

Problem 1. 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. Find the sum of all the multiples of 3 or 5 below 1000.

Programming Knowledge required: How to write loop constructs.

Solution Outline: This problem tests your understanding of *loops* in your respective programming language. Create a variable that holds the final answer, let it be `multiple_sum` and is initialized to 0. Then we write a for/while loop checking if the looping variable is a multiple of 3 or 5. If it is then we increment the `multiple_sum` by looping variable value. Finally `multiple_sum` contains the final answer.

Python Solution

```
1 N = 1000
2 multiple_sum = 0
3
4 for i in range(1, N):
5     if i % 3 == 0 or i % 5 == 0:
6         multiple_sum += i
7
8 print(multiple_sum)
```
