Arrays

Instructor: Ha Viet Uyen Synh, Ph.D.

1. Write a program that calculates the value of the following expression given the parameters a_i

   $F(x) = a_0 + a_1 x + a_2 x^2 + \ldots + a_n x^n$

2. Write a program that performs 4 arithmetic operators (+,-,*,/) on two polynomials.

3. Write a program that inputs a natural number N (N <=30000) and outputs the number of number 0s of the factorial N!

4. Calculate the area of a polygon.
   Input: Input.txt containing 2*n integer where n is the number of vertexes of the polygon.
   Output: The area of the polygon.

5. Write a program that adds two big integers, each integer contains 300 number characters.

6. Write a program that multiples two big integers, each integer contains 300 number characters.

7. Split a package of money into 3 types of money: 2, 5 and 10 USD to get the minimum number of sheets and the number of sheets 2 USD equals 5 times the number of sheets 5 USD.

8. How many ways are there to put N students sitting in a circle.

9. Write a Hang Man game

10. Write a Reversi / Caro game (human vs human)