Task: Operators

(1) Bitwise operators:-

These operators are used to perform bit operations. Decimal values are converted into binary values which are the sequence of bits and bitwise operators work on these bits.

Bitwise operator in C.

&-and. |-or   ~-not   ^-Xor

<<- left shift   >> Right shift.

Eg: Bitwise (and)

```
#include<stdio.h>
int main( )
{
int a =12, b=25;
Printf("Output = %d", a&b);        output=8.
return 0;
}.
```

Bitwise (or)

```
#include <stdio.h>
int main( )
{
int a=12, b=25;
Printf("output = %d", a|b);   output = 29
return 0;
}
```

Bitwise XOR:

```
#include <stdio.h>.
int main ( )
{
 int a =12, b= 25;
 Printf ("output = %d", a^b);
 return ·0;
}.
```

output = 21

Bitwise compliment.

```
#include <stdio.h>.
int main( )
{
 Printf(" output = %d", ~35);
 Printf(" output= %d \n", ~-12);
 return 0;
}.
```

output -36
11.

Shifting operators.

```
#include <stdio.h>.
int main ( )
{
 int num = 212, i;
 for (i=0; i<=2; ++i)
 Printf("right shift by %d: %d\n", i, num>>i);
 Printf("\n");
 for(i=0; i<=2; ++i).
  Printf("left shift by %d: %d\n", i, num<<i);
 return 0;
}.
```

Ternary operator:-

It is used to execute code based on the result of a binary condition. It takes in a binary condition as input which makes it similar to an 'if-else' control flow block. It returns a value, behaving similar to a function

Ternary operators in C

? :

```
#include<stdio.h>
int main( )
{
int a=10,b=20,c;
 c=(a<b)?a:b;              output =10
 Printf("%d",c);
 return 0;
}.
```

Calculator Programe.

```
#include <stdio.h>.
int main ( ).
{.
char ch; float a, b, c;
Print f("enter any two numbers\n");
Scanf("%f %f", &a, &b);
Print f("enter operator \n");
Scanf(" %c", &ch);
Switch (ch).
{
 case '+':
 Printf("user entered addition '+' \n");
  c = a+b; Printf("%f is addition of %f, %f", c, a, b);
  Printf(" %f \n", c);
  break;
 case '-':
 Printf ("user entered subtraction '-' \n");
 c = a-b; Print f("%f is Subtraction of %f and %f", c, a, b);
  Print f ("%f \n", c);
 break;
 case '*':
 Print f("user entered multiplication '*' \n");
 c = a*b; Print f("%f is multiplication of %f and %f", c, a, b);
 Print f(" %f \n", c);
  break;
case '/':
 Printf("user entered division '/' \n");
 c=a/b;
 Printf("%f is division of %f and %f\n",c,a,b);
 break;
case '%':
 c=a%b;
 Printf("%f is % of %f and %f\n",c,a,b);
 break;
 default:
  Printf("user entered wrong operator\n");
 }
 }.
```