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FACULTY OF ENGINEERING & TECHNOLOGY

CSPS103: Object Oriented Programming

Lecture-07

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OBJECTIVES

In this lecture, you will learn to:

- **Control Structures**
  - **if...else if...else Statement**
  - **Nested if Statement**
- **Switch**
- **Switch Example**

IF...ELSE IF...ELSE STATEMENT

An if statement can be followed by an optional else if...else statement, which is very useful to test various conditions using single if...else if statement.

The Syntax is shown as:

```
if(condition 1){
// Executes when the condition 1 is true
}
else if(condition 2){
// Executes when the condition 2 is true
}
else if(condition 3){
// Executes when the condition 3 is true
}
else {
// executes when the none of the above condition is true.
}
```

NESTED IF STATEMENT

It is always legal to nest if-else statements, which means you can use one if or else if statement inside another if or else if statement(s).

The syntax for a nested if statement is as follows:


```
if( condition 1){
// Executes when the condition 1 is true
if(condition 2){
// Executes when the condition 2 is true
}
}
```

SWITCH

C++ has a built-in multiple-branch selection statement, called switch, which successively tests the value of an expression against a list of integer or character constants. When a match is found, the statements associated with that constant are executed.

The general form of the switch statement is:

```
switch (expression) {
case constant1:
statement sequence
break;
case constant2:
statement sequence
break;
case constant3:
statement sequence
break;
.
.
default
statement sequence
}
```

SWITCH (Contd.)

- The expression must evaluate to a character or integer value.
- Floating-point expressions are not allowed.
- The value of expression is tested, in order, against the values of the constants specified in the case statements. When a match is found, the statement sequence associated with that case is executed until the break statement or the end of the switch statement is reached.
- The default statement is executed if no matches are found.
- The default is optional and, if it is not present, no action takes place if all matches fail.

SWITCH EXAMPLE

```
#include <iostream.h>

int main () {
      int num;
      cout<<"Enter a number to check grade:";
      cin>>num;
         switch (num)
        {
           case 10: cout<<"It is 10";
                  break;
           case 20: cout<<"It is 20";
                   break;
           case 30: cout<<"It is 30";
                  break;
           default: cout<<"Not 10, 20 or 30";
        }
   }
```

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MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q1. A switch construct can be used with which of the following types of variable?

a) int

b) int, char

c) int, float, char

d) Any basic datatype

Multiple Choice Question:

Q2. Which of the following must be present in switch construct?

a) Expression in ( ) after switch

b) default

c) case followed by value

d) All of these

Multiple Choice Question:

Q3. What does a class in C++ holds?

a) data

b) functions

c) both data & functions

d) arrays

Multiple Choice Question:

Q4. When struct is used instead of the keyword class means, what will happen in the program?

a) access is public by default

b) access is private by default

c) access is protected by default

d) access is denied

Multiple Choice Question:

Q5. The data members and functions of a class in C++ are by default _____

a) protected

b) private

c) public

d) public & protected

Summary

In this lecture, you learned that:

- The control constructs of C++
    1. if...else if...else Statement
    2. Nested if Statement
- Switch statement in C++