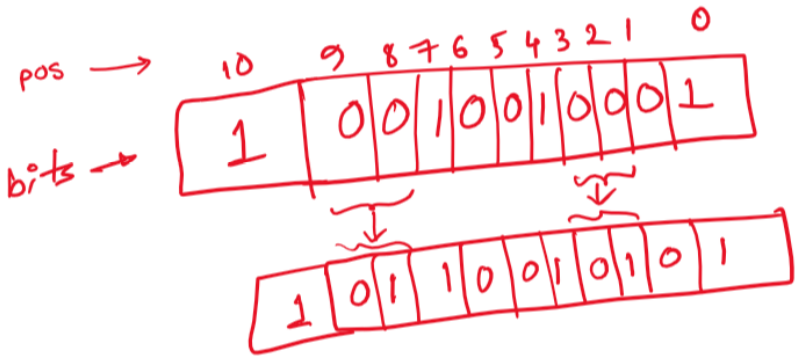
Solve the problem below. You have *20 minutes*. After you are done, rename the file containing your source code as your student ID (so, if your student ID is 2005001, the name of your file should be 2005001.c). Then submit that file to Moodle. Make sure you submit a file containing the source code.

Failure to not follow these instructions will result in penalties.

Problem 1.

1. Write a C program that takes a positive integer as input and replaces all occurrences of **two consecutive 0's**, where the **first 0 is in odd position**, with **01**. Print the bits of the given integer and the integer after replacement.



Input	Output
24 (011000)	11000 11001
4 (0100)	100 101
43 (101011)	101011 101011

N.B.

- ★ You ***must*** use ***bitwise operators*** to solve the problem.
- ★ You ***can*** assume that the provided input will ***always*** be valid.
- ★ ***Build the decimal number for your output first*** and then print the bits of the number.