Analysis on the problem of "How to order 3 numbers in ascending order?"

Given 3 numbers, for example the ones shown below,

14	8	2
number1	number2	number3

how to put these numbers in ascending order? E.g., re-arrange the numbers such that number1 has value 2, number 2 has value 8, and number 3 has value 14.

First, we can compare the two values of number1 and number2. If number1 has a value that is greater than number2, then we swap the two values; otherwise, no change is needed. In the example above, there is the need to swap number1 and number2's values. The result of this operation is number1 has the smaller of the two values between number1 and number2, and number2 has the larger of the two values between number1 and number2, as shown below:

8	14	2
number1	number2	number3

Then, we compare the values of number1 and number3. If number1 has a value that is greater than number3, then we swap the two values; otherwise no change is needed. In the example here, there is the need to swap number1 and number3's values. The result of this operation is number1 has the smaller of the two values between number1 and number3. Since number1 is smaller than number2 already (from the previous step), we know number1 has the smallest of the three values:

2	14	8
number1	number2	number3

At this point, we still do not know which value is smaller between number2 and number3. Therefore, we should compare these two values, and swap the values if necessary. In the example shown here, there is a need to swap the values of number2 and number3. The result is:

2	8	14
number1	number2	number3

Apply the same ideas to arrange the three input values as shown below:

1. 5 10 2
2. 20 10 5
3. 10 5 2