



FACULTY OF ENGINEERING & TECHNOLOGY

CSPS103: Object Oriented Programming

Lecture-06

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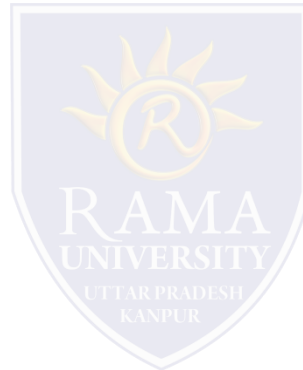
OBJECTIVES

In this lecture, you will learn to:

❖ **Typecasting**

❖ **Control Structures**

- **If Statement**
- **The if...else Statement**



TYPECASTING

❑ Typecasting is the concept of converting the value of one type into another type.

For example

You might have a float that you need to use in a function that requires an integer.

Types of Typecasting

1. **Implicit conversion**
2. **Explicit conversion**



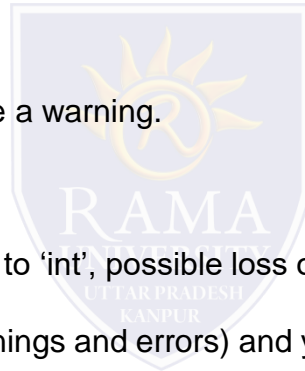
IMPLICIT CONVERSION

❑ Almost every compiler makes use of what is called automatic typecasting.

❑ It automatically converts one type into another type.

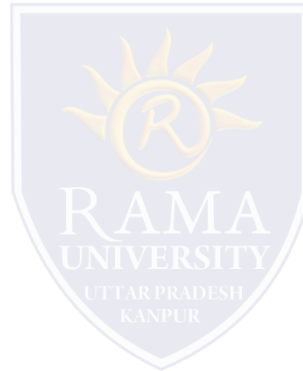
❑ If the compiler converts a type it will normally give a warning.

For example this warning: conversion from 'double' to 'int', possible loss of data. The problem with this is, that you get a warning (normally you want to compile without warnings and errors) and you are not in control. With control we mean, you did not decide to convert to another type, the compiler did. Also the possible loss of data could be unwanted.



EXPLICIT CONVERSION

- ❑ The C++ language has ways to give you back control.
- ❑ This can be done with what is called an explicit conversion.

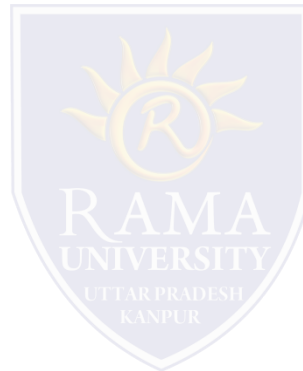


CONTROL STRUCTURES

Control structures allows to control the flow of program's execution based on certain conditions C++ supports following basic control structures:

1) Selection Control structure

2) Loop Control structure



SELECTION CONTROL STRUCTURE

- ❑ Selection Control structures allows to control the flow of program's execution depending upon the state of a particular condition being true or false .

C++ supports two types of selection statements :

1. if
2. switch.

- ❑ Condition operator (?:) can also be used as an alternative to the if statement.



IF STATEMENT

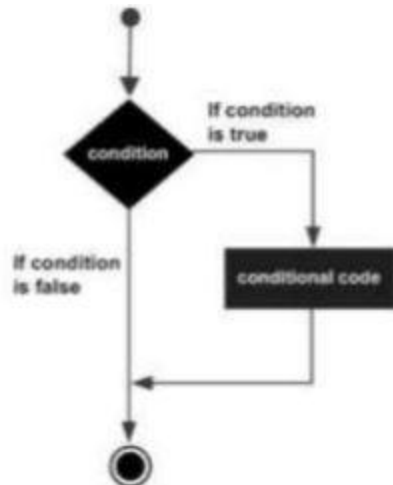
- ❑ If statement is used to test the condition.

The syntax of an if statement in C++ is:

```
if(condition)
{
    // statement(s) will execute if the condition is true
}
```

- ❑ If the condition evaluates to true, then the block of code inside the if statement will be executed.
- ❑ If it evaluates to false, then the first set of code after the end of the if statement (after the closing curly brace) will be executed.

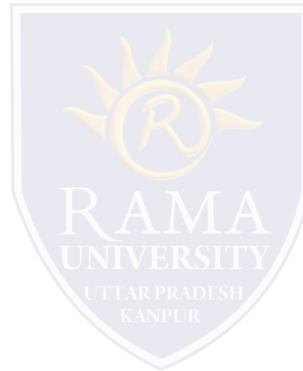
Flowchart showing working of if statement



IF STATEMENT (Contd.)

// A Program to find whether a given number is even or odd using if ... else statement

```
#include<iostream.h>
#include<conio.h>
int main()
{
    int n;
    cout<<"enter number";
    cin>>n;
    if(n%2==0)
    {
        cout<<"Even number";
    }
    else
    {
        cout<<"Odd number";
    }
    return 0;
}
```



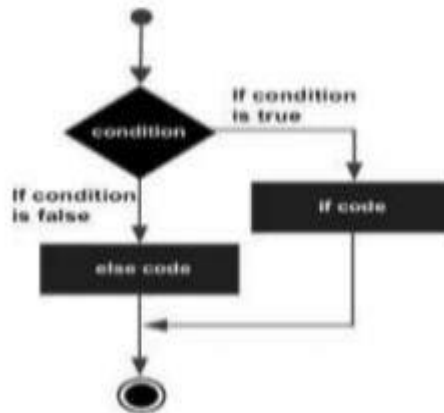
THE IF...ELSE STATEMENT

The syntax is shown as:

```
if(condition)
{
    // statement(s) will execute if the condition is true
}
else
{
    // statement(s) will execute if condition is false
}
```

If the condition evaluates to true, then the if block of code will be executed, otherwise else block of code will be executed.

Flowchart



REFERENCES

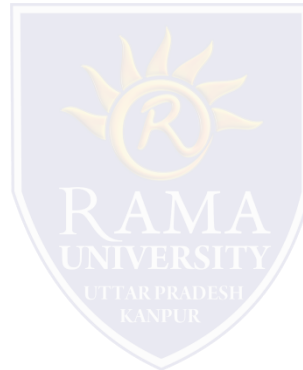
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MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q1. How are many sequences of statements present in c++?

- a) 4
- b) 3
- c) 5
- d) 6

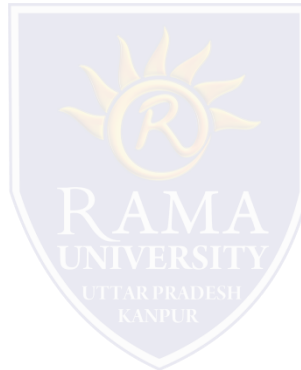


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q2. The if..else statement can be replaced by which operator?

- a) Bitwise operator
- b) Conditional operator
- c) Multiplicative operator
- d) Addition operator

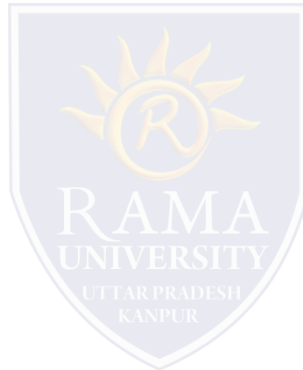


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q3. Which of the following is not a logical operator in C++ language?

- a) &
- b) &&
- c) ||
- d) !

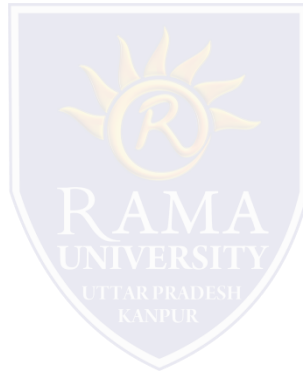


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q4. Which of the following is not a comparison operator in C++ language?

- a) >
- b) <=
- c) =
- d) ==

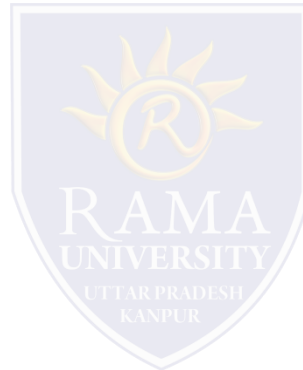


MULTIPLE CHOICE QUESTION

Multiple Choice Question:

Q5. What does the following code fragment write to the monitor?

```
int sum = 14;  
if ( sum < 20 )  
    System.out.print("Under ");  
else  
    System.out.print("Over ");  
System.out.println("the limit.");
```



- a) Under
- b) Over
- c) Under the limit.
- d) Over the limit.

Summary

In this lecture, you learned that:

- Typecasting in C++
- The control constructs of C++
 1. If statement
 2. If-Else Statement

