Assignment 5 -- Prime Factorisation

The aim of this task is to practise the logic of loops and to get a sense of what may happen if we use numbers near the end of the limited range of integer numbers.

a) Write a C++ program that takes a positive number as input, and that outputs all prime factors of this number in their respective multiplicity. Like this:

```
enter the number: 28
28:  2 2 7
```

b) Now extend your program with a loop that encloses the core algorithm. This loop tests a whole interval of numbers for being prime; the limits of the interval are defined by user input.

```
prime test   V-0.92

this program checks an intervall for prime numbers
enter the low bound (>=1): 27
enter the high bound (>=27): 33
27:  3 3 3
28:  2 2 7
29:  prime
30:  2 3 5
31:  prime
32:  2 2 2 2 2
33:  3 11
end prime test
```

c) After you tested your program, try to find out:
 -- the biggest prime number your program can handle
 -- the number with the most factors in it (again: within the numeric range of your compiler).