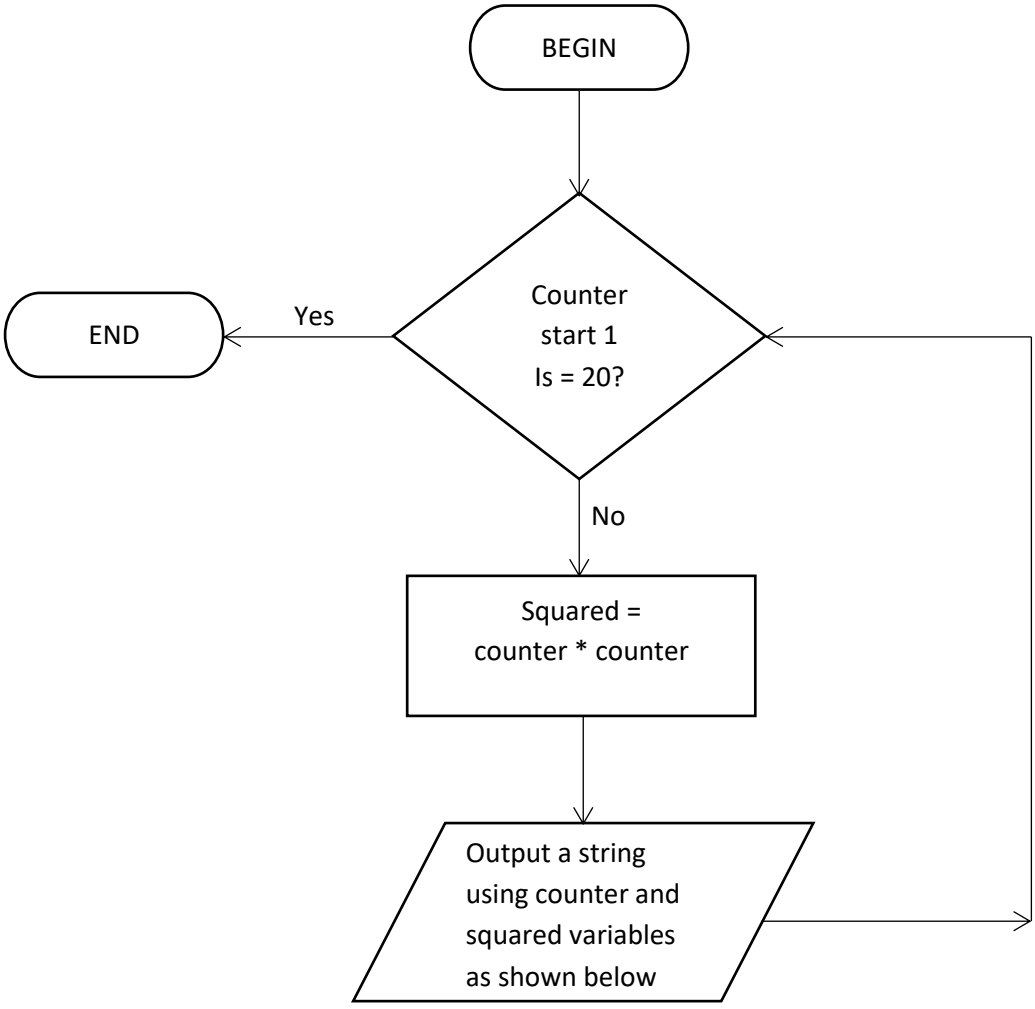
Objective 6: Challenges

You should attempt one difficulty 🛠 challenge, one difficulty 🛠🛠 challenge, and one difficulty 🛠🛠🛠 challenge.

Square numbers challenge

Difficulty: 🛠

Write the program to output all the squares of a number between 1 and 20 as described in the flowchart below.



The output should be:

```
1 squared is 1
2 squared is 4
3 squared is 9
4 squared is 16
```

9 green bottles challenge

Difficulty: 🛠

Write a program that prompts the user to enter the number of bottles. The program outputs:

```
9 green bottles sitting on the wall
8 green bottles sitting on the wall
7 green bottles sitting on the wall
```
etc. etc.

Times table challenge

Difficulty: 🛠

Write a program that asks the user to enter a number between 1 and 12. The program outputs the times table of that number between 1 and 12.

Fibonacci sequence challenge

Difficulty: 🛠🛠

A number in the Fibonacci sequence is generated by adding the previous two numbers. By starting with 0 and 1, the first 10 numbers will be: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55. Write a program to produce the sequence of 20 numbers.

Average calculator challenge

Difficulty: 🛠🛠

Write a program that asks the user to enter how many numbers are to be averaged. The user can then enter the numbers. The program outputs the total and the mean.

FizzBuzz challenge

Difficulty: 🛠🛠🛠

Write a program that outputs the numbers from 1 to 100. But for multiples of three output “Fizz” instead of the number and for the multiples of five output “Buzz”. For numbers which are multiples of both three and five output “FizzBuzz”

Maths test challenge

Difficulty: 🛠🛠🛠

Write a program that could be used in an infant school to prompt a child with ten simple random 1 digit maths additions, e.g. 4+7= The user enters their answer and the computer tells them if they are correct. At the end of the test the program outputs how many problems the child got right.