

## BIT MANIPULATION QUESTIONS

**NOTE** - Some of these questions will teach you something new as some of these might be useful hacks (which can be difficult to think of on your own). Even if you are not able to come up with a solution on your own. Try to learn something new from these questions & write down the logic of the solution in your notes.

**Question 1 :** What is the value of  $x^x$  for any value of  $x$ ?

**Question 2 :** Swap two numbers without using any third variable.

**Question 3 :** Add 1 to an integer using Bit Manipulation.

(**Hint** : try using Bitwise NOT Operator)

**Question 4 :** This question is based on a trick, please directly look at the solution.  
Convert uppercase characters to lowercase using bits.

**Question 5 :** A Good read of hacks using bits (you can check this out in your free time) :

<http://graphics.stanford.edu/~seander/bithacks.html>