Addition

Problem Description

From time to time you will have to solve problems where the numbers that you compute with are larger than the standard numbers supplied by your computing system. In this étude you will explore such problems.

Task

1. Add by hand the two numbers 573916 and 73897261 (base 10). Divide the result by 2 (noting any remainder). Clearly show your working.

2. Add by hand the two numbers 4625152 and 5356106 (base 7). Divide the result by 2 (noting any remainder). Clearly show your working.

3. Write a program to add two numbers with up to 1000 digits in any base up to 10.

   It should

   - ask the user which base the numbers are in

   - ask the user which numbers to add

   - perform the addition, print the result, and then print the quotient and remainder when the result is divided by 2 (all in the given base)

   You may not use packages such as Java's "BigInteger".

Relates to Objectives

1.1 1.3 2.1 2.2 2.3 2.4 2.7 2.8 2.9 3.1 3.4 3.5 4.3 4.5 4.8

(Pair)