



**AWESH ISLAM**  
**BUET, CSE**

# BATCH RECURSION

## C AND C++

PROGRAMMING MASTERCLASS

**Class - 04**



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**BME, BUET**

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<https://www.hscrackers.com/>



SCAN ME

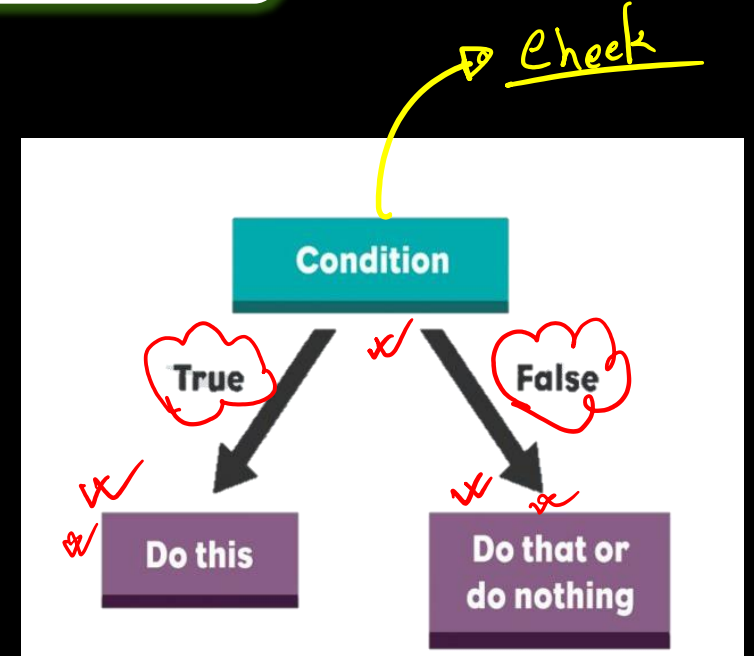
# Conditional Statement

if-else

```
if(condition) {  
    _____  
    _____  
    _____  
}  
else {  
    _____  
    _____  
    _____  
}
```

True True 225

False

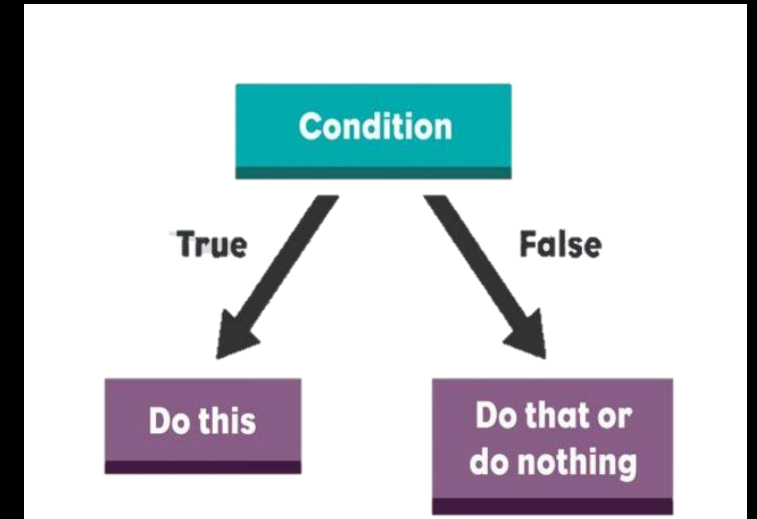


False  $\rightarrow 0$   
True  $\rightarrow 1 / \underline{\underline{2,3,5}}$

# Conditional Statement

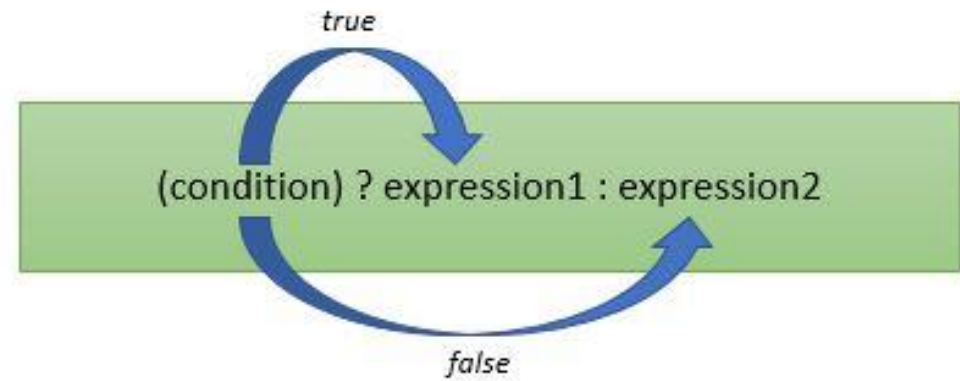
```
#include <stdio.h >
```

```
int main (){  
    int a=5;  
    int b=6;  
    if(a>b){  
        printf("True\n");  
        printf("True1\n");  
        printf("True2\n");  
    }  
    else {  
        printf("Mittha");  
    }  
    return 0;  
}
```



# Conditional Statement

```
if (condition) {  
    task 1;  
    //if true  
}  
else {  
    task2  
    //not true  
}
```



# Else if

```
#include <stdio.h >

int main (){
    int num;
    scanf("%d",&num);
    if(num>=80){
        printf("A+\n");
    }
    else if(num>=70){
        printf("A\n");
    }
    else if(num>=60){
        printf("A-\n");
    }
    else {
        printf("Fail");
    }

    return 0;
}
```

# Leap year

```
#include <stdio.h >
```

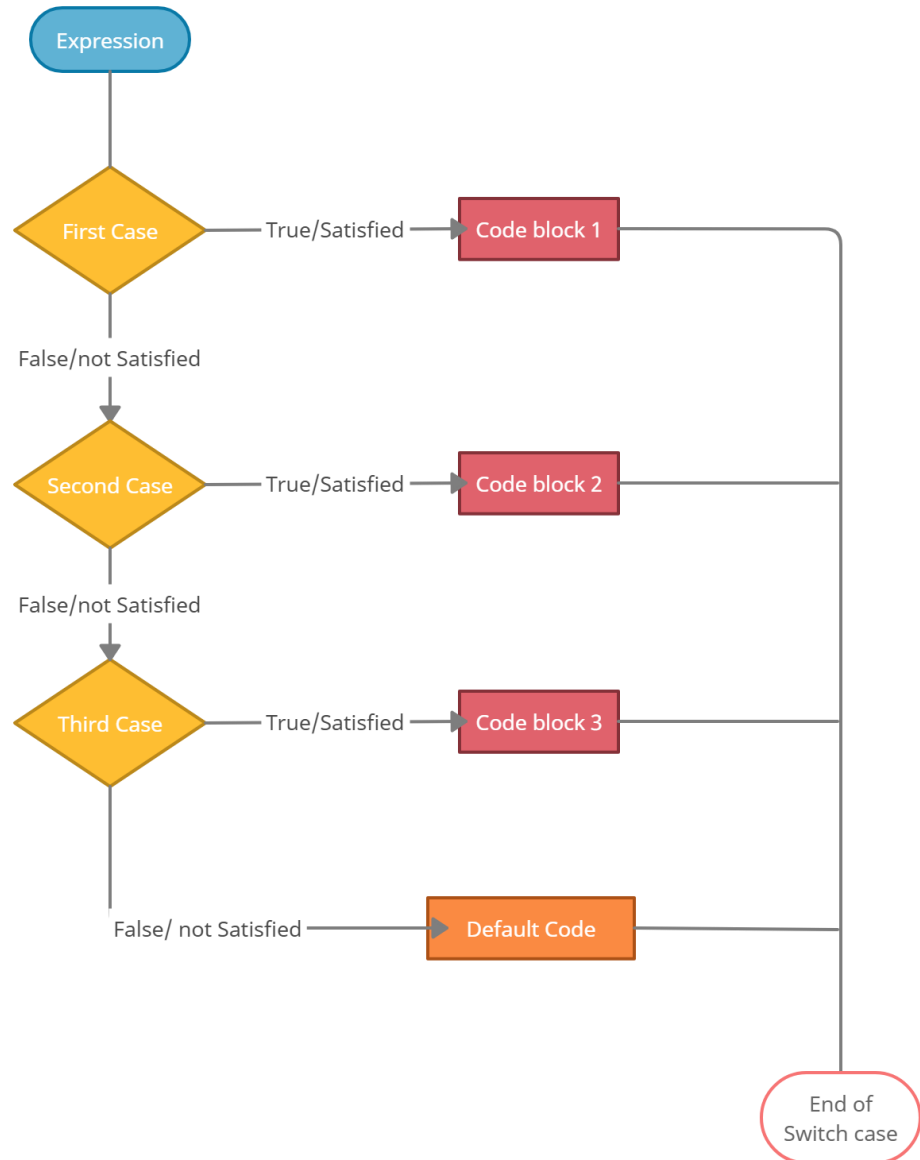
```
int main (){  
    int year;  
    scanf("%d",&year);  
    if(year%400==0){  
        printf("Leap year");  
    }  
    else if((year%100!=0)&&(year%4==0)){  
        printf("Leap year");  
    }  
    else{  
        printf("Not Leap year");  
    }  
    return 0;  
}
```

Num  
if  $\rightarrow (Num \% 400) == 0 \rightarrow \text{Leap year}$   
OR  
else if  $\rightarrow (Num \% 100) != 0 \text{ \&\& } (Num \% 4) == 0$   
100 द्वारा भाग करने पर शेष 0 नहीं आना चाहिए  
4 द्वारा भाग करने पर शेष 0 आना चाहिए

else

-- --

# Conditional Statement



```
#include <stdio.h >
#include <math.h >
```

```
int main (){
    char n='c';
    switch (n){
        case 'a':
            printf("nothing1");

        case 'b':
            printf("nothing2");

        case 'c':
            printf("nothing3");

        default:
            printf("By default");
    }
    return 0;
}
```



# Conditional Statement

1. Write a C program to accept two integers and check whether they are equal or not.

Test Data : 15 15

*Expected Output :*

Number1 and Number2 are equal

2. Write a C program to check whether a given number is even or odd.

Test Data : 15

*Expected Output :*

15 is an odd integer

3. Write a C program to find whether a given year is a leap year or not.

Test Data : 2016

*Expected Output :*

2016 is a leap year.

# Conditional Statement

4. Write a C program to read the value of an integer m and display the value of is 1 when m is larger than 0, 0 when m is 0 and -1 when m is less than 0.

Test Data : -5

*Expected Output :*

The value of n = -1

5. Write a C program to find the largest of three numbers.

Test Data : 12 25 52

*Expected Output :*

1st Number = 12,      2nd Number = 25,      3rd Number = 52

The 3rd Number is the greatest among three

# Conditional Statement

6. Write a C program to accept a coordinate point in an XY coordinate system and determine in which quadrant the coordinate point lies.

Test Data : 7 9

*Expected Output :*

The coordinate point (7,9) lies in the First quadrant.

7.

CSE (July 2022 Term) – CT 1

Marks: 20

Time: 30 minutes

**Roll:**

A programmer is writing a program to find the roots of a quadratic equation of the form  $ax^2+bx+c=0$ , where  $a,b,c$  are constants and  $x$  is the variable. The user gives  $a,b,c$  as input. We know that if  $a=b=c=0$ , no equation is possible. Write a conditional statement in C to print “no equation is possible” if this case arises. (No input or other code is required) **(5 marks)**

# Conditional Statement

8. Write a C program to determine eligibility for admission to a professional course based on the following criteria:

Eligibility Criteria : Marks in Maths  $\geq 65$  and Marks in Phy  $\geq 55$  and Marks in Chem  $\geq 50$  and Total in all three subject  $\geq 190$  or Total in Maths and Physics  $\geq 140$  ----- Input the marks obtained in Physics :65 Input the marks obtained in Chemistry :51 Input the marks obtained in Mathematics :72 Total marks of Maths, Physics and Chemistry : 188 Total marks of Maths and Physics : 137 The candidate is not eligible.

*Expected Output :*

The candidate is not eligible for admission.

# Conditional Statement

9. Write a C program to calculate the root of a quadratic equation.

Test Data : 1 5 7

*Expected Output :*

Root are imaginary;

No solution.

10. Write a C program to read temperature in centigrade and display a suitable message according to the temperature state below:

Temp < 0 then Freezing weather

Temp 0-10 then Very Cold weather

Temp 10-20 then Cold weather

Temp 20-30 then Normal in Temp

Temp 30-40 then Its Hot

Temp  $\geq 40$  then Its Very Hot

Test Data :

42

*Expected Output :*

Its very hot.

# Conditional Statement

**11.** Write a C program to check whether a triangle is Equilateral, Isosceles or Scalene.

Test Data :

50 50 60

*Expected Output :*

This is an isosceles triangle.

**12.** Write a program in C to calculate and print the electricity bill of a given customer. unit consumed by the user should be captured from the keyboard to display the total amount to be paid to the customer.

The charge are as follow :

# Conditional Statement

Unit	Charge/unit
upto 199	@1.20
200 and above but less than 400	@1.50
400 and above but less than 600	@1.80
600 and above	@2.00

If bill exceeds Rs. 400 then a surcharge of 15% will be charged and the minimum bill should be of Rs. 100/-

Test Data :

1001

James

800

*Expected Output :*

Customer IDNO :1001

Customer Name :James

unit Consumed :800

Amount Charges @Rs. 2.00 per unit : 1600.00

Surcharge Amount : 240.00

Net Amount Paid By the Customer : 1840.00

**BATCH RECURSION**