CS330 - Computer Organization & Assembly Language
Assignment # 3

Individual Work Only

Full Name:
BlazerID:

Instructions:

- Assignment must be completed and turned in by the due date given in canvas.
- You may solve the problems in any medium, but you must upload your completed work to Canvas as an image (.png, .jpg) or PDF (.pdf).
- For each question, you are required to show your solution step by step.

1) Convert the following decimal numbers into binary (show the steps) (5 points each)
   a. 123

   b. 533

   c. 129

2) Convert the following binary numbers into Decimal numbers (show the steps) (5 points each)
   a. 1001 1101

   b. 1011 0001

   c. 0101 0110

   d. 1111 1110

3) Convert the following hexadecimal numbers into Binary numbers (show the explanatory steps) (5 points each)
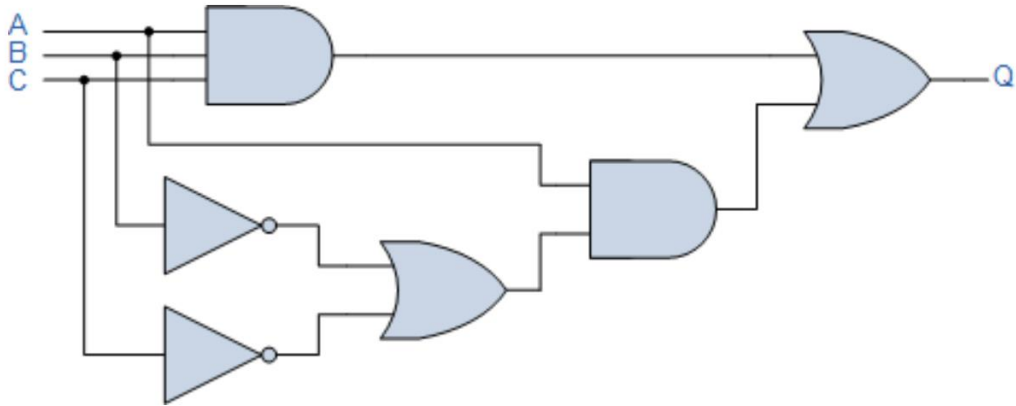   a. AC078

   b. BBD44

    c.   FFFF01

    d. 02FFD7

4) Show step by step addition. Assume we are using 8 bits system. (5 pts each)
    a. 15+ 6

    b. 31+ 5

5) Find the Boolean algebra expression for the following system and create a truth table.
(20 points)

6) Draw a truth table for $A\bar{B}$ (A+B)   (10 points)

7) Evaluate the following expression when A =1, B =1, and C= 0   (5 points)

$$F= A + \bar{A}B + B\bar{A} + C\bar{B}$$