PES University
Dept of CSE
Data Structures and its Applications Lab
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Lab 3a – Polynomial Evaluation using Singly Linked List

Write a program to evaluate a polynomial using a Singly Linked List. A polynomial of degree n is an expression of the form a0 + a1*x + a2*x^2 + a3*x^3 + … + aN*x^N. For a certain input of N, ai, and x, where i value range from 0,1,2....N .calculate the value of the above expression and print the value.

Input:
Each input file contains a single polynomial expression to be evaluated. The first line of the file contains a single integer N, denoting the degree of the polynomial. The second line contains N+1 different integers, denoting the coefficients, going from a0 to aN. The third line contains a single integer, denoting the value of the x. Using these values, calculate the value of the polynomial.

Note:
One way to express a polynomial expression using a Singly Linked List is by using the index of the node to represent the power of a single term and storing that term's coefficient as the data in that node. This means that the head node would contain a0, followed by a1, and so on. The last node in the linked list will contain aN.

This method has been used to represent the polynomial in a linked list. Completing the required functions correctly is enough to solve the problem.

Output:
Print a single integer, denoting the value of the evaluated polynomial expression.

Sample input :
2
1 2 3
5

Sample output:
86