Homework Solutions (4/02/2023)

Ques 1 If a = false, then ~a = true but the output is coming as -1. Can we produce output as 1 with the help of ~ ?

a = false → 0 bit

8 bits are used to represent boolean

~0 0 0 0 0 0 0 0 = 1 1 1 1 1 1 1 1

Now 1st bit is 1, so its a negative number & hence by taking 2s complement we get to know what is the value of number

00000000 → 1s complement

2s complement 00000001 = 1
But 1st bit was negative & hence the o/p is -1.

Ques2 Why can't we say confidently that in right shift, it is not always divide by 2?

Suppose we take a number which is a -ve number & its binary representation is
1000---0101

Doing right shift on this.

0100--0010

After doing right shift, the -ve number gets converted to a high valued +ve number which is not obtained on division by 2.

Ques3 int a = 5;
What is the o/p of (++a) * (++a) ?

++ has higher priority than * so ++ will be evaluated & hence this becomes 7 as ++ has been done 2 times.

7 x 7 = 49 will be the o/p.
However answers may vary in different compilers.

Ques 4 What can we pass to the cases of switch statement?

int, char, short, byte can be used inside the cases of switch statement.

Ques 5 Can we use continue statement inside the switch statement instead of break?

If we try to use continue statement inside switch statement, we will be getting an error stating that continue statement not within the loop.

Ques 6 Why using global variable is a bad practice?

The problem with global variables is that since every function has access to these & it becomes increasingly hard to figure out which functions actually read & write these variables. That's why it is better if we use the local variables.