Experiment-9
Bitwise Operations

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22.01.2021

Objective: The objective of this lab. is to understand and apply the bit-wise operations on integers.

Lab Procedure

1 Program must take short integer (16-bit) from the user and write the corresponding binary number into *char* array by using the **bit shift operations**.

- **Write the function** that display the bits as characters. You can use this prototype: ***(****40pt****)***

  void DisplayBitsAsCharacters(unsigned char Bits [], unsigned short message)

- Input number must be unsigned short. It means that maximum input number is 65,535. Program must display the minimum number of digits. For example; 16-bit short integer $Message - 1 = 127$ and 16-bit binary equivalent is 0000000001111111. Program must discard the zeros which are unnecessary to express the message number and display as: 1111111. Print the **Number of Digits** ***(****20pt****)***

2 **Write the function** that use the *char* Bits array which is generated at function of "DisplayBitsAsCharacters, as an input argument and convert this binary number into unsigned short integer. As a result, program should give the same number which is entered by user.***(****40pt****)***

- You can use this prototype:

  unsigned short ConvertToDecimal(char Bits, int numberofbinarydigits)

⋆ Finally, the running program in the bash shell should display these: