

**An-Najah National University**  
**Department of Computer Engineering**  
**Microprocessors (10636322)**

**Assignment # 1 (ILO 1)**

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Assuming 8088/86 based system, solve the following questions:

- 1- Write an assembly code to convert a packed BCD byte found in AL to binary.  
Example: suppose AL = 35H which represents the decimal number 35.  
It should be converted to 00100011 = 23H =  $2 \times 16 + 3 = 35d$ .
    - Write a complete program which contains a procedure for the conversion.
  - 2- Write an assembly program that reads non-letter values only from the keyboard (letters are not accepted) and store only the first 9 characters in a character array of 9 bytes long. The program should stop reading characters when a '\$' is entered. When the '\$' character is entered, the program should print a new line, followed by the contents of the character array, with the number of each character between each value.
  - 3- Write a complete program with functions as described below:
    - a. Write an assembly macro to copy *src* to *dst* by using indirect addressing:  
***void my\_strcpy(char \*src, char \*dst).***
    - b. Write an assembly macro to compare two strings, use the following prototype:  
***short my\_strcmp (char \*str1, char \*str 2);***  
it should return -1, 0,1 if str1 < str2, str2== str2, str1>str2, respectively.
    - c. Write the main function that tests your functions, for ***a and b***.
- Note: for all questions, print the results on the screen.

Good Luck