National University of Computer & Emerging Sciences, Karachi
Fall-2018 CS-Department
Quiz 0

Course Code: EL-213	**Course Name:** Computer Organization & Assembly Language	
Student IDs		
Instructor: Syed Zain Ul Hassan	**Time Allowed:** 45 min	**Marks:** 0

Challenge# 1:

A secret agent sent an encrypted 16-bit message to his command center but during transmission, somebody interrupted it and shuffled the bits in the original message.

You are in-charge at the command center and you receive the message as:

Start of message -> bit0 **0010111010101011** *bit15 -> End of message*

You must now use these hints (about the correct format of messages) to guess what was originally sent from the secret agent:

(i) The correct message cannot start with a 0.
(ii) The correct message cannot end with a 1.
(iii) You need to find a way to correct the message WITHOUT overwriting it. Your enemy only disarranged the bits & did not overwrite anything.
(iv) "After correction", bits 5, 6, 7, 8, 9, 10 represent the *enemy base number*. Display it on the console in hexadecimal format.

Challenge# 2

Write a program to read characters from a keyboard until the last four characters read make up the word M A S M. Display the number of characters that were read. *(Read* 25 characters at max)

Sample Output: *(Assuming character sequence P I M A S M were entered)*

Enter characters:

Characters Read: 6

Challenge# 3:

Write a program to convert a given infix expression to prefix.

~ May the odds be with you