Tutorial and Lab

1) Which of the following is true?

  1. 11 | 4

  2. 87 | 87

  3. 20 | 20

  4. 0 | 58

  5. 11|33 ∧ 11|110 → 11|143

  6. 19|38 → 19|380

  7. 3|12 ∧ 12|144 → 3 | 144

2) Express each of the following number as a product of primes: 23, 50, 18,

3) Find the following gcd's:

  1. gcd(11,88)

  2. gcd(33,77)

  3. gcd(16,36)

  4. gcd(22,35)

4) Find the lcm's:

  1. lcm(5,25)

  2. lcm(6,4)

  3. lcm(9,11)

5) Prime numbers are very important in encryption schemes. Essential to be able to verify if a number is prime or not. Please write a program in C/C++/ Java (any programing language) to test if a number entered from keyboard is a Prime no.

6) Calculate the following:

  99^1021 mod 7
  (97*132) mod 13

7) Write a program in C/C++/ Java (any programing language) to ask user input two integer a, b then calculate GCD(a,b) and display the result on the screen. Then update your program Calculate M, N, which GCD(a,b)=Ma+Nb for any a,b