Matlab Group Assignment #3

Section #:_____

Names: UINs:

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For this assignment, your team will create a program which will ask the user to input a positive integer, the base of the integer (any base 2-10), and the base to convert to (any base 2-16), and convert the integer between the given bases. Among the issues you will face are the following:

1. Generating user input: See Gilat pp 99-100. Note that you have 3 different values to input!

2. (For 10% BONUS): Test to make sure the integer uses valid digits for the given base (for example, "259" is a valid base-10 integer, but NOT a valid base-8 integer). If there are invalid digits, the program should print an error message and terminate. (NOTE: since this is bonus, save this step for last).

3. Finding an algorithm for changing the digits of a number from one base to another. There are several options, any of which can be coded into a program. (NOTE: you may use intermediate conversion to/from base 10)

4. If you are converting to a base larger than 10, you need to convert between any numbers 10-16 and their corresponding digits A-F.

You are to execute this four times in the same program (hence the need for at least one loop). Your TA will observe you running your program in lab **18 April** and give you 4 different conversions to make (some WILL involve bases larger than 10). You will also print your M-file which runs your program and turn that in for your TA to check. You should plan to test your program one week before it is due to make sure you can have no issues with it!

Finally, a quick search of Matlab help files and/or the web will reveal Matlab built-in functions which automatically convert between different bases. You are **NOT** to use these functions ANYWHERE in your program or you will AUTOMATICALLY LOSE AT LEAST 50% CREDIT on this assignment.