

Conditionals

CS 101 - Spring 2018

ENGINEERING FLOWCHART

DOES IT MOVE?

NO

YES

SHOULD IT?

SHOULD IT?

NO

YES

YES

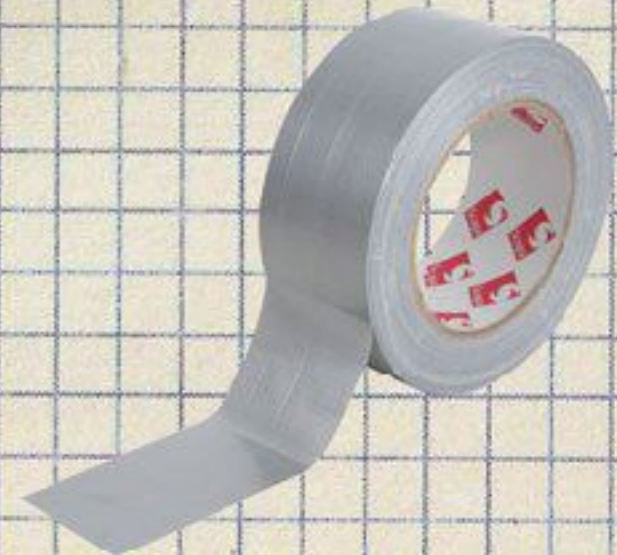
NO

NO

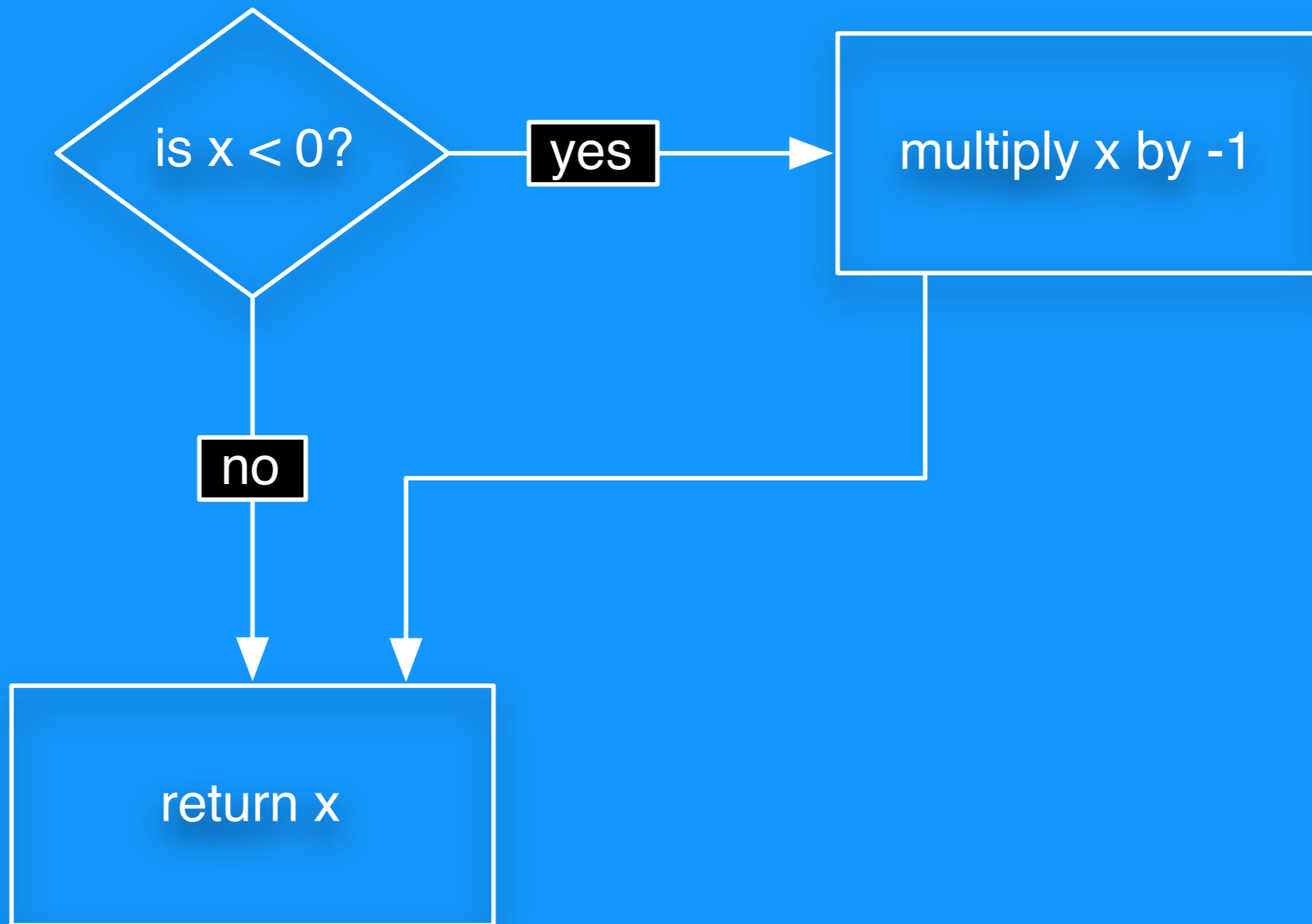
NO

PROBLEM

PROBLEM

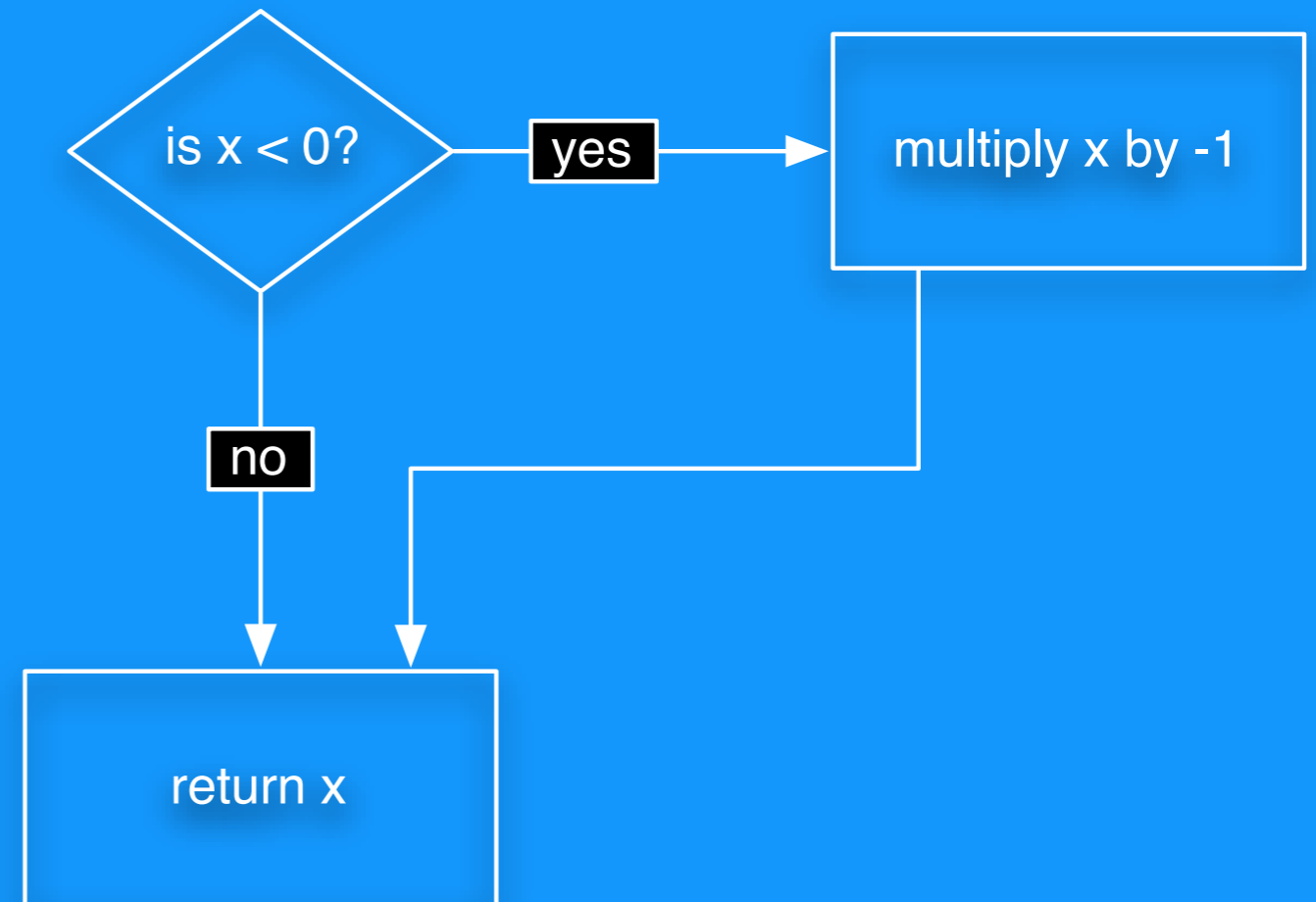


Calculate the absolute value



Calculate the absolute value

```
def absolute(x):  
    if x < 0:  
        x = x * -1  
    return x
```



Basic conditional statement

A condition is any Boolean expression. i.e., it evaluates to either **True** or **False**

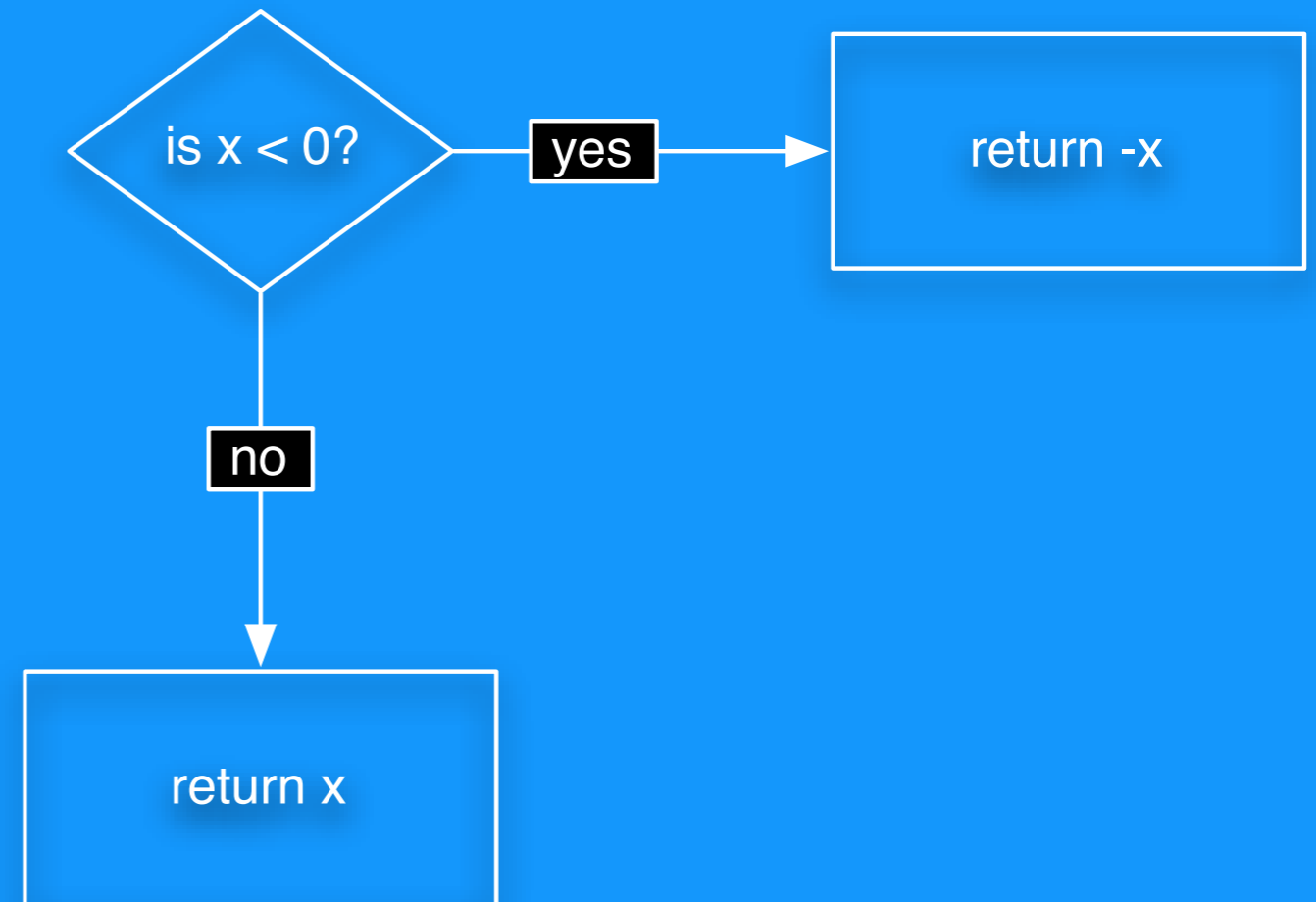
new keyword

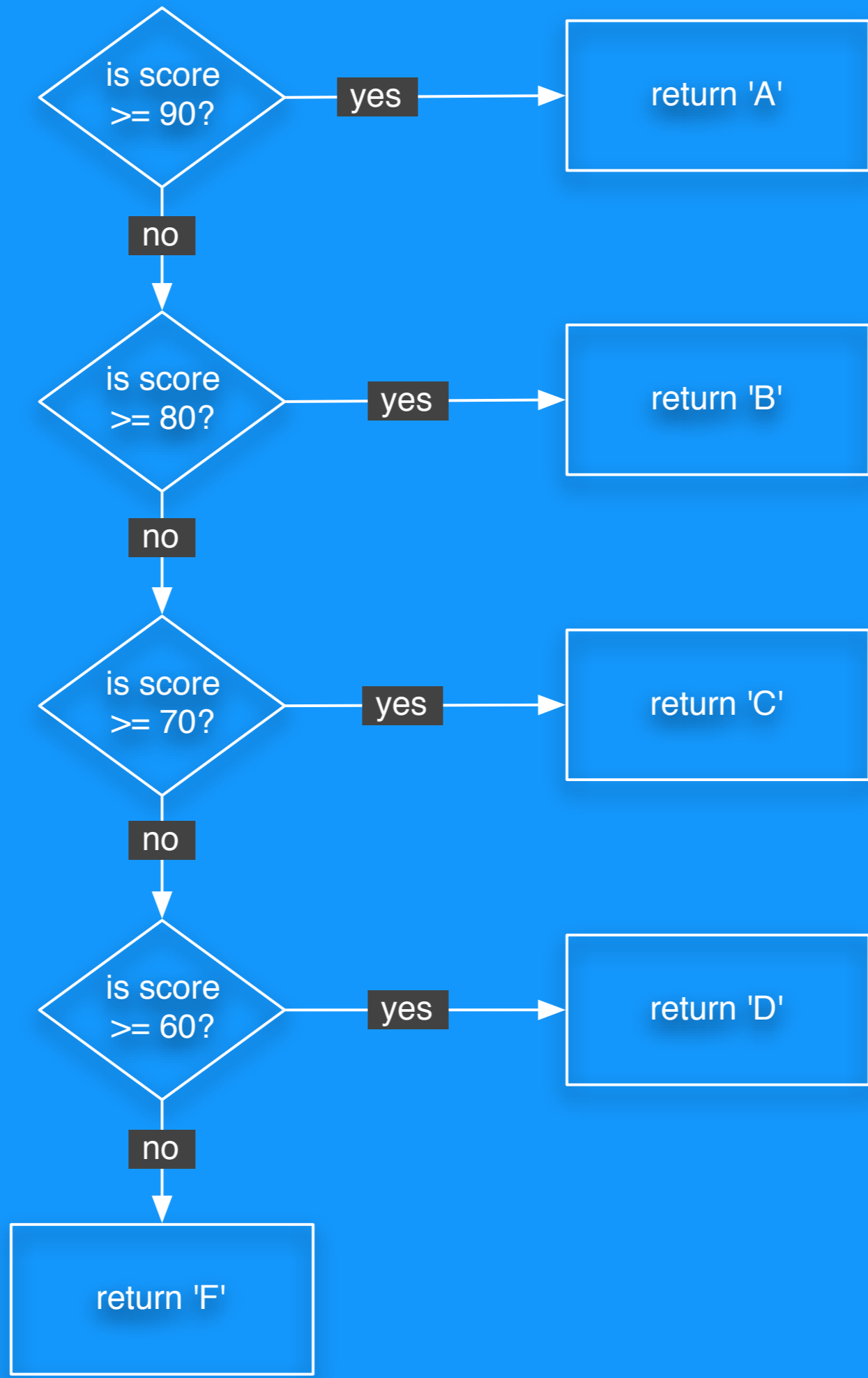
```
if condition:  
    statement  
    statement  
    ...
```

Like functions, conditional statements form **blocks** using colons and indentation. All statements within the block are executed if the condition is true.

Calculate the absolute value v2

```
def absolute(x):  
    if x < 0:  
        return -x  
    else:  
        return x
```





```
def assignGrade(score):  
    if score >= 90:  
        return 'A'  
    else:
```

```
        if score >= 80:  
            return 'B'
```

```
        else:
```

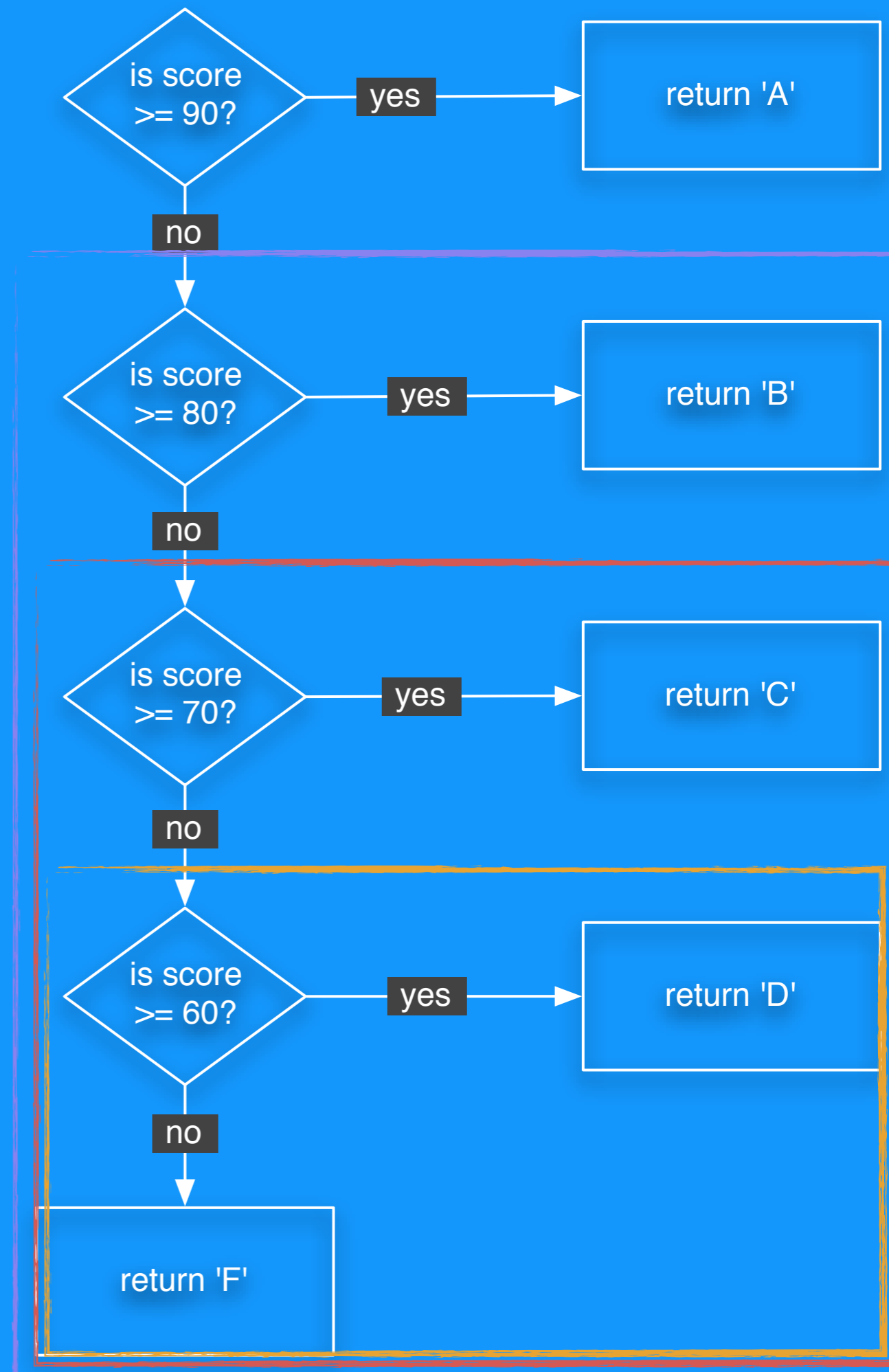
```
            if score >= 70:  
                return 'C'
```

```
            else:
```

```
                if score >= 60:  
                    return 'D'
```

```
                else:
```

```
                    return 'F'
```




```
def assignGrade(score):  
    if score >= 90:  
        return 'A'  
    elif score >= 80:  
        return 'B'  
    elif score >= 70:  
        return 'C'  
    elif score >= 60:  
        return 'D'  
    else:  
        return 'F'
```

elif is just short of 'else if'. it is a way to eliminate excessive indentation of nested conditions

