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Assignment : operators

(1) Description (around 3-4 lines), syntax and example. of

(a) Bitwise operators

(b) ternary operators

(a) Bitwise operators :-

Bitwise operators are special operator set provided by 'c'. They are used in bit-level programming. These operators are used to manipulate bits of an Integer expression.

Bit wise operators are.

& - Bitwise AND

| - Bitwise OR

^ - Bitwise XOR.

~ - Bitwise complement

<< - shift left

>> shift right

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Example prgm:-

```
#include<stdio.h>
int main()
{  int a=12, b=25, n=212, i=1;
   printf("Bitwise AND of a & b :%d", a&b);
   printf("Bitwise OR of a,b : %d", a|b);
   printf("Bitwise XOR of a,b: %d", a^b);
   printf("Bitwise complement of a: %d", ~a);
   printf("Right shift of n by %d : %d",
                              i, n>>i);
   printf("Left shift of n by %d : %d",
                              i, n<<i);

   return 0;
}
```

O/P :-

Bitwise AND of a&b : 8

Bitwise OR of a,b : 29

Bitwise XOR of a,b : 21

Bitwise complement of a : -11

Right shift of n by 1 : 106

Left shift of n by 1 : 424

(b) Ternary Operator :-

It is also called as conditional operator which is a kind of similar to the if else statement. but the conditional operator takes less space. and helps to write the if else statement in the shortest way possible :

Syntax :-

Variable = Expression 1 ? Expression 2 : Expression 3

Example prgm :-

```
#include <stdio.h>
int main()
{
    int n1=5, n2=10, max;
    max=(n1>n2) ? n1 : n2;
    printf("Largest no. b/w %d and %d is %d",
                    n1, n2, max);
    return 0;
}
```

O/P : Largest no. b/w 5 and 10 is 10

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(2) Calculator program :-

```
#include <stdio.h>
main()
{   int a, b;
    Printf(" Enter two values : ");
    scanf("%d %d ", &a, &b);
    printf("sum of %d and %d is %d", a, b, a+b);
    printf("Difference of %d and %d is %d", a, b, a-b);
    printf("multiplication of %d and %d is %d", a, b, a*b);
    printf("Division of %d and %d is %d", a, b, a/b);
    printf("modulus of %d and %d is %d", a, b, a%b);
}
```

Output : Enter two values : 4 5

Sum of 4 and 5 is 9
Difference of 4 and 5 is -1
Multiplication of 4 and 5 is 20
Division of 4 and 5 is 0
Modulus of 4 and 5 is 4