Programming Fundamentals LAB – BSDSF23

(Both Morning and Afternoon)

Lab 06 – 17-10-2023

Note: YOU may USE Command Prompt or ***Mu Editor*** to interpret and execute all the PYTHON programs. Use of any IDE, except ***Mu Editor*** is not allowed for this LAB, despite you are expert. Unless and until you convinced me of it personally.

Also note, if the computer systems are not equipped with python interpreter, you may use online compiler at the following URL highlighted in yellow. And in case it is also difficult to use for any reason, you need to do the paperwork within the LAB time for all tasks, as discussed in the class sessions. Thanks

https://www.programiz.com/python-programming/online-compiler/

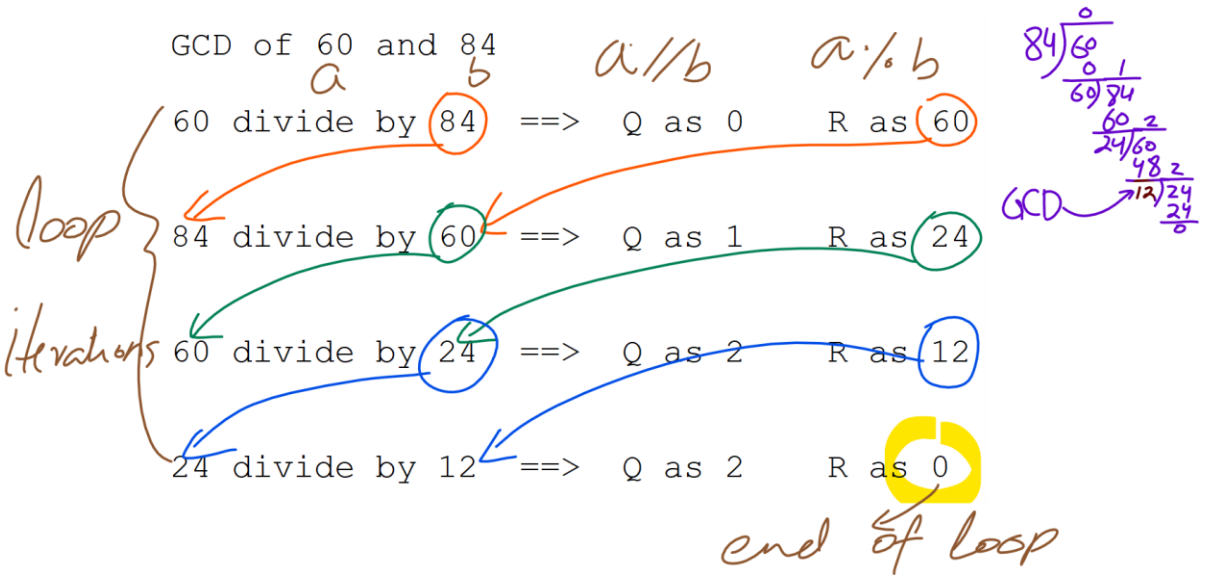
Tasks (10 each)

1. Write statements to compute and display the duration **t'** of **t** years in a spaceship moving at speed **v**. In following formula, **c** is a constant (299,792,458 m/s) and values of **t** and **v** should be taken by user.

$$t' = t\frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$$

2. Compute and display the net (final) price based on ***quantity***, ***rate***, and ***appropriate discount***. Store is offering 4% discount on purchase quantity above 5 units and 12% discount on purchase quantity above 25 units. The ***quantity*** and ***rate*** are inputs.

3. Write a function to computer GCD of two values using EUCLIDEAN ALGORITHM whose demonstration is below. You may have learned this method in school time.



4. You are provided code in a file named ***basek.py***. You need to understand it as much as possible by examining the output as well as code. Later, clean it to print a number ***N*** in base ***K*** as discussed in class sessions.

Thanks, for your **patience**

If you got time, solve some pending tasks from previous labs