

TASK NO 01- Which of the following values can be assigned to variables of type float, double and decimal.

SOLUTION:

THE DATA TYPES OF GIVEN VALUES ARE GIVEN BELOW.

- | | |
|--------------------------------------|-------------------------|
| (1) 5 | FLOAT, DOUBLE, DECIMAL. |
| (2) -5.01 | FLOAT, DOUBLE, DECIMAL. |
| (3) 34.567839023 | DOUBLE, DECIMAL. |
| (4) 12.345 | FLOAT, DOUBLE, DECIMAL. |
| (5) 8923.1234857 | DOUBLE, DECIMAL. |
| (6) 3456.091124875956542151256683467 | NOT POSSIBLE. |

TASK NO 02- Create a simple calculator which will perform all arithmetical, Bit wise operation and logical operation on two number.

-----ARITHMETIC OPERATORS-----

SOLUTION:

```
double A, B;
Console.Write("ENTER NUMBER A: ");
A = Convert.ToDouble(Console.ReadLine());
Console.Write("ENTER NUMBER B: ");
B = Convert.ToDouble(Console.ReadLine());
Console.WriteLine("\n-----ARITHMETIC -----");
Console.WriteLine("a + b = "+ (A+B));
Console.WriteLine("a - b = "+ (A-B));
Console.WriteLine("a * b = "+ (A*B));
Console.WriteLine("a / b = "+ (A/B));
Console.WriteLine("a % b = "+ (A%B));
Console.WriteLine("++ b = "+ (++B));
Console.WriteLine("b-- = "+ (B--));
```

OUTPUT:

```
Microsoft Visual Studio Debug Console

ENTER NUMBER A: 4
ENTER NUMBER B: 5

-----ARITHMETIC -----
a + b = 9
a - b = 9
a * b = 20
a / b = 0.8
a % b = 4
++ b = 6
b-- = 6
```

-----LOGICAL OPERATORS-----

SOLUTION:

```
{
    bool a, b;
    Console.WriteLine("*****logical operators*****");
    Console.WriteLine("\n select true or false number: ");
    a = Convert.ToBoolean(Console.ReadLine());

    Console.WriteLine("select true or false number: ");
    b = Convert.ToBoolean(Console.ReadLine());

    Console.WriteLine("a && b = {0}", a && b);
    Console.WriteLine("a || b = {0}", a || b);
    Console.WriteLine("!b = {0}", !b);
    Console.WriteLine("!a = {0}", !a);
}
```

OUTPUT:

```
C:\Windows\system32\cmd.exe

*****logical operators*****

select true or false number: TRUE
select true or false number: FALSE
a && b = False
a || b = True
!b = True
!a = False
Press any key to continue . . .
```

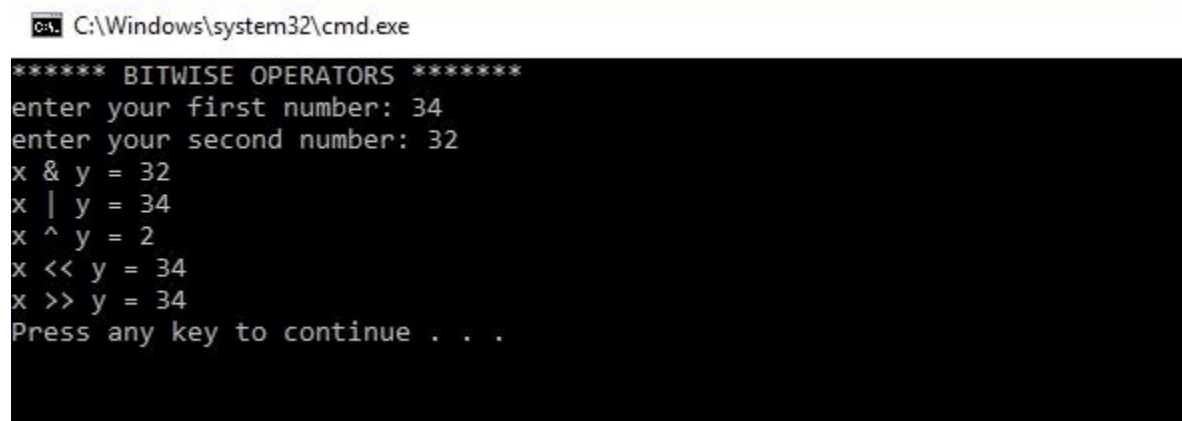
-----BITWISE OPERATORS-----

SOLUTION:

```
int num1, num2,x,y;
    Console.WriteLine("***** BITWISE OPERATORS *****");
    Console.Write("enter your first number: ");
    num1 = Convert.ToInt32(Console.ReadLine());

    Console.Write("enter your second number: ");
    num2 = Convert.ToInt32(Console.ReadLine());
    x = num1;
    y = num2;
    Console.WriteLine("x & y = {0}", x & y);
    Console.WriteLine("x | y = {0}", x | y);
    Console.WriteLine("x ^ y = {0}", x ^ y);
    Console.WriteLine("x << y = {0}", x << y);
    Console.WriteLine("x >> y = {0}", x >> y);
```

OUTPUT:



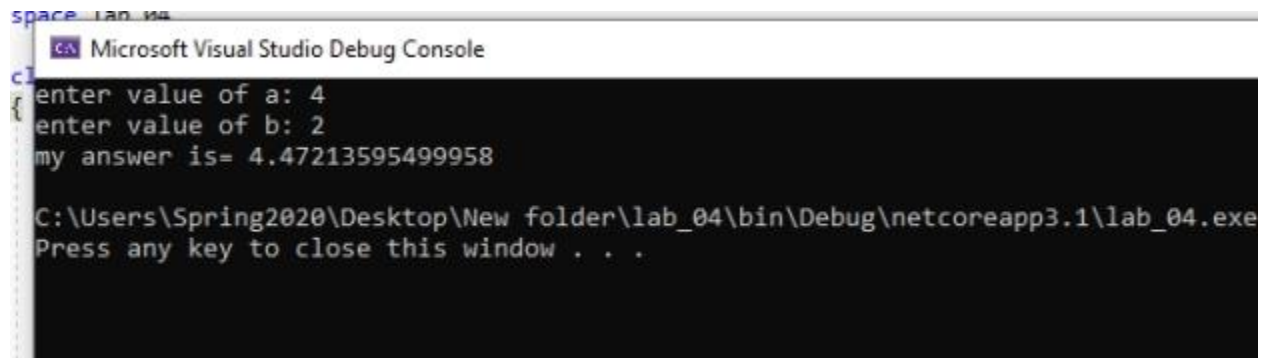
```
C:\Windows\system32\cmd.exe
***** BITWISE OPERATORS *****
enter your first number: 34
enter your second number: 32
x & y = 32
x | y = 34
x ^ y = 2
x << y = 34
x >> y = 34
Press any key to continue . . .
```

TASK NO 03- Create a simple program to calculate Hypotenuse using Pythagoras theorem $c^2 = (a^2 + b^2)$.

SOLUTION:

```
{  
  
    double a, b,c;  
    Console.Write("enter value of a: ");  
    a =Convert.ToDouble(Console.ReadLine());  
    Console.Write("enter value of b: ");  
    b = Convert.ToDouble(Console.ReadLine());  
    c = (a * a)+(b * b);  
    c = Math.Pow(c,0.5);  
    Console.WriteLine("my answer is= "+ c);  
  
}
```

OUTPUT:



The screenshot shows the Microsoft Visual Studio Debug Console window. The text inside the console is as follows:

```
space lab_04  
c:\> Microsoft Visual Studio Debug Console  
{  
enter value of a: 4  
enter value of b: 2  
my answer is= 4.47213595499958  
  
C:\Users\Spring2020\Desktop\New folder\lab_04\bin\Debug\netcoreapp3.1\lab_04.exe  
Press any key to close this window . . .
```