BITWISE OPERATORS IN OBJECTIVE-C

The Bitwise operators supported by Objective-C language are listed in the following table. Assume variable A holds 60 and variable B holds 13, then:

Operator	Description	Example
&	Binary AND Operator copies a bit to the result if it exists in both operands.	A & B will give 12, which is 0000 1100
|	Binary OR Operator copies a bit if it exists in either operand.	$A \mid B$ will give 61, which is 0011 1101
^	Binary XOR Operator copies the bit if it is set in one operand but not both.	A^B will give 49, which is 0011 0001
~	Binary Ones Complement Operator is unary and has the effect of 'flipping' bits.	A will give -61, which is 1100 0011 in 2's complement form due to a signed binary number.
<<	Binary Left Shift Operator. The left operand's value is moved left by the number of bits specified by the right operand.	A << 2 will give 240, which is 1111 0000
>>	Binary Right Shift Operator. The left operand's value is moved right by the number of bits specified by the right operand.	A >> 2 will give 15, which is 0000 1111

Example

Try the following example to understand all the bitwise operators available in Objective-C programming language:

```
#import <Foundation/Foundation.h>

main()
{

   unsigned int a = 60; /* 60 = 0011 1100 */
   unsigned int b = 13; /* 13 = 0000 1101 */
   int c = 0;

   c = a & b;       /* 12 = 0000 1100 */
   NSLog(@"Line 1 - Value of c is %d\n", c );

   c = a | b;       /* 61 = 0011 1101 */
   NSLog(@"Line 2 - Value of c is %d\n", c );

   c = a ^ b;       /* 49 = 0011 0001 */
   NSLog(@"Line 3 - Value of c is %d\n", c );

   c = ~a;          /*-61 = 1100 0011 */
   NSLog(@"Line 4 - Value of c is %d\n", c );

   c = a << 2;     /* 240 = 1111 0000 */
   NSLog(@"Line 5 - Value of c is %d\n", c );

   c = a >> 2;     /* 15 = 0000 1111 */
   NSLog(@"Line 6 - Value of c is %d\n", c );
}
```

When you compile and execute the above program, it produces the following result:

```
2013-09-07 22:11:51.652 demo[30836] Line 1 - Value of c is 12
2013-09-07 22:11:51.652 demo[30836] Line 2 - Value of c is 61
2013-09-07 22:11:51.652 demo[30836] Line 3 - Value of c is 49
2013-09-07 22:11:51.652 demo[30836] Line 4 - Value of c is -61
2013-09-07 22:11:51.652 demo[30836] Line 5 - Value of c is 240
2013-09-07 22:11:51.652 demo[30836] Line 6 - Value of c is 15
```