ID1063: Programming practice

1. Write a program to accept two pairs (m_1, c_1) and (m_2, c_2) of real numbers and find the point of intersection (if any) of the lines $y = m_1x + c_1$ and $y = m_2x + c_2$. If the lines are parallel or identical, you may print a message stating the same.

2. Write a program to accept a positive integer n and print the number of divisors of n. For example, if $n = 300$, then the number of divisors is 18.

3. Write a program to accept a positive integer n, two vectors of length n into two arrays, and find their dot product. Example run: Enter the value of n: 5

   Enter the values of the first vector: 3 -1 10 2.5 6

   Enter the values of the second vector: 0.5 4 1 0 -0.5

   The dot product is 4.5.

4. Write a program that accepts a sequence of n positive integers, where $1 \leq n \leq 10$, and plots their histogram. You may assume that each integer is at most 10. Example run:

   Enter the value of n: 5

   Enter the 5 numbers: 4 7 2 1 3

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