# CS211: Algorithms & Data structures

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## 1 Laboratory Objectives:

- Familiarisation with pseudocode for a number of simpe problems.

- Being able to identifiy inputs and outputs of a given problem.

## 2 Exercises

The following are 9 simple problems. The first one has been solved in order to help you to solve the rest of the exercises.

1. Find the maximum of three numbers?

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**Algorithm 1:** Finding the maximum number of three numbers

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    **Input**:$a, b$, and $c$, are three numbers
    **Output**: $max$, the maximum number
  1: $max \leftarrow a$
  2: **if** $b > max$ **then**
  3:    $max \leftarrow b$
  4: **end if**
  5: **if** $c > max$ **then**
  6:    $max \leftarrow c$
  7: **end if**
  8: **return** $max$

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2. Find the maximum number in an array?

3. Write a pseudocode to find out whether a given number is even or odd?

4. Wrtite a pseudocode to find odd and even numbers of first $n$ ?

5. Write a pseudocode to find out whether a given number is prime or not?

6. Write an algorithm to calculate the factorial of a number?

7. Write a pseudocode to calculate the power of a number?

8. Write a pseudocode to compute the sum of numbers?

9. Write a pseudocode to find the average of a given set of numbers?