

# Multiple of 3 and 5

If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23.

Finish the solution so that it returns the sum of all the multiples of 3 or 5 **below** the number passed in.

Additionally, if the number is negative, return 0.

**Note:** If the number is a multiple of **both** 3 and 5, only count it *once*.

***Courtesy of [projecteuler.net](https://projecteuler.net) (Problem 1)***

My Initial idea :

- start with a range of numbers (the number being passed in)
- using if statements to check with % the quotient operator

```
def solution(number):
    sum = 0
    sumset = []
    for n in range(number):
        if n % 3 and n % 5 == 0:
            sumset.append(n)
        if n % 3 == 0:
            sumset.append(n)
        if n % 5 == 0:
            sumset.append(n)
    for i in sumset:
        sum = sum + i
    return(sum)
```

However I found that the check for multiples of 3 and 5 is not implemented correctly

$N \% 5$  will always be true as it follows after the  $n \% 3$ , needs to be separated in a else block

and there are duplicate numbers being added aswell

it would need to be written like this to check the operator

- `if n % 3 == 0 and n % 5 == 0:`

and the redundant conditions means that if a number is shown to be a multiple of 3 and 5 and both 3 and 5, it will add it to the array 3 times

```
def solution(number):  
    sum = 0  
    for n in range(number):  
        if n % 3 == 0 or n % 5 == 0:  
            sum += n  
    return sum
```