

```
08048500<switchcode>:
8048500:push%ebp
8048501:mov%esp,%ebp
8048503:mov0xc(%ebp),%ecx
8048506:xor%eax,%eax
8048508:mov0x8(%ebp),%edx
804850b:add$0xfffffec,%edx
804850e:cmp      $0x6,%edx
8048511:ja8048540<switchcode+0x40>
8048513:jmp*0x80486e4(,%edx,4)
804851a:lea0x0(%esi),%esi
8048520:mov%ecx,%eax
8048522:imul%ecx,%eax
8048525:jmp8048545<switchcode+0x45>
8048527:lea(%ecx,%ecx,1),%eax
804852a:jmp8048545<switchcode+0x45>
804852c:lea0x0(%esi,1),%esi
8048530:lea0x4(%ecx),%eax
8048533:jmp8048545<switchcode+0x45>
8048535:mov%ecx,%eax
8048 537:neg%eax
8048539:inc%eax
804853a:jmp8048545<switchcode+0x45>
804853c:lea0x0(%esi,1),%esi
8048540:mov$0xf,%eax
8048545:mov%ebp,%esp
8048547:pop%ebp
```

```
8048548:ret
8 048549:lea0x0(%esi),%esi
```

```
(gdb)x/7w0x80486e4
```

```
0x80486e4<_fini+52>:0x08048520
    0x080485270x080485300x08048530
0x80486f4<_fini+68>:0x08048540
    0x080485350x08048539
```

```

intswitchcode(intx,inty)
{
    intresult=0;

    switch(x){
    case20:
        result=y*y;
        break;
    case21:
        result=y*2;
        break;
    case22:
    case23:
        result=y+4;
        break;
    case25:
        result= -y;
        /*FallThrough*/
    case26:
        result++;
        break;
    default:
        result=15;
    }
    returnresult;
}

```

- add\$0xfffffec,%edx ->edx -=20

```
0804858c<recursive>:  
804858c:push%ebp  
804858d:mov%esp,%ebp  
804858f:sub$0x14,%esp  
804859 2:push%ebx  
8048593:mov0x8(%ebp),%edx  
8048596:mov0xc(%ebp),%ebx  
8048599:xor%eax,%eax  
804859b:test$0x1,%dl  
804859e:je80485af<recursive+0x23>  
80485a0:add$0xffffffff8,%esp  
80485 a3:lea0xffffffff(%edx),%eax  
80485a6:push%eax  
80485a7:push%ebx  
80485a8:call804858c<recursive>  
80485ad:add%ebx,%eax  
80485af:mov0xfffffe8(%ebp),%ebx  
80485b2:mov%ebp,%esp  
80485 b4:pop%ebp  
80485b5:ret
```

```

intrecursive(intx,inty)
{
    intresult=0;

    if(x&0x1)
        result=y+recursive(y,x -1);

    returnresult;
}

```

- movinstructionforrecoveryof%ebx(insteadof pop)
- allocationof20bytesofunusedsp aceonstack