ASSIGNMENT: OPERATORS

1. Make a pdf file containing description, syntax and example of

A) Bitwise Operators:

•The & (bitwise AND) in C or C++ takes two numbers as operands and does AND on every bit of two numbers. The result of AND is 1 only if both bits are 1.

•The | (bitwise OR) in C or C++ takes two numbers as operands and does OR on every bit of two numbers. The result of OR is 1 if any of the two bits is 1.

•The ^ (bitwise XOR) in C or C++ takes two numbers as operands and does XOR on every bit of two numbers. The result of XOR is 1 if the two bits are different.

•The << (left shift) in C or C++ takes two numbers, left shifts the bits of the first operand, the second operand decides the number of places to shift.

•The >> (right shift) in C or C++ takes two numbers, right shifts the bits of the first operand, the second operand decides the number of places to shift.

•The ~ (bitwise NOT) in C or C++ takes one number and inverts all bits of it

Example of Bitwise operators:

```
#include <stdio.h>
int main()
{
    unsigned char a = 5, b = 9;
    printf("a = %d, b = %d\n", a, b);
    printf("a&b = %d\n", a & b);
    printf("a|b = %d\n", a | b);
    printf("a^b = %d\n", a ^ b);
    printf("~a = %d\n", a = ~a);
    printf("b<<1 = %d\n", b << 1);
    printf("b>>1 = %d\n", b >> 1);
    return 0;
}
```

Output:

a = 5,

b = 9

a&b = 1

a|b = 13

a^b = 12

~a = 250

b<<1 = 18

b>>1 = 4

B) Ternary Operator:

The ternary operator take three arguments:

- **The first is a comparison argument**
- **The second is the result upon a true comparison**
- **The third is the result upon a false comparison**

Syntax of Ternary Operator:

The conditional operator is of the form

variable = Expression1 ? Expression2 : Expression3

It can be visualized into if-else statement as:

```
if(Expression1)
{
 variable = Expression2;
}
else
{
 variable = Expression3;
}
```

Example of Ternary Operator:

```
#include <stdio.h>
int main()
{
    int n1 = 5, n2 = 10, max;
    max = (n1 > n2) ? n1 : n2;
    printf("Largest number between"
          " %d and %d is %d. ", n1, n2, max);
    return 0;
}
```