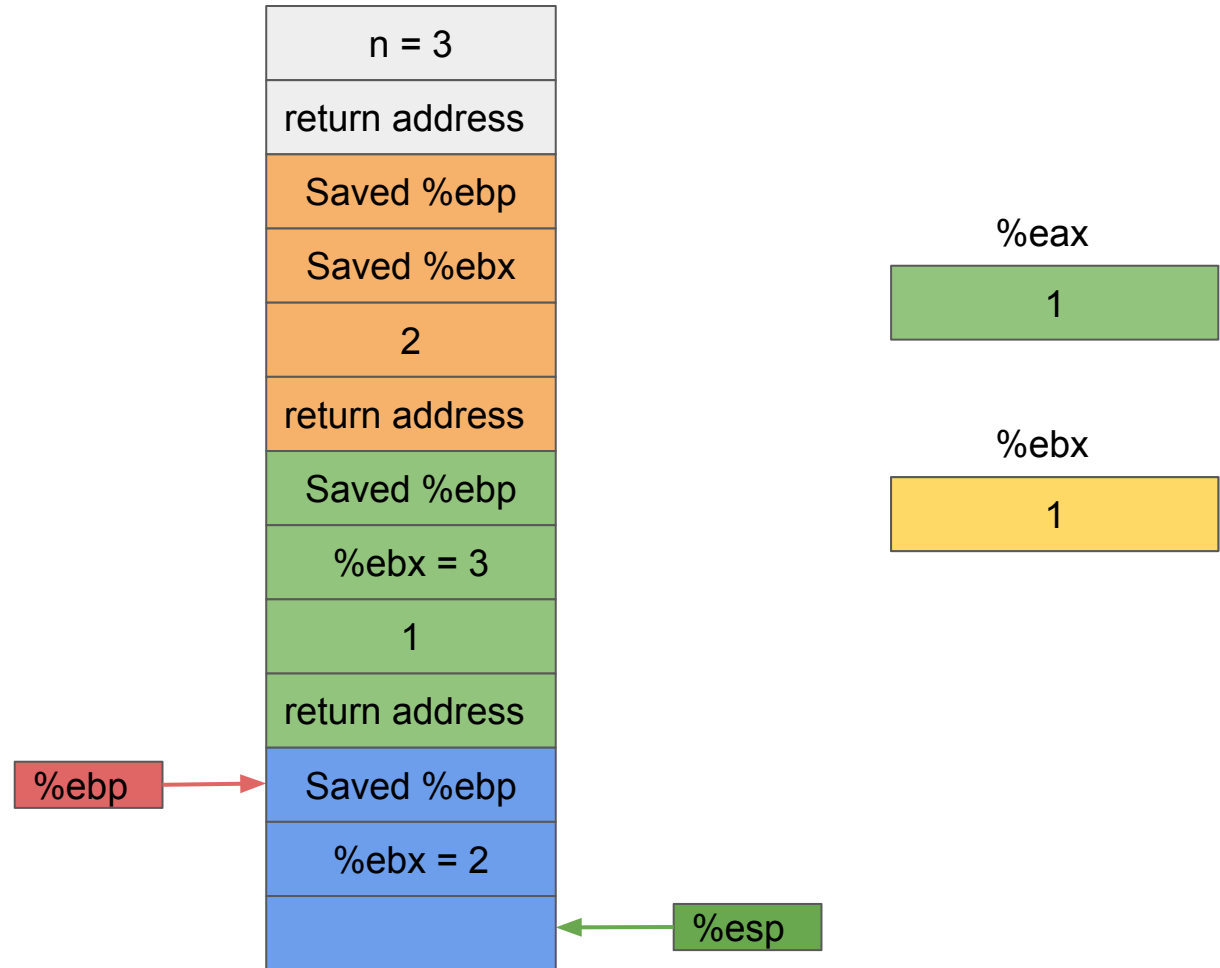


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

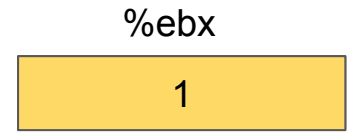
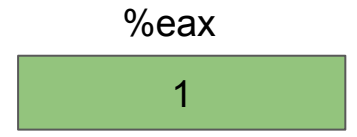
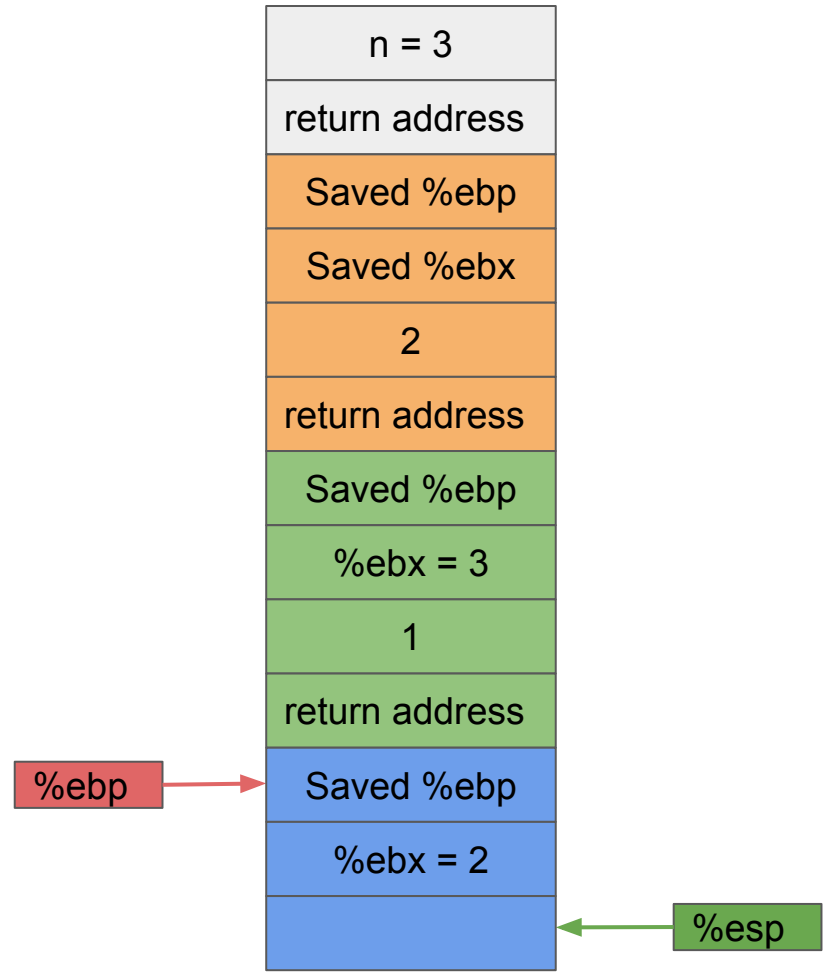


rifact:

```
pushl %ebp
movl %esp, %ebp
pushl %ebx
subl $4, %esp
movl 8(%ebp), %ebx
movl $1, %eax
cmpl $1, %ebx
jle .L53
leal -1(%ebx), %eax
movl %eax, (%esp)
call rifact
imull %ebx, %eax
```

.L53:

```
addl $4, %esp
popl %ebx
popl %ebp
ret
```



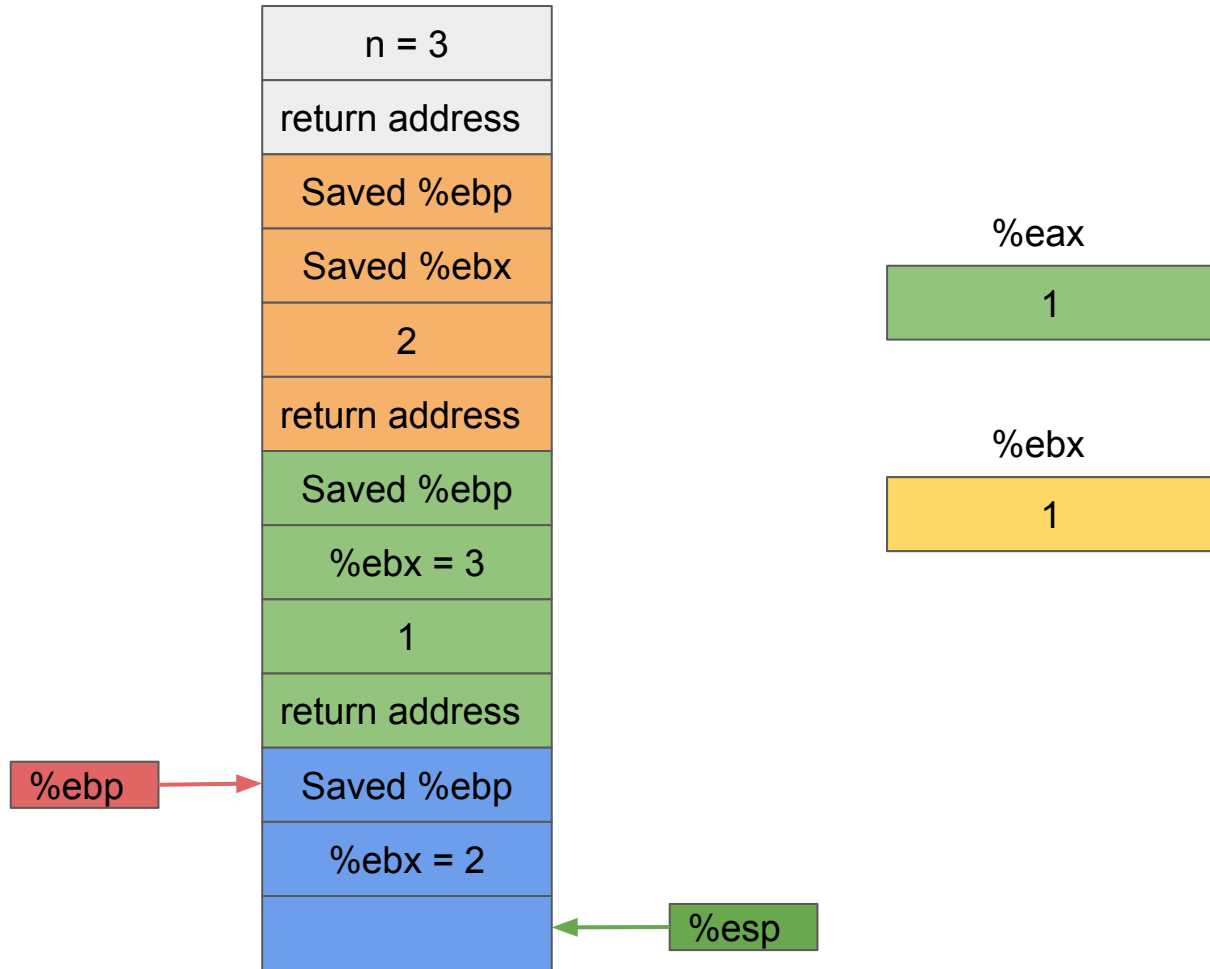
Compare 1 and 1 based on the condition 1 - 1 and update the Control Code Registers!

rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

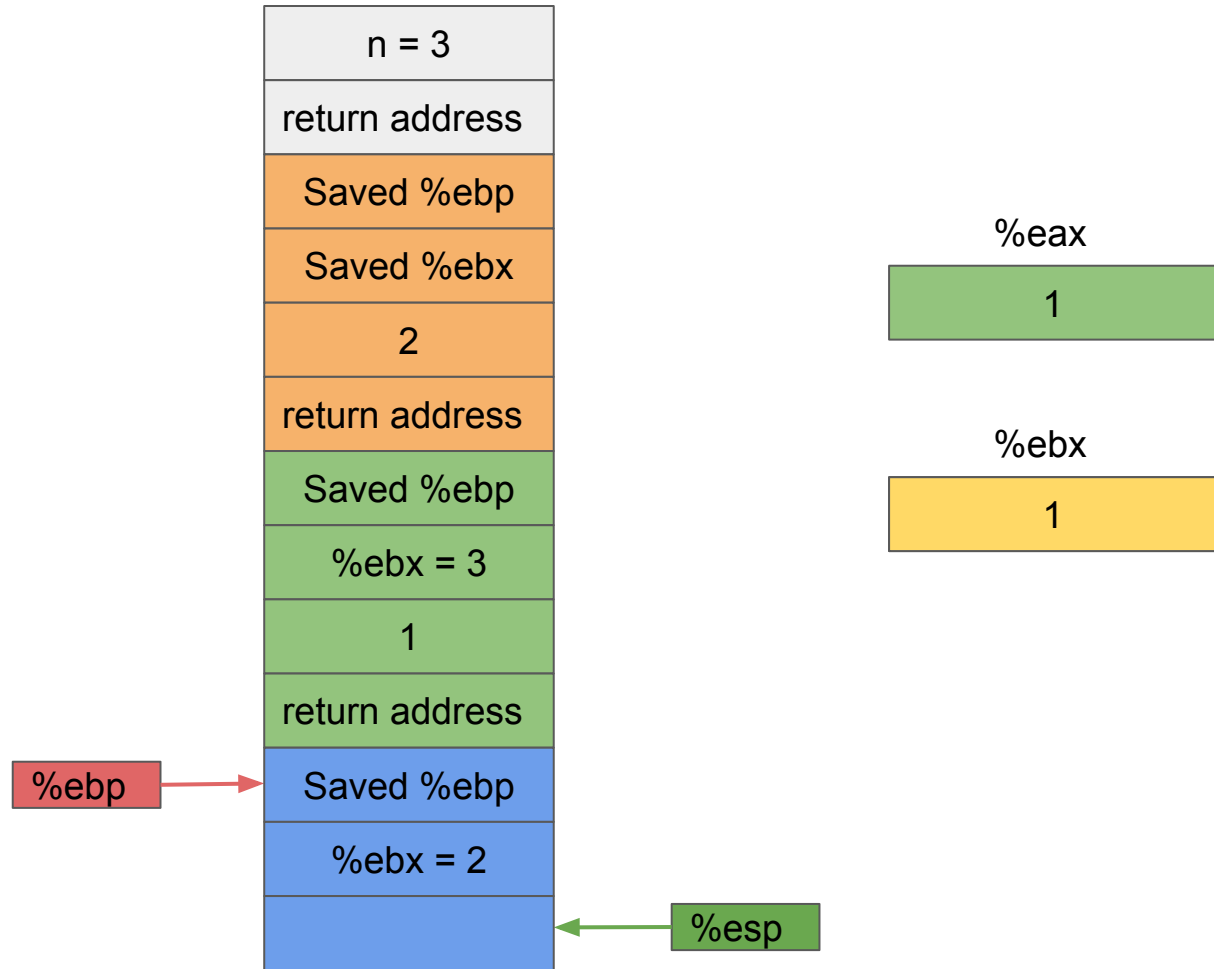
```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



```

rfact:
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
.L53:
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret

```

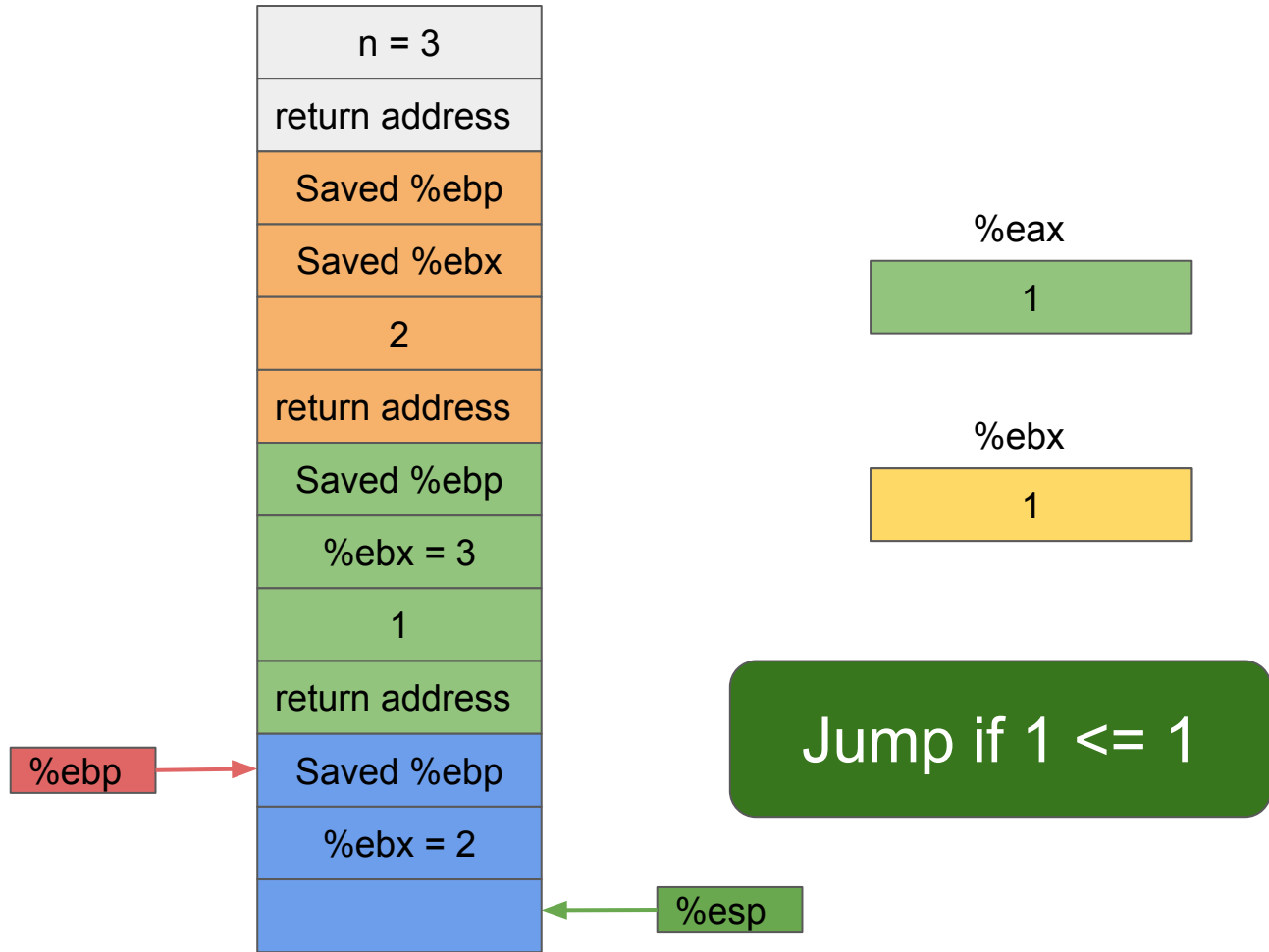


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

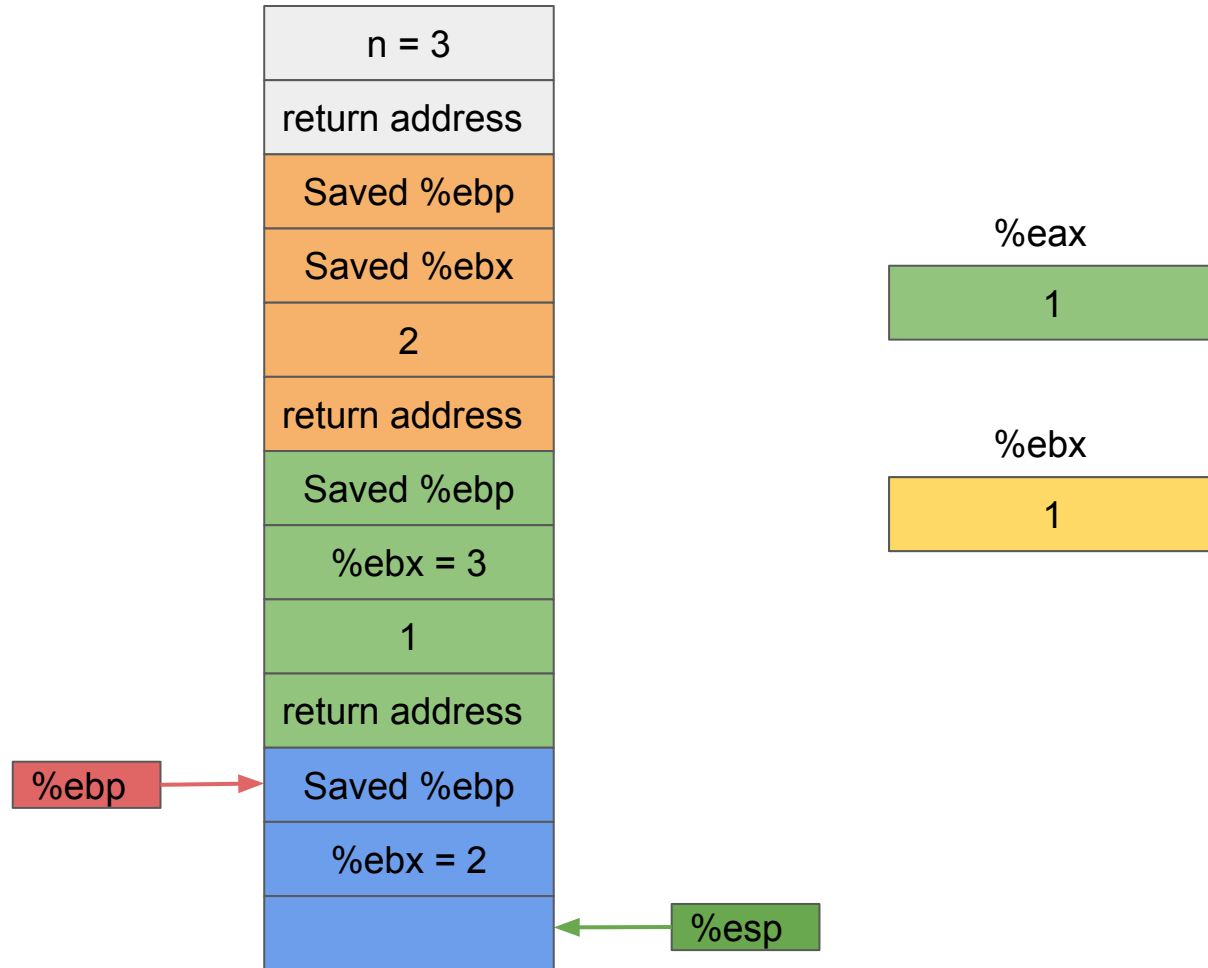


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

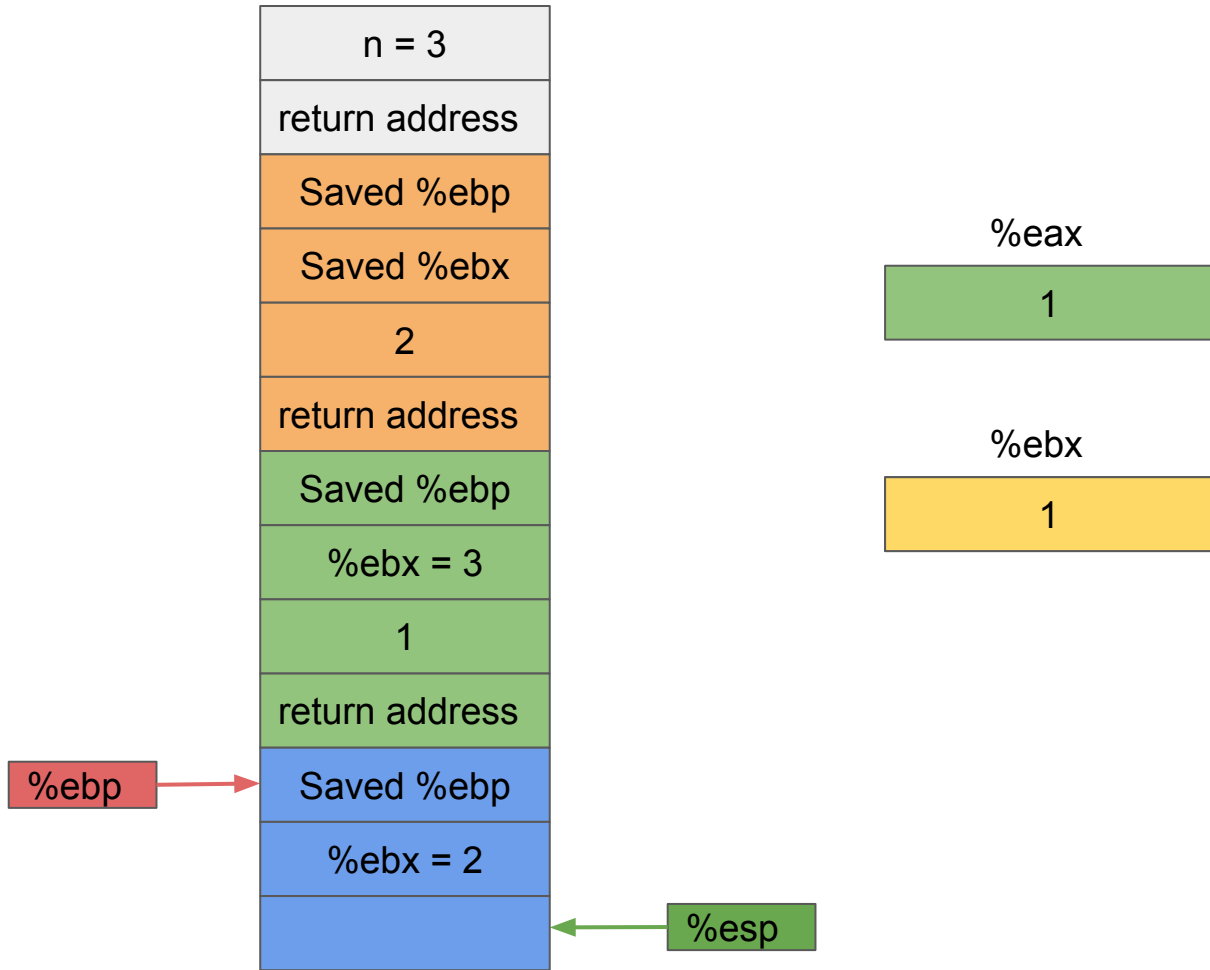


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

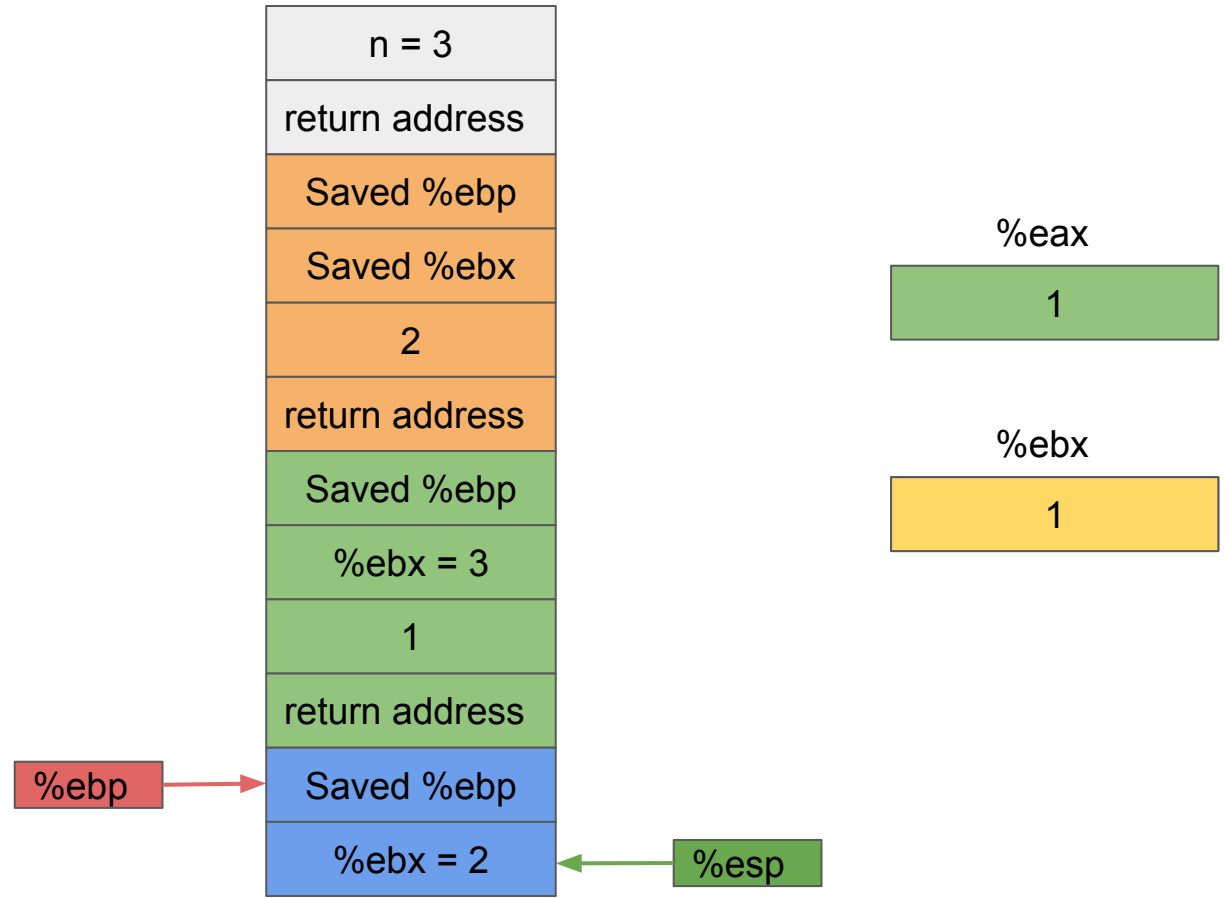


rifact:

```
pushl %ebp
movl %esp, %ebp
pushl %ebx
subl $4, %esp
movl 8(%ebp), %ebx
movl $1, %eax
cmpl $1, %ebx
jle .L53
leal -1(%ebx), %eax
movl %eax, (%esp)
call rifact
imull %ebx, %eax
```

.L53:

```
addl $4, %esp
popl %ebx
popl %ebp
ret
```

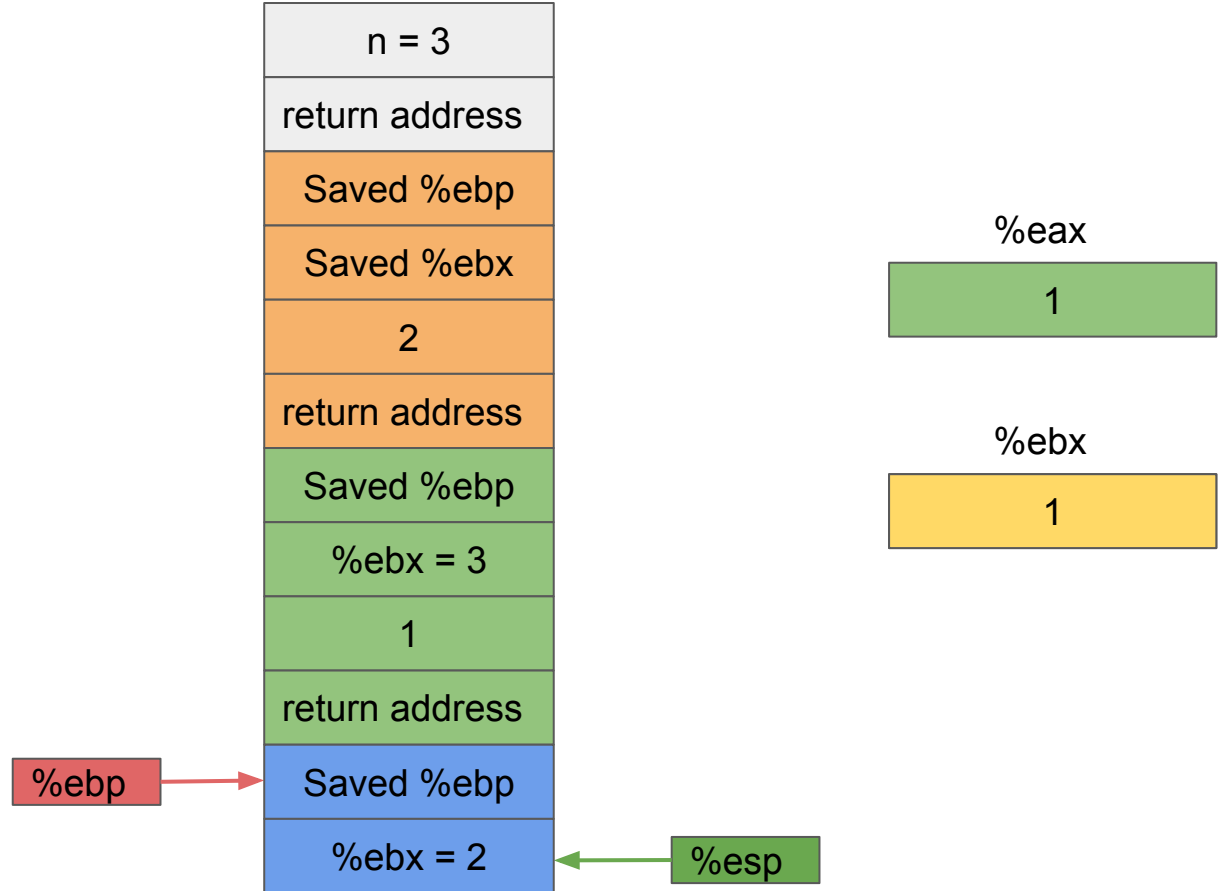


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

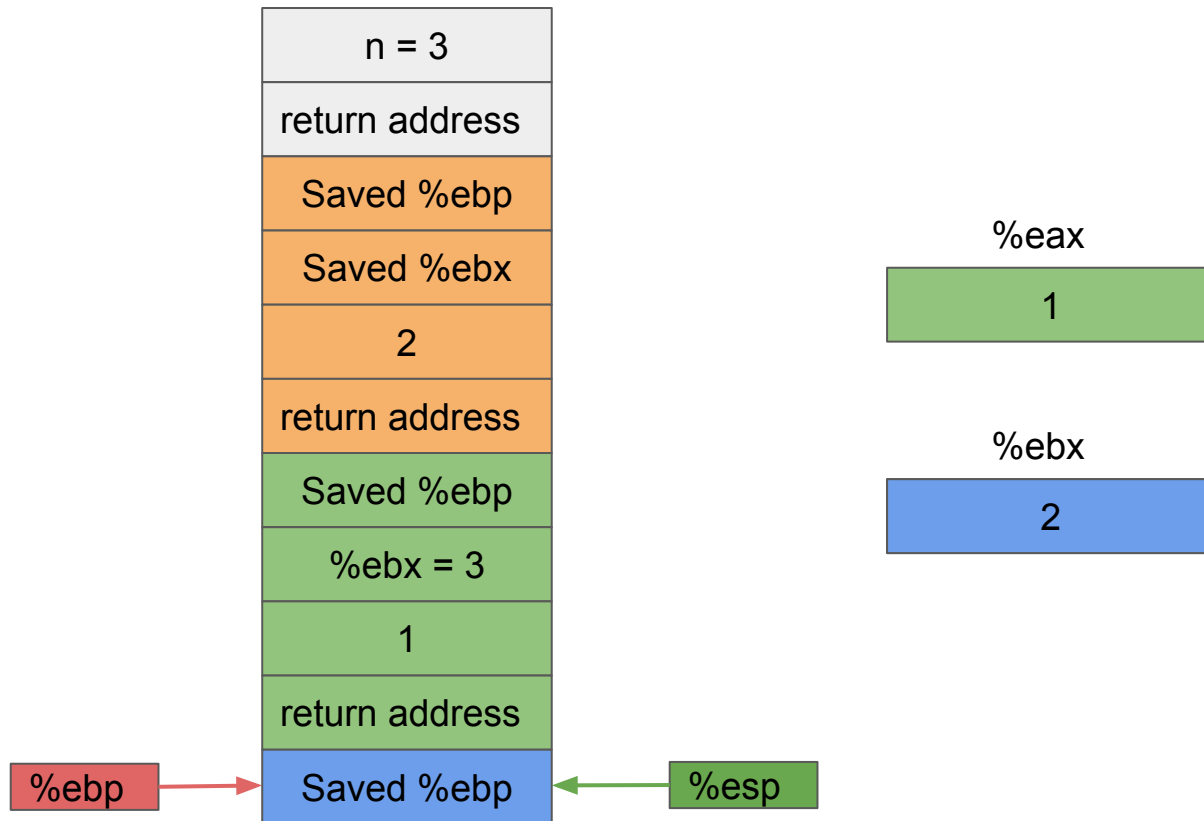


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

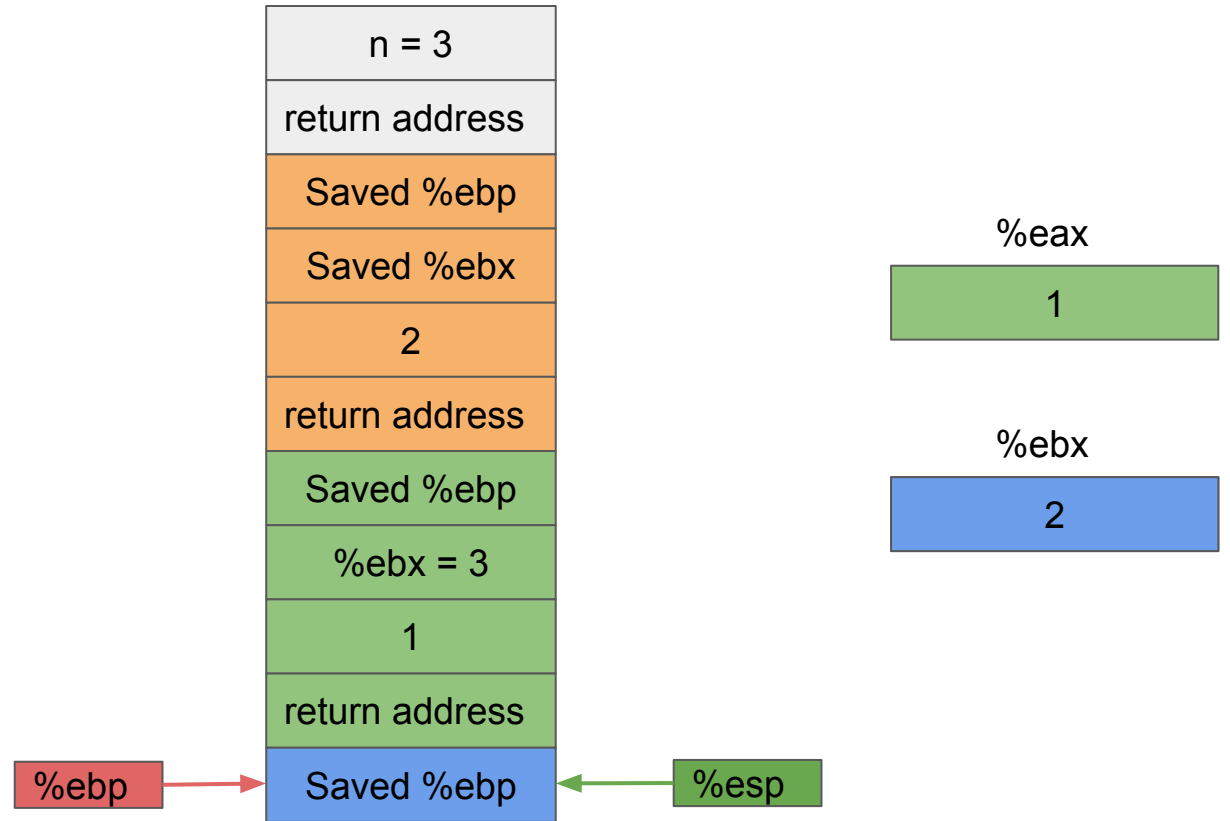


rifact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rifact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

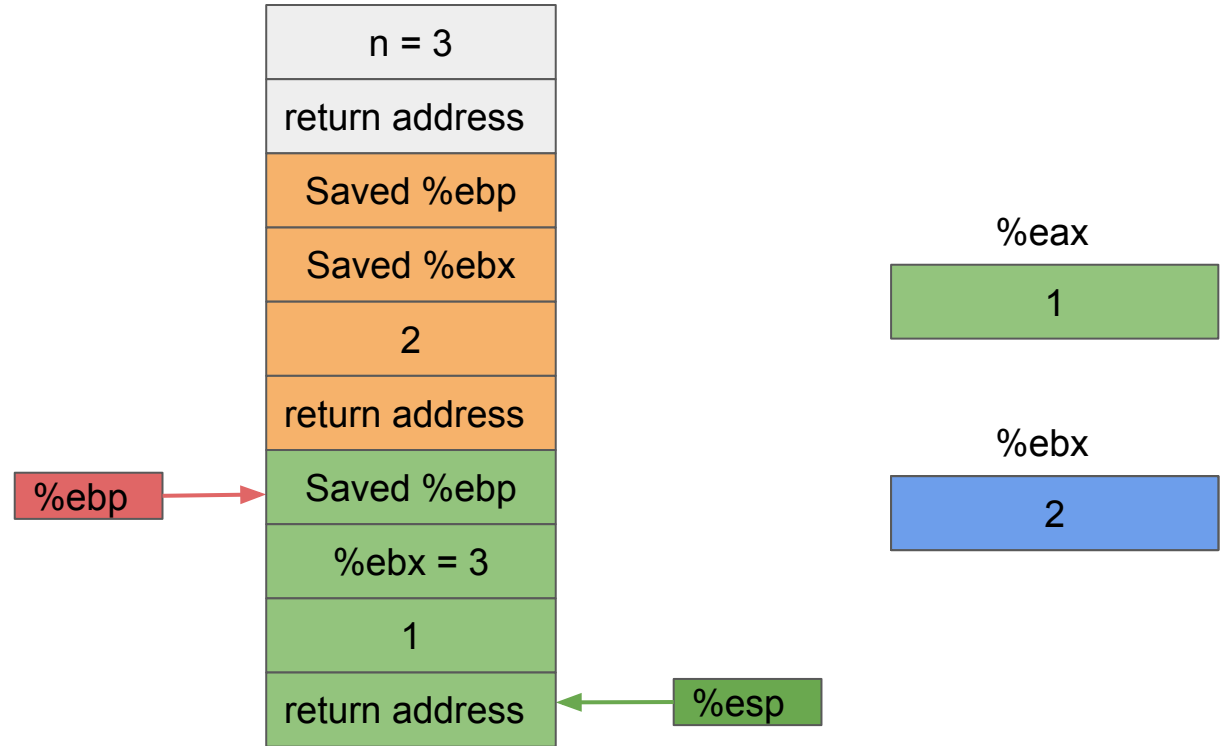


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

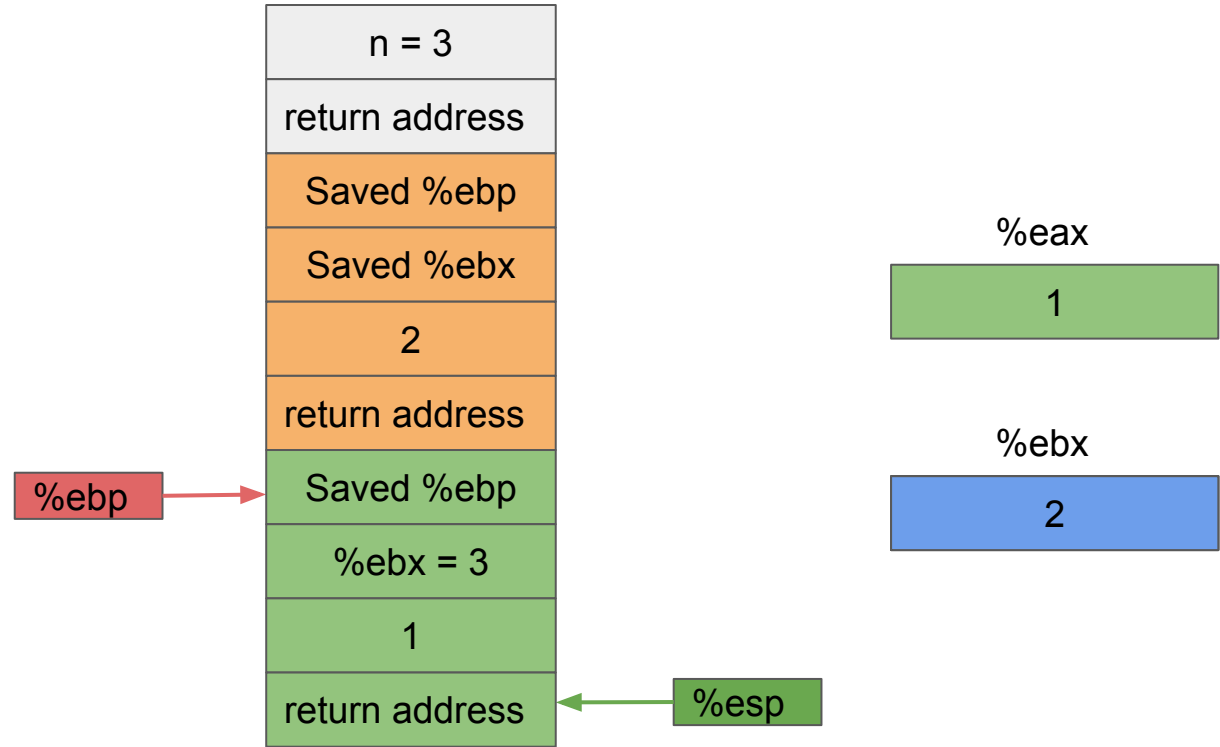


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

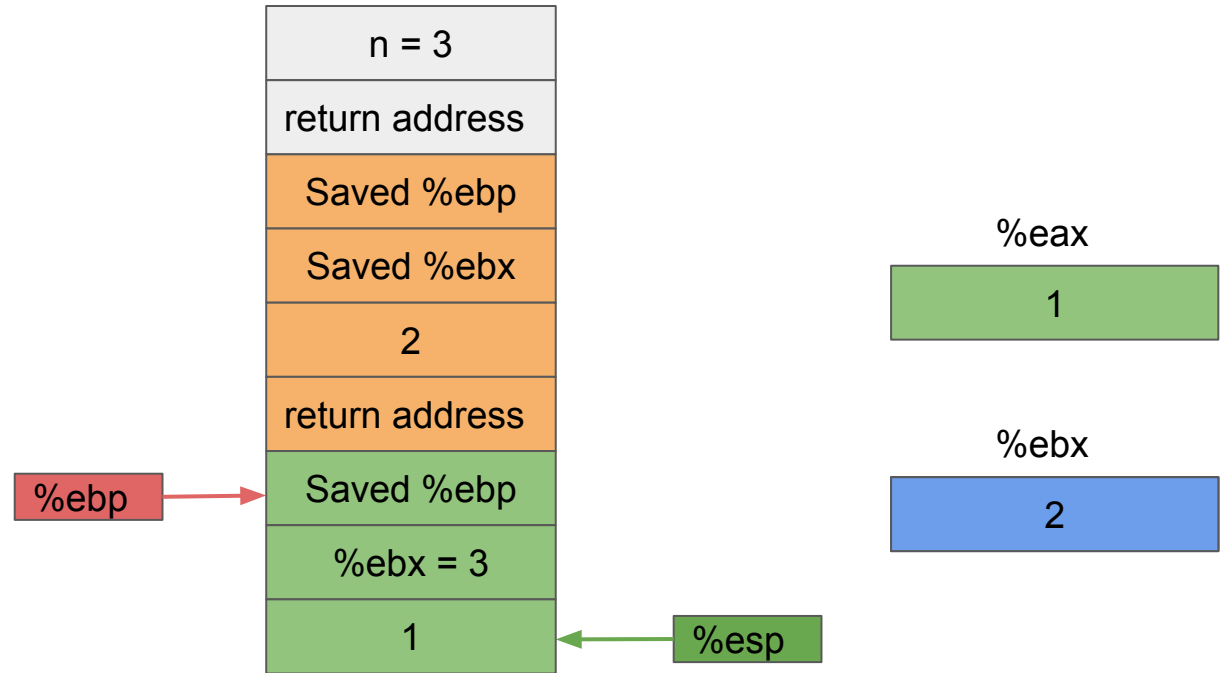


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

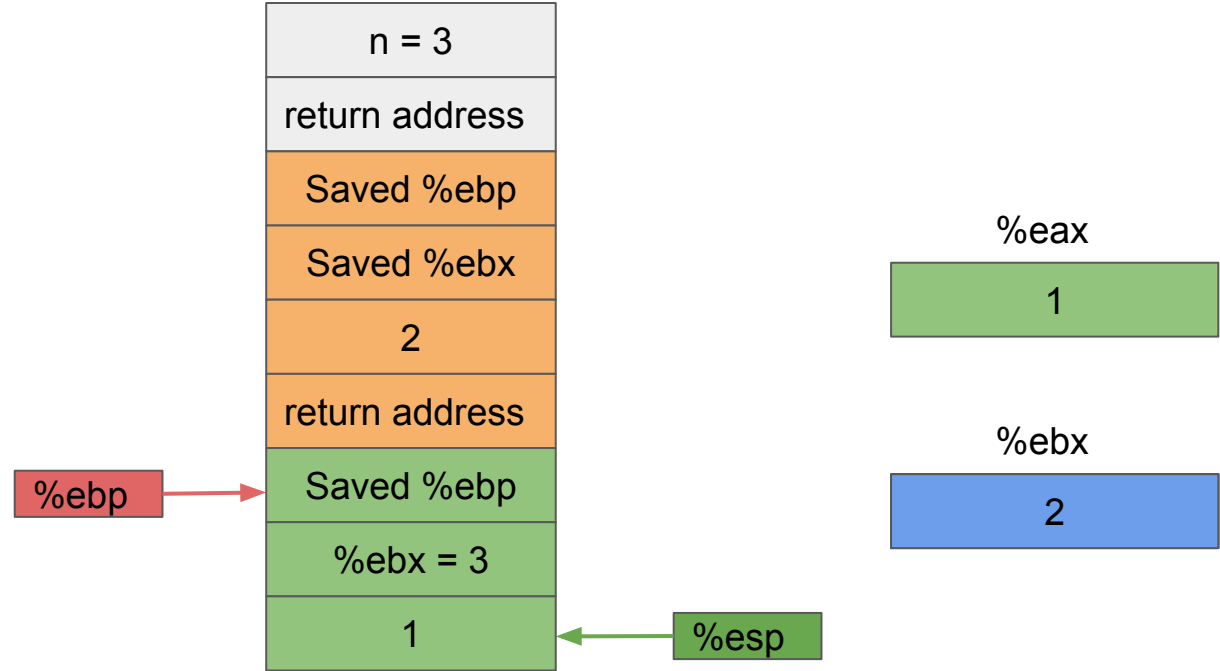


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

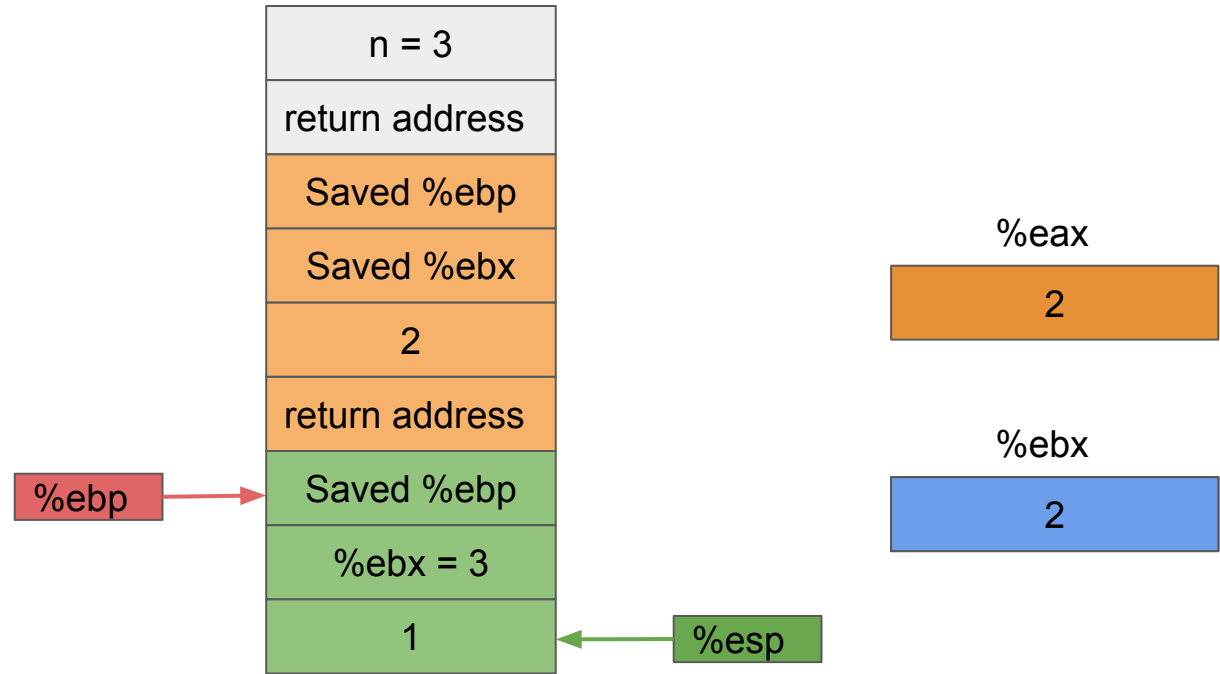


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

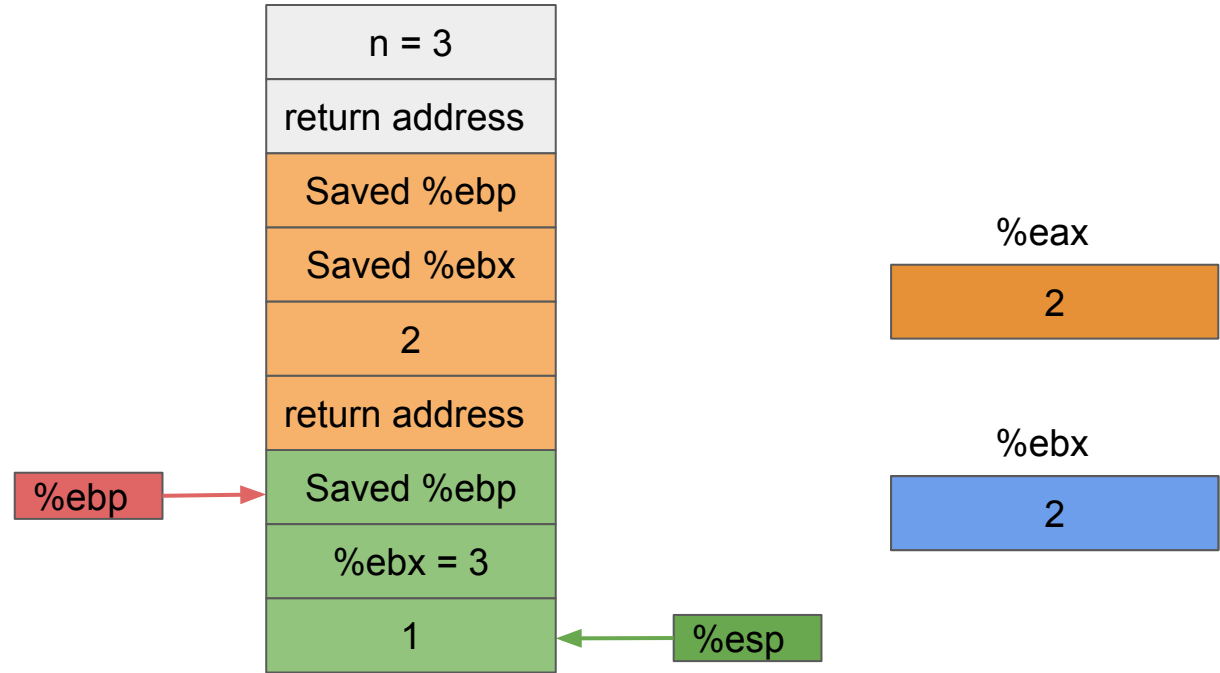


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

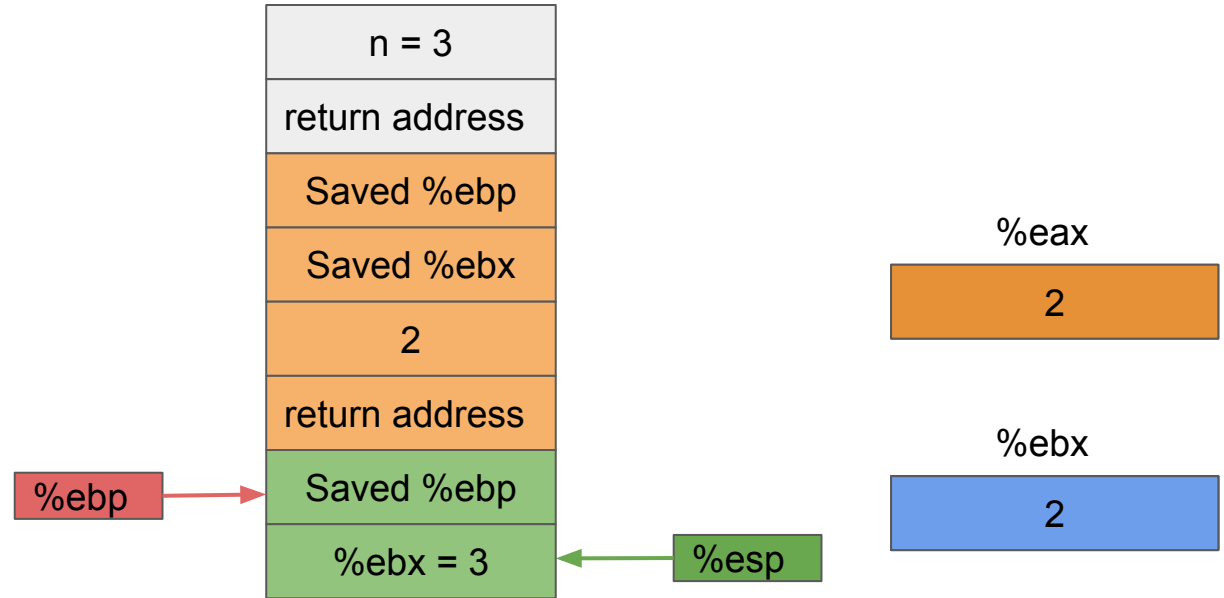


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

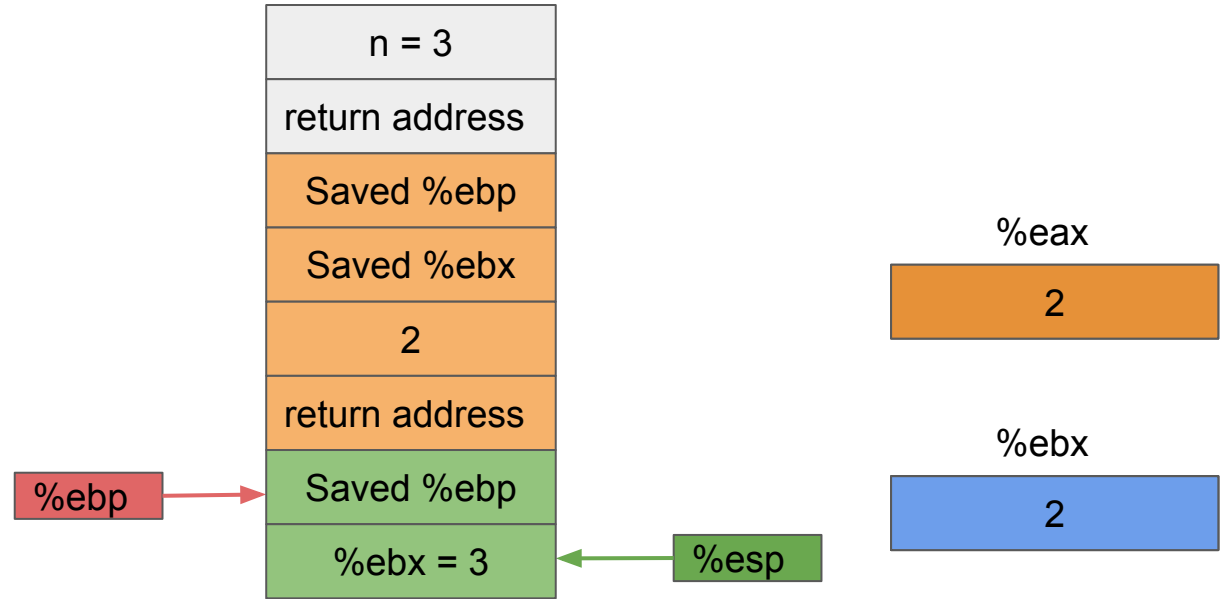


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

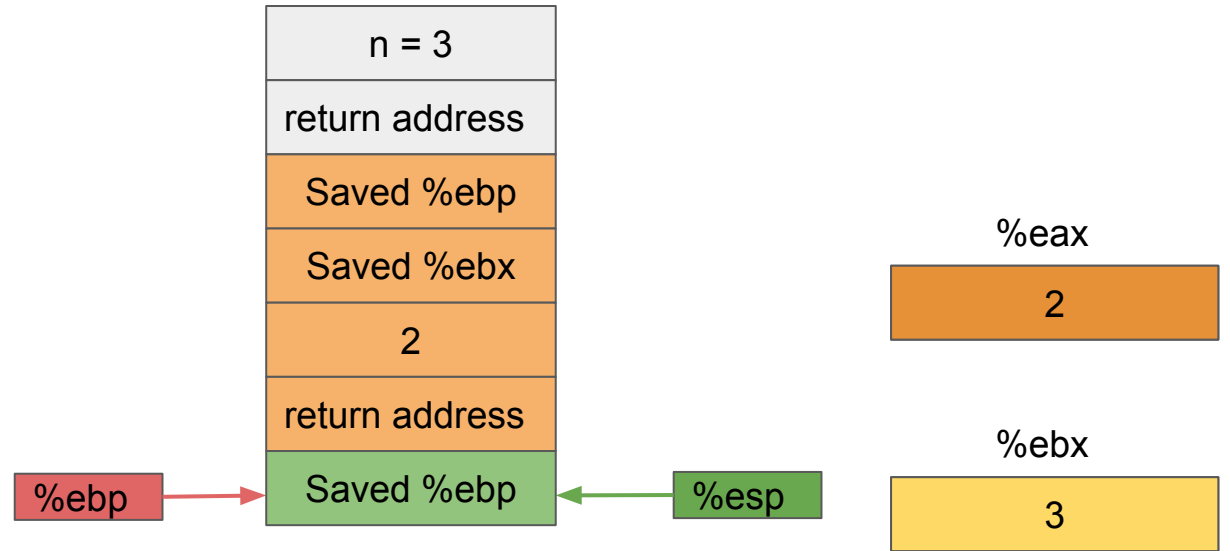


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

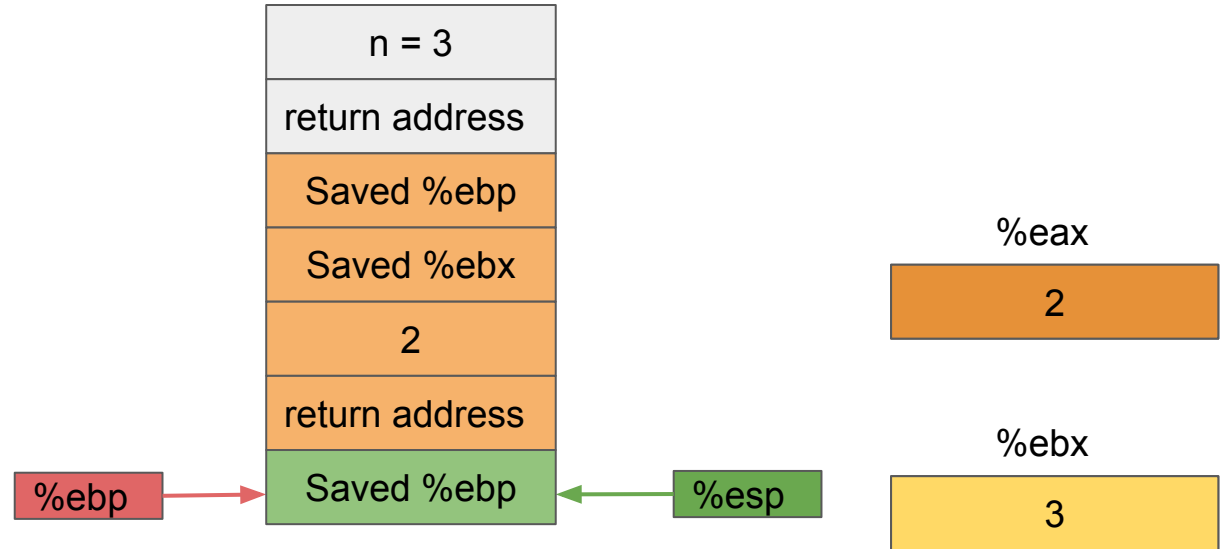


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

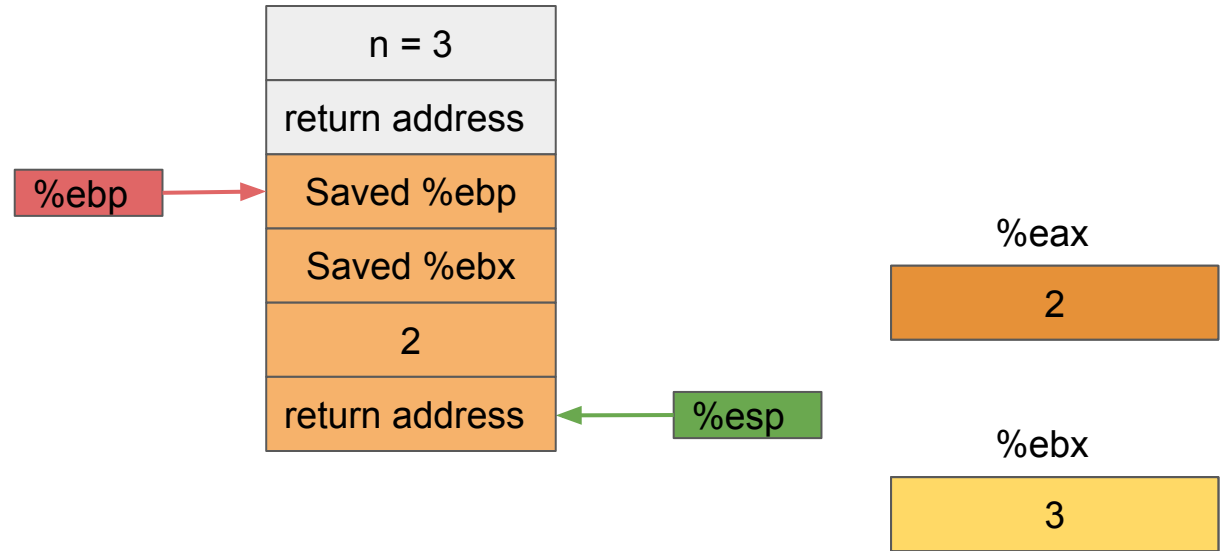


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

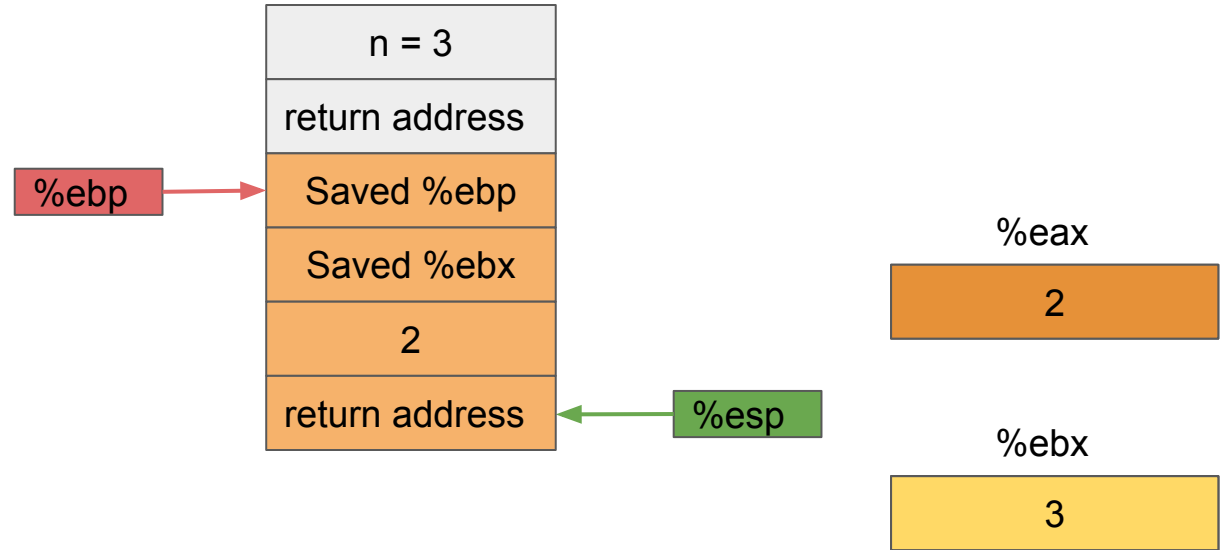


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

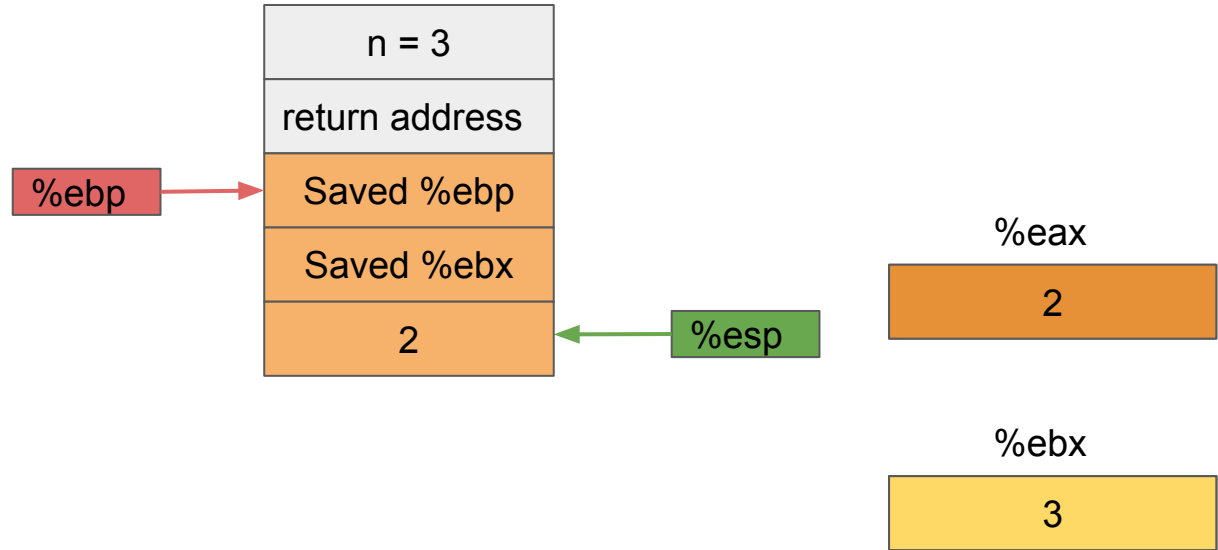


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

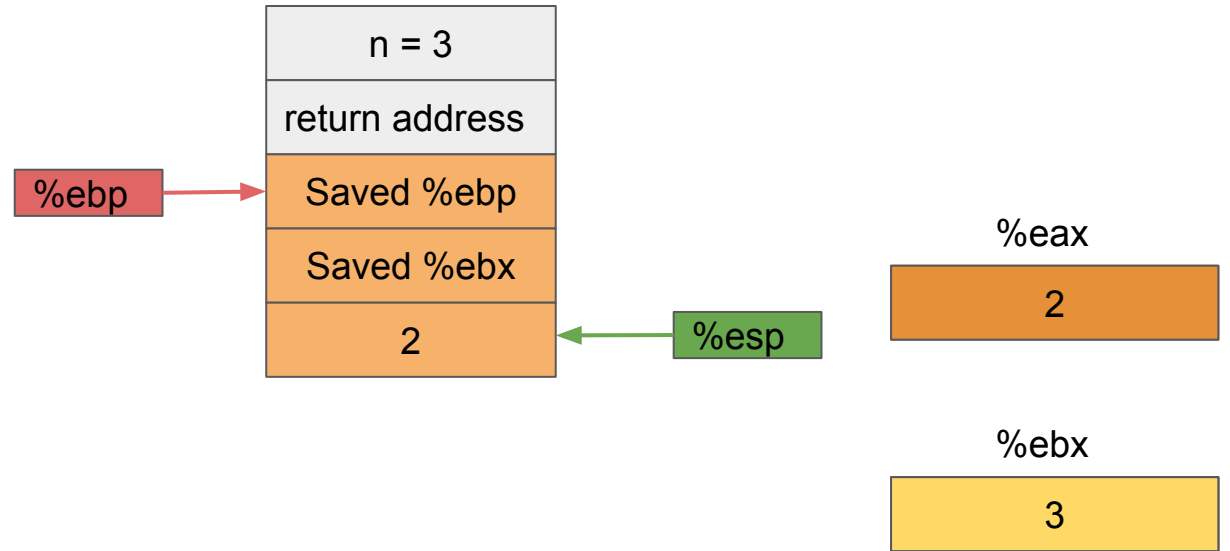


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

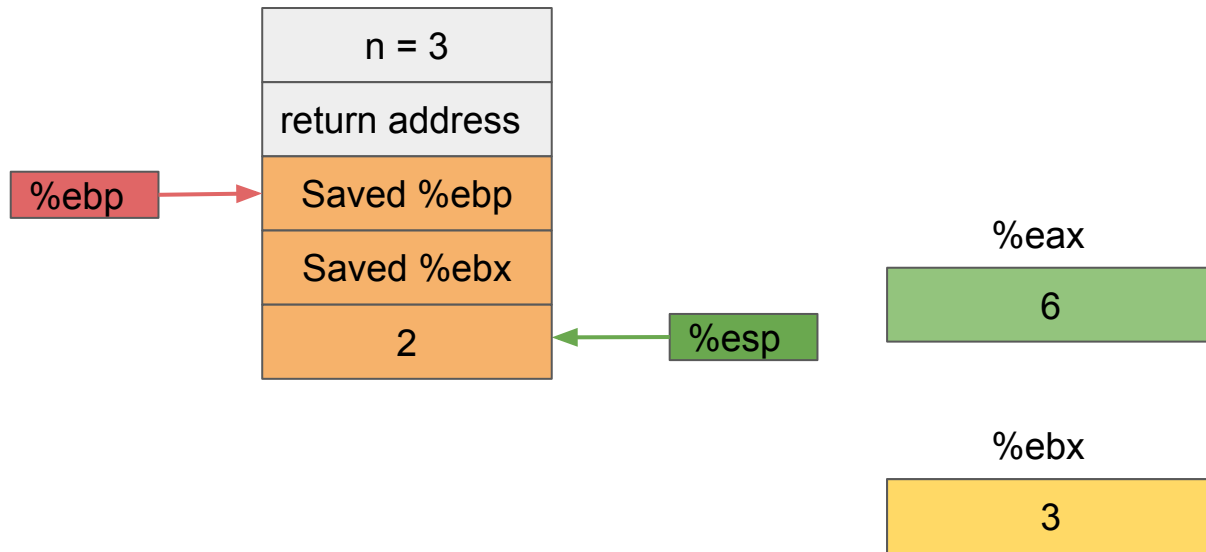


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

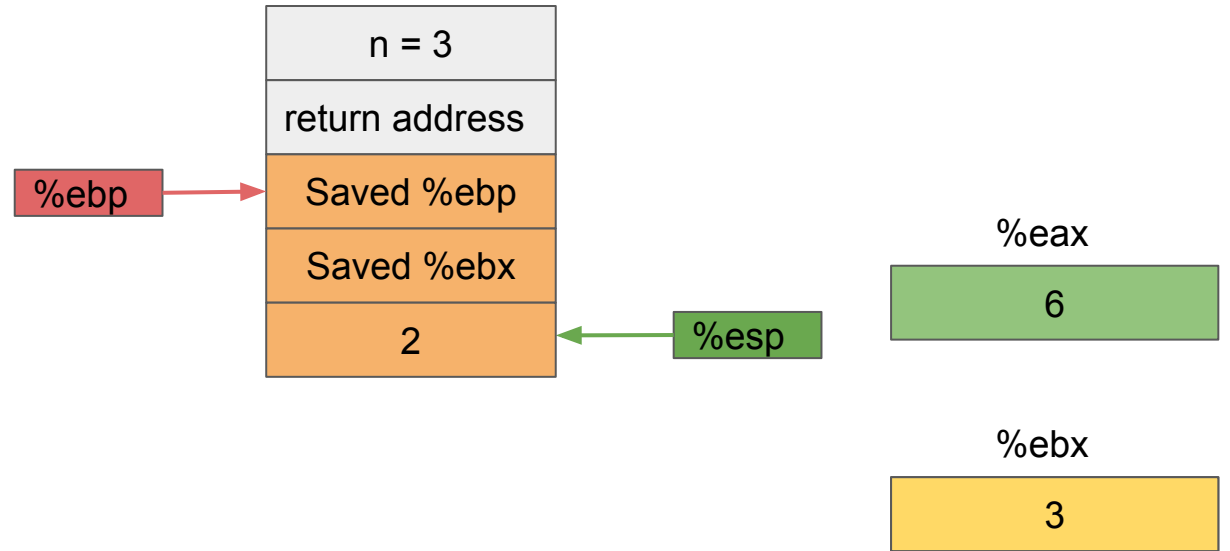


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

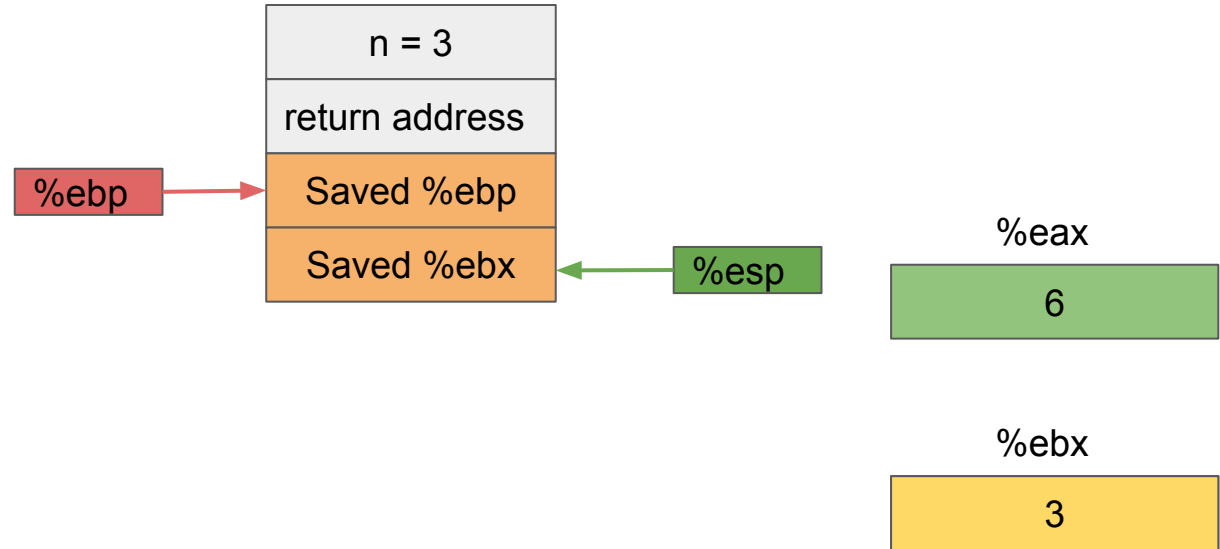


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

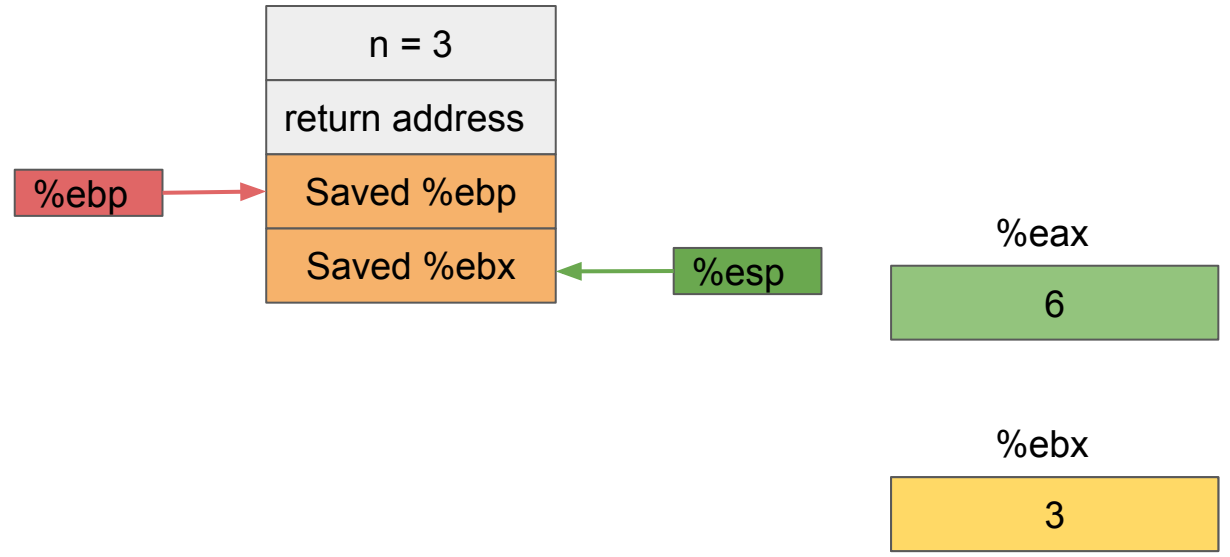


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

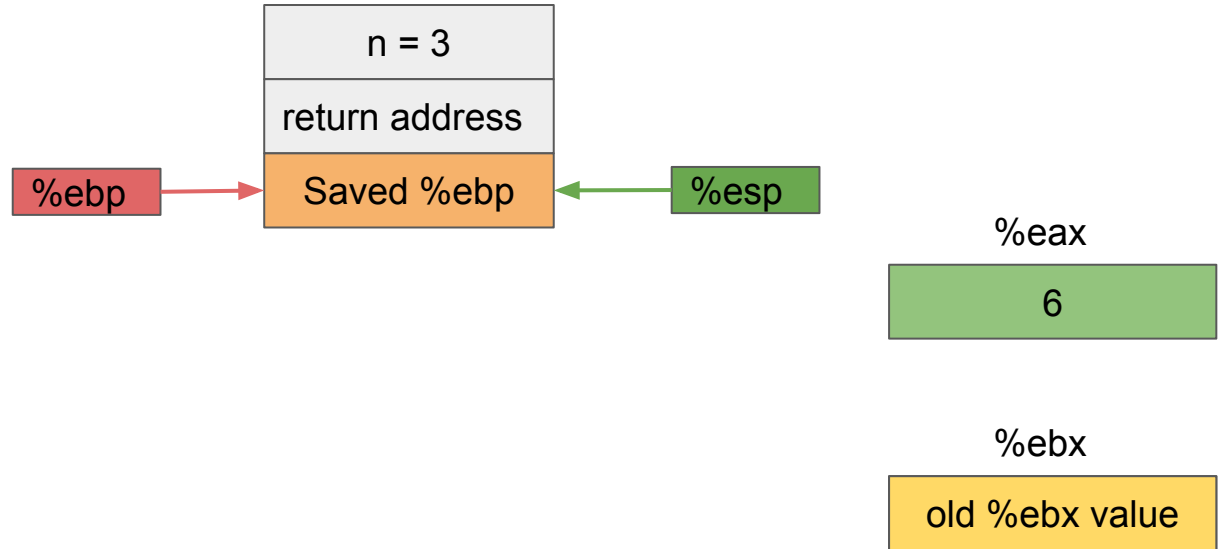


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

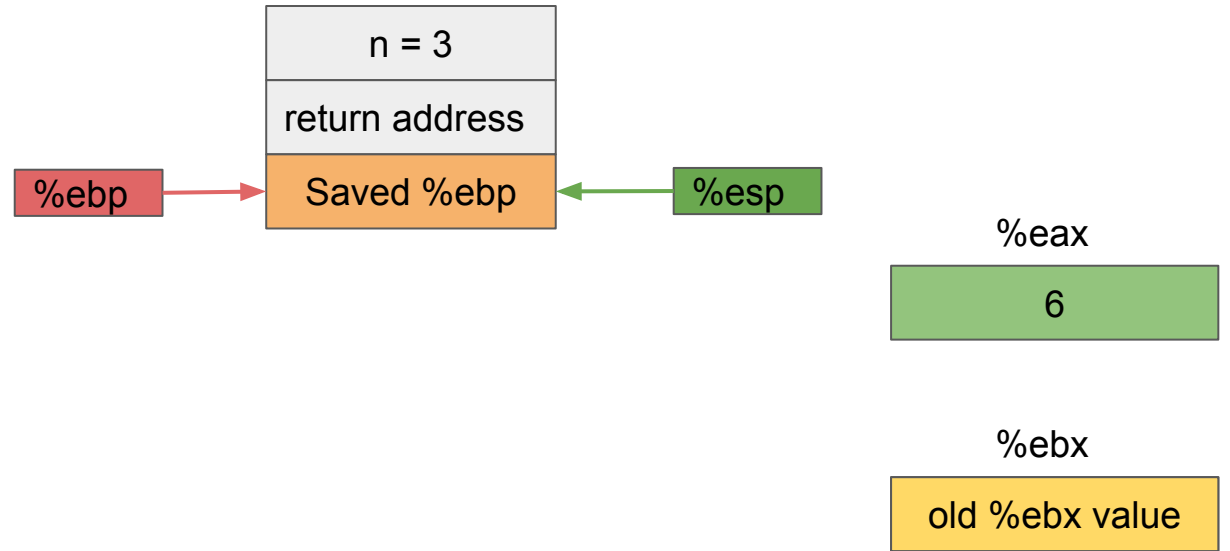


rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



%eax

6

%ebx

old %ebx value

rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



%eax

6

%ebx

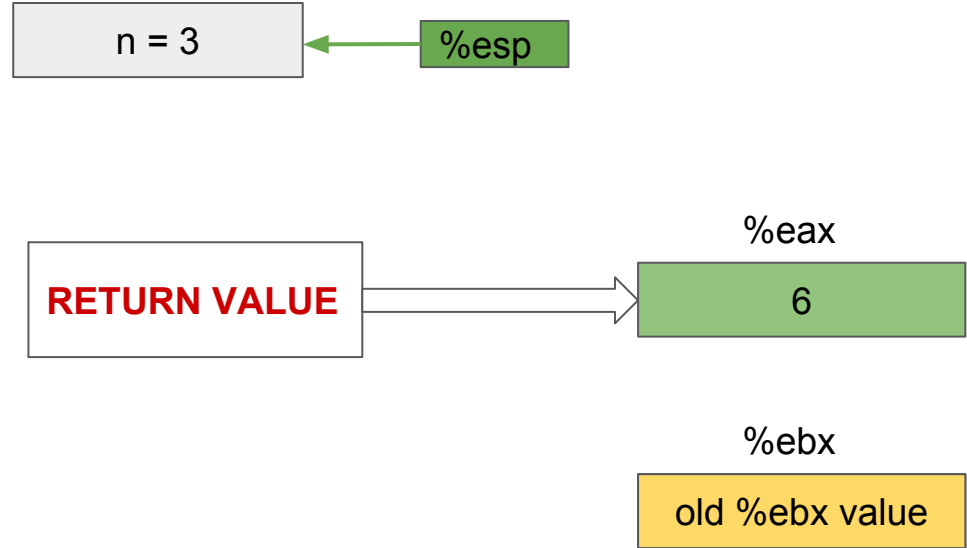
old %ebx value

rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```



rfact:

```
    pushl %ebp
    movl %esp, %ebp
    pushl %ebx
    subl $4, %esp
    movl 8(%ebp), %ebx
    movl $1, %eax
    cmpl $1, %ebx
    jle .L53
    leal -1(%ebx), %eax
    movl %eax, (%esp)
    call rfact
    imull %ebx, %eax
```

.L53:

```
    addl $4, %esp
    popl %ebx
    popl %ebp
    ret
```

