LAB 03

Summary

Items	Description
Course Title	Programming Fundamentals
Lab Title	Operators in C++
Duration	3 Hours
Operating System /Tool/Language	Visual Studio
Objective	To get familiar Arithmetic and Logical operators in C++

OR

A	B	X
0	0	0
0	1	1
1	0	1
1	1	1

AND

A	B	X
0	0	0
0	1	0
1	0	0
1	1	1

Sample program

```cpp
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
int a,b;
cout<<"please eneter vale of A"<<endl;
cin>>a;
```

```cpp
cout<<"please enter value of B"<<endl;
cin>>b;
int c;
c=a+b;
int d,e;
d=a&&b;
e=a||b;
cout<<"sum of "<<a<<" and "<<b<<" = "<<c<<endl;
cout<<"   AND of "<<a<<" and "<<b<<" = "<<d;
cout<<"   OR of "<<a<<" and "<<b<<" = "<<e<<endl;
system("pause");
return 0;
}
```

LAB TASKS

TASK # 01

Write a program that generates the following output using 1 variable:

5
20
30
25
Declare a variable, initialize the initial value, use arithmetic operator to generate 20 and so on……..
Note : only one variable is allowed in your code.

TASK # 02

 Write a C++ code which take two inputs from user, your program should display the AND of both the values

Sample Output:
Enter 1st value = 1
Enter 2nd value = 0
AND of 1 and 0 = 0

TASK # 03

Write a program that prints the truth table of OR Gate. **Use relational and logical operators for the result of the truth table.** In OR gate, the output will be 1 if at least 1 input is non-zero.

Sample Output:

```
A   B   X
0   0   0
0   1   1
1   0   1
1   1   1
```

TASK # 04

If the marks obtained by a student in five different subjects are input through the keyboard, find out the Total marks and percentage marks obtained by the student. Assume that the maximum marks that can be obtained by a student in each subject is 100.

TASK # 05

Temperature of a city in Fahrenheit degrees is input through the keyboard. Write a program to convert this temperature into Centigrade degrees.
$C = (F-32) / 1.8$

TASK # 06

Create a program which solve the following mathematical equation:
$$\frac{-b + b^2 - 4ac}{2a}$$

Where a,b,c, will be entered by user, your program should calculate the result

Task # 07

If a four-digit number is input through the keyboard, write a program to calculate the sum of its digits.
(Hint: Use the modulus operator '%' and division '/')

Sample output:
enter a 4 digit single number: 5431
Sum of all digits of the number is 13
NOTE : Your input is a single number not 4 different inputs