JAIN DEEMED-TO-BE UNIVERSITY
SCHOOL OF COMPUTER SCIENCE AND IT

DEPARTMENT OF MASTER OF COMPUTER APPLICATION

ACTIVITY-1

MFCA

JUPG22MCA14932

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Application no.: JUPG22MCA14932

Semester: I Semester

Branch: MCA-AIML

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Question:

Given two bit strings of length a, find the bitwise AND, bitwise OR, and bitwise XOR these strings.

Program/Solution:

Operator Meaning of Operator OR A

Bitwise AND
Bitwise OR
Bitwise XOR

Bitwise AND Operator (&.):

The output of bitwise AND is 1 if the Corresponding bits two of operands is 1.Either bit of an operand and is o the result of corresponding bit is evaluated to 0.

In C programming, the bitwise AND operator is denoted by &. Suppose the bitwise AND operation of two string integers 12 and 25.

12-00001100 (In Binary)
25- 00011001 (In Binary)

Bit operation of 12 and 25

00001100
0001100 1

00001000= 8 (In Decimal)

Ex-#include <stdio.h>

```
int main()
{

int a = 12, b = 25,
printf ("Output = ·/·d", a & b)",
```

return 0;
}

Bitwise OR Operator | :-
The output of bitwise OR is + y at least one corresponding bit of two operands is 1.In C programming, bitwise OR operation is denoted by I

12=00001106
25=00011001 (In Binary)

Bitwise OR operation of 12 and 25.

00001100
00011101 =00011101=29(in decimal)
Ex:-#include <stdio.h>
int main()
{
int a = 12 = 12, b = 25 ;
printf ("Output = %d",a/b);
return 0;
}

o/p- Output = 29

Bitwise XOR (exclusive OR) Operator :-
A The result of bitwise XOR operator is 1 If the corresponding bits of two operands are opposite. It is denoted by ^

12 -00001100
25-00011001(in binary)

Bitwise XOR Operation of 12 and 25

00001100
00011001
00010101=21(in decimal)

Ex-#include <stdio.h>

```
int main()
{
int a = 12, b = 25;
print ("Output = %d", a ^b)";
return 0;
}
```

0/p - Output = 21