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### Assignment 1: (Theory)

a. Signed allows for negative values and unsigned does not. Therefore unsigned can have more (positive) values than unsigned. Negative numbers are stored by using signed integers.

b. State the interval of all constructible number types with char, int, long, signed, unsigned.

char = -128 to 127

int = -2,147,483,648 to 2,147,483,647

long = -2,147,483,648 to 2,147,483,647

signed = -128 to 127

unsigned = 0 to 255

c. If we leave this interval:

For listing 1, we never leave this interval (i.e. between 0 to 1000) as c is an int and it is incremented in every loop.

In the case with listing 2, c is an unsigned char. So, its value ranges from 0 to 255. It is decreased in every loop but it will never be less than zero as it is unsigned. So, we will be inside an infinite loop.

Result of listing 1: -24

Result of listing 2: goes to an infinite loop as c is never negative.