Lab3 Control Statements: Part I

Objectivities:
1. Basic problem-solving techniques.
2. To develop algorithm through the process of top-down, stepwise refinement.
3. Counter-controlled repetition and sentinel-controlled repetition.
4. To use the if and if...else selection statements to choose among alternative actions.
5. To use the while repetition statement to execute statements in a program repeatedly.

Experiment

- **Ex1、Problem**
(P142) 4.17 The process of finding the largest number (i.e., the maximum of a group of numbers) is used frequently in computer applications. For example, a program that determines the winner of a sales contest inputs the number of units sold by each salesperson. The salesperson who sells the most units wins the contest.

Your program should use three variables, as follows:
- **counter**: A counter to count to 10 (i.e., to keep track of how many numbers have been input and to determine when all 10 numbers have been processed).
- **number**: The current number input to the program.
- **largest**: The largest number found so far.

✓ Content and Requirement:
1. Write a pseudocode program.
2. Write a C++ program
   a) To input 10 numbers from keyboard by the user.
   b) To use a while and if statement to determine the largest number.
   c) To print the largest number.
3. Execute the program.

- **Ex2、Problem**
(P145) 4.26 A Palindrome is a number or text phrase that reads the dame backward as forward. For example, each of the following five-digit integers is a palindrome: 12321, 55555, 45554 and 11611.

✓ Content and Requirement:
1. Write a C++ program
   a) To reads in a five-digit integer.
   b) To use a while and if...else statement to determine whether it is a palindrome.
   c) To Output “the five-digit integers is a palindrome!” or “It is not a palindrome!”.
2. Execute the program.

✓ Hint:
Use the division and modulus operators to separate the number into its individual digits.