ICS 233, Term 072

Computer Architecture & Assembly Language

Programming Assignment# 3
Due date: Monday, April 21, 2008

Q.1. It is required to write an assembly program that does the following:

(i) Ask the user to enter the base of an input number. Your program should give an error if a base of 0 or 1 are entered by the user and ask the user to reenter the base.

(ii) Read the entered number in the specified base. Your program should report an error message if an invalid digit is entered.

(iii) Ask the user to enter the base he wants the number to be converted to.

(iv) Print the number in the required base. Only the significant digits have to be printed.

Assume that the number is unsigned. A sample execution of the program is shown below:

Enter the base of the input number: 10
Enter the number: 20
Enter the base of the output number: 2
The entered number in base 2 is: 10100

Enter the base of the input number: 16
Enter the number: 5A
Enter the base of the output number: 2
The entered number in base 2 is: 1011010

Enter the base of the input number: 2
Enter the number: 11011
Enter the base of the output number: 10
The entered number in base 10 is: 27

The solution should be well organized and your program should be well documented. Submit a soft copy of your solution in a zip file. Your solution should be submitted in a ***word file*** *that contains the following items:*

      i)   *Your name and ID*

      ii)   *Assignment number*

      iii)   *Problem statement*

      iv)   *Your solution along with the code*

      v)   *Discussion of what worked and what did not work in your program. Include snapshots that demonstrate the working parts of your program. If things did not work and you attempted to solve them, mention that and write about the difficulty that you have faced.*