TCL - BITWISE OPERATORS

The Bitwise operators supported by Tcl 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.	$A\|B$ 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 Left Shift Operator. The left operands 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 operands 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 Tcl language:

```
#!/usr/bin/tclsh

set a 60   ;# 60 = 0011 1100
set b 13   ;# 13 = 0000 1101

set c [expr $a & $b] ;# 12 = 0000 1100
puts "Line 1 - Value of c is $c\n"

set c [expr $a | $b;] ;# 61 = 0011 1101
puts "Line 2 - Value of c is $c\n"

set c [expr $a ^ $b;] ;# 49 = 0011 0001
puts "Line 3 - Value of c is $c\n"

set c [expr $a << 2] ;# 240 = 1111 0000
puts "Line 4 - Value of c is $c\n"

set c [expr $a >> 2] ;# 15 = 0000 1111
puts "Line 5 - Value of c is $c\n"
```

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

```
Line 1 - Value of c is 12

Line 2 - Value of c is 61

Line 3 - Value of c is 49

Line 4 - Value of c is 240

Line 5 - Value of c is 15
```

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