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## FACULTY OF ENGINEERING & TECHNOLOGY

### CSPS103: Object Oriented Programming

#### Lecture-07

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# OBJECTIVES

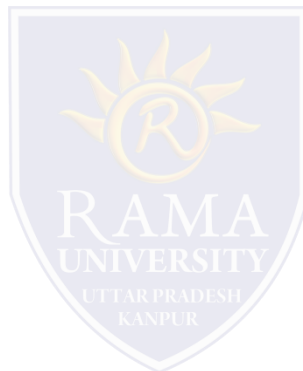
In this lecture, you will learn to:

## ❖ Control Structures

- **if...else if...else Statement**
- **Nested if Statement**

## ❖ Switch

## ❖ Switch Example

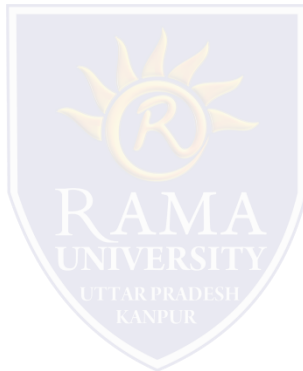


# IF...ELSE IF...ELSE STATEMENT

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.)

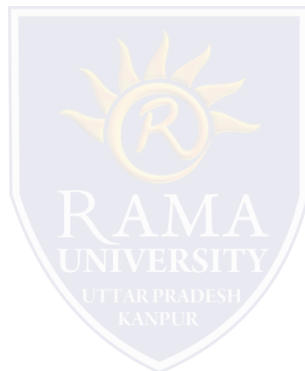
- ❑ The expression must evaluate to a character or integer value.
- ❑ Floating-point expressions are not allowed.
- ❑ The value of expression is tested, in order, against the values of the constants specified in the case statements. When a match is found, the statement sequence associated with that case 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

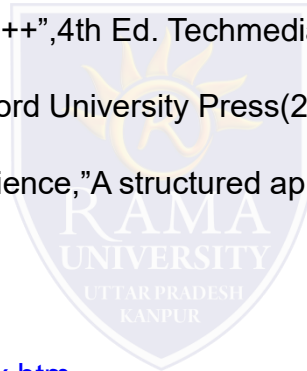
```
#include <iostream.h>

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";
    }
}
```



# REFERENCES

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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

## 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

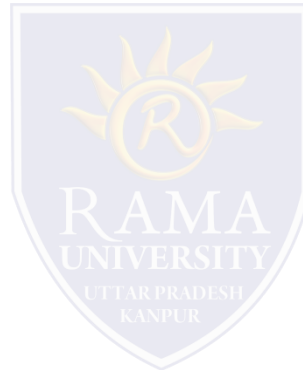


# MULTIPLE CHOICE QUESTION

## Multiple Choice Question:

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

- a) data
- b) functions
- c) both data & functions
- d) arrays

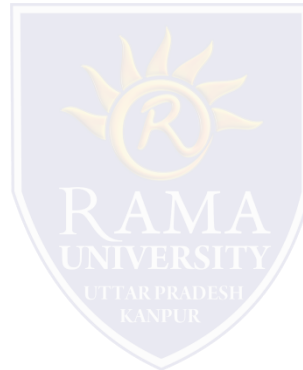


# MULTIPLE CHOICE QUESTION

## 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

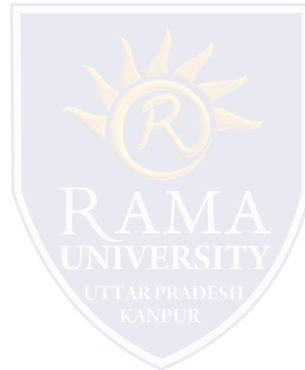


# MULTIPLE CHOICE QUESTION

## 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++

