

The American University in Cairo
Computer Science & Engineering Department
CSCE 1001 – Fundamentals of Computer Science

Lab Session 6	Programming of One-way Selections
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Objectives:

- To become familiar with the control structures: sequence and selection.
- To learn how to compare numbers, characters, and strings.
- To learn how to use the relational and logical operators to write expressions that are type bool.
- To learn how to write one-way and two-way selection statements.
- To learn how to implement decisions in algorithms using the if statement.

Problems:

Write a C++ program or each of the following problems:

1. Draw a Flow chart and write a program in C++ that reads three scores of a student in three tests to compute and display the largest score.
2. Draw a Flow chart and write a program in C++ that reads three scores of a student in three tests to compute and display the smallest score.
3. Draw a Flow chart and write a program in C++ that reads three scores of a student in three tests to compute and display the smallest and largest scores.
4. Draw a Flow chart and write a program in C++ that reads three scores of a student in three tests to compute and display the sum of the best-two scores.
5. Community Hospital needs a program to compute and print a statement for each patient. Charges for each day are as follows:
 - a) Room charges: private room, \$125.00; semiprivate room, \$95.00; or ward, \$75.00
 - b) Telephone charge: \$1.75
 - c) Television charge: \$3.50

Write a program to get one string of four characters from the keyboard, the first character is an integer value indicating the number of days spent in the hospital, and the others are three alphabet characters. Typical input is: **SPNY**

where **5** indicates the number of days spent in the hospital, **P** represents the room type (**P**, **S**, or **W**), **N** represents the telephone option (**Y** or **N**), and **Y** represents the television option (**Y** or **N**).

Instructions:

- The TA solves problems 1 (**20 minutes**)
- The TA asks students to solve and **submit in-Lab** problem 2 & 3 (**30 minutes**)
- The TA can give a hint how to use the string method **s.at(index)** which is required to solve problem 5.
- The TA asks students to solve problem 4 & 5 and **submit before the next Lab session**.