Lab Programming Assignment #2

Points Possible: 20

Due Date: Friday, October 4 by 11:59 pm

Read the instructions at least twice, to ensure you follow it. Failure to follow the instructions will result in point deductions.

Instructions:

You can work in teams of up to three or individually, up to you. Submit just one file: Programming **Assignment 2-<Name of Submitter>.py**. Example: Programming Assignment 1-John Doe.py assuming John Doe is the person submitting the file on BeachBoard. Only submission via BeachBoard will be accepted.

That file should contain all of your answers (which should be in Python code).

That file should also be executable and display all of your answers via the following command in the Python command prompt:
exec(open("<Your Filename>.py").read())

Example:
exec(open("Programming Assignment 2-John Doe.py").read())

A part of my testing will be executing that command, so it is important that that command work with your Python file and display the answers.

Be sure to also type in your name and the names of your team members within the file, at the top. When typing your Python code, clearly indicate the question number above it so I know which question you're answering. You should write them in your file as Python comments.

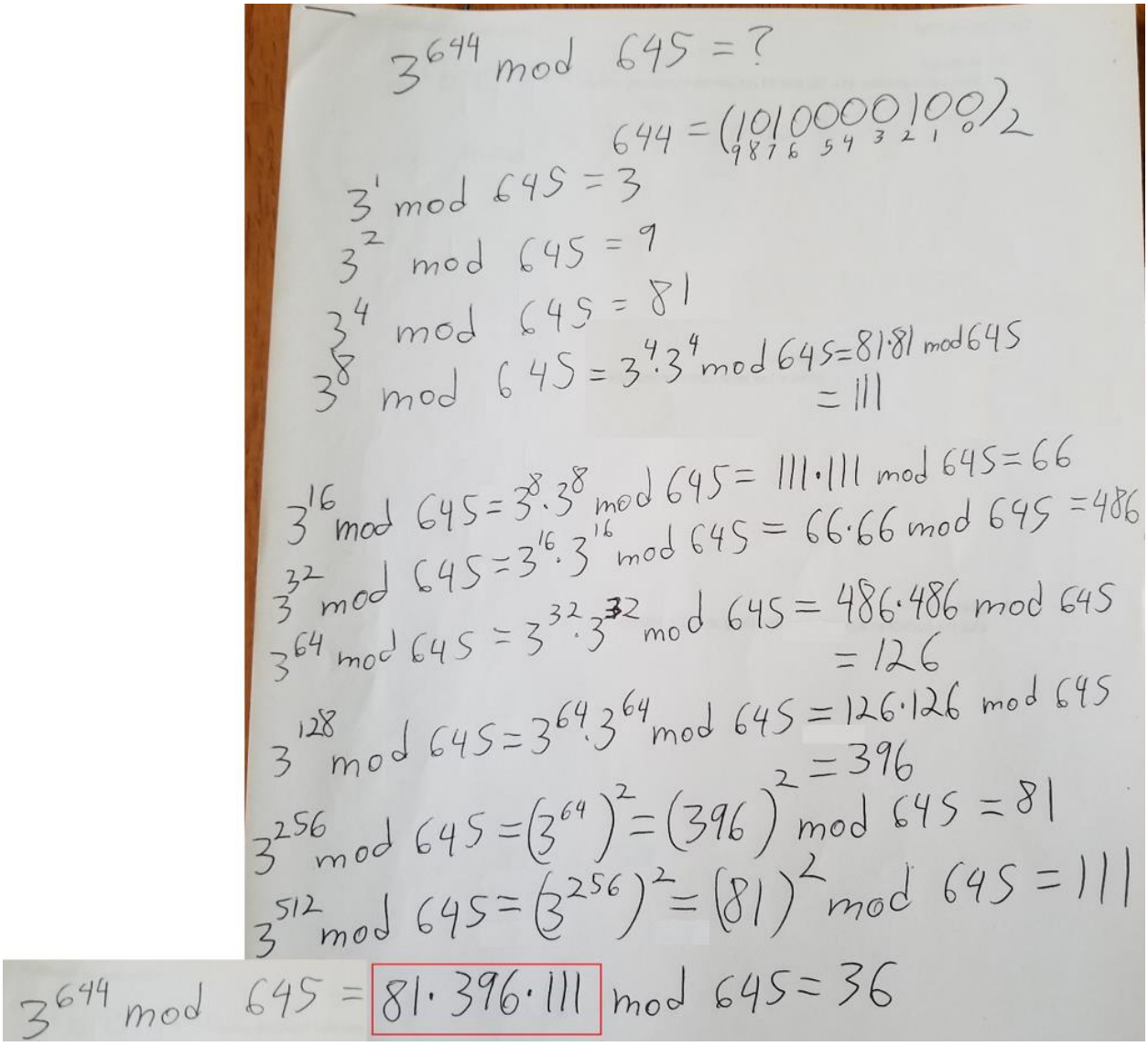
Also, ensure the function names are EXACTLY that of what is listed in the problems below.

Failure to do any of the above will result in point deductions. No exceptions.

1. (10 points)
   Write a function that will take in three inputs: base, exponent, and divisor. The output would be the product of the values of the modulus operations, such that when taking that as the modulus of the divisor, you will get the problem's remainder.

   Function name should be **modulus_product**. Do not print anything out. Comment out or delete your test cases.

   Example:
   modulus_product(3,644,645) means 3^{644} mod 645. The function's output should be 3560436, because 81, 396, 111 are the remainders used in finding the overall problem's remainder, and 81 x 396 x 111 = 3560436. See the screenshot below for further details.



2. (10 points)
   Write a function, isPrime(L).
   input:

   - L - list of numbers greater than 1.

   output: numbers from that list that are prime
   example: isPrime([2, 5, 8, 10, 13]) will return [2, 5, 13]

   Do not print anything out. Comment out or delete your test cases.