Practice 5 – Arithmetic and Algebra

Ex1) Polynomial Coefficients

- **Problem**

  : Find the coefficients of $x_1^{n_1} x_2^{n_2} \cdots x_k^{n_k}$ about polynomial P

$$P = (x_1 + x_2 + \cdots + x_k)^n$$

- **Input**

  (1) Frist, Input space-separated two integer values of n and k .

  (1-1) 0 < n, k < 13

  (2) Second, Input space-separated integer values of $n_1 \sim n_k$

  (2-1) $n_1 + \cdots + n_k = n$

- **Input Examples**

  2 12

  1 0 0 0 0 0 0 0 0 0 1 0

Ex2) Primary Arithmetic

- **Problem**
  : Find the number of carries (places to raise), given two numbers of addition problems.

- **Input**
  (1) In each row, two unsigned integers less than ten digits are entered
  (2) In final row, ‘0 0’ are entered (termination)

- **Input Examples**
  123 456
  555 555
  123 594
  0 0

Ex3) All digits ‘1’ Number

- **Problem**
  : Given n which is a integer range from 1 to 9,999 and can not be divided into 2 or 5, there is that number of all digits is 1 among multiples of n. What is the digits of the smallest multiple of n that satisfies the number ?

- **Input**
  Input a value of n (range from 1 to 9,999)

- **Hint**
  when $p = n$ x b satisfies the condition, p re-expresses
  $p = \sum_{i=0}^{x-1} 1\mathbf{x}10^{i}$