Home work 2 : Pseudo Code and Flowchart

Q1: Draw Flowcharts that illustrate the following computations :
  Reads two numbers, perform following operations and print their results:
    a. Multiplies them together.
    b. Finds their LCM
    c. Find their GCD

Q2: Draw Flowchart that reads an integer form the user and reports that the number entered is not a prime number.

Q3: Draw Flowchart that performs the following:

Ask a user to enter a number. If the number is **even**, write the word *EVE*. If the number is **odd**, write the word *ADAM*. If the number is prime, write the word ALICE(Please follow same sequence in flowchart as described in problem).

Q4: Draw Flowchart that performs the following:
  a. Read in 5 separate numbers.
  b. Calculate the average of the five numbers and print the average.
  c. Find the smallest and largest of the five entered numbers and print them.

Q5: Draw the flowchart that reads in three numbers and writes them all in sorted order.

Q6 : In this exercise we would like to compute approximate values of pi using the **Riemann Sum**. The algorithm to compute the value of pi   utilises the fact that $1/ sqrt(1 - x^2)$ when integrated between 0 and 1 results in pi/2. Thus the following steps when performed results in the value of pi :

  1. Write the infinite series for $1/ sqrt (1 - x^2)$.
  [Hint : Use Binomial theorem to obtain the series]

  2. Integrate (between 0 and 1) $1/ sqrt (1 - x^2)$ and equate it to the the infinite series for it,
  put the value $x = 1/2$ and write pi / 2 as an infinite series.

  3. Truncate the series after n terms and evaluate the truncated series to get an
   approximate value of pi. Use the values $n=10^i$ for i=1,2,…,6.

Your assignment is to write a psedo- code for the above algorithm. Use comments at appropriate places in order to make the code readable.