LAB # 07 (BITWISE OPERATOR)

Problem 01

A golden number is a number whose 4th and 2nd bits are 1. Write a program that takes a number from the user and converts it into its equivalent golden number.

```
Enter a number:
53
The golden number equivalent of 53 is: 63
```

```
Enter a number:
178
The golden number equivalent of 178 is: 186
```

Problem 02

Write a program that takes a number from user and calculates the remainder of that number with 8 using bitwise operators.

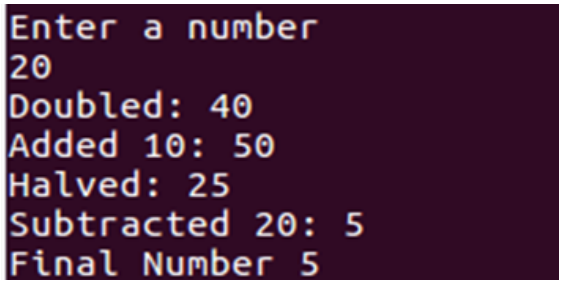
Hint: The last three bits of a number are its remainder when divided by 8 (%8).

```
Enter a number
10
The remainder is: 2
```

Problem 03

Write a program for the following mathematical trick:

- Declare and initialize an integer variable
- Take input from user and assign the value to the variable
- Double the value of the variable using a bitwise operator and store it in the same variable.
- Add 10 to the value of the variable and store in the same variable.
- Now half the value of the variable and store in the same variable.
- Then subtract the number entered by the user from the current value of the variable and store it in the same variable.
- Finally display the value of the variable. The answer must always be five.



Problem 04

Write a program to swap two non-negative numbers entered by the user without using a third variable using bitwise operators.

Problem 05

Check whether the number is a power of two using bit wise operators. Hint: A number is a power of two if it has only one bit set in its binary representation.

Example: 4 is power of 2 but 6 is not