

## Polynomial Project

### Part 1: Implementation using Array Structure

Create a *polynomial* class, using an array, that will:

Include a constructor for a polynomial of a given degree, and a default constructor for some unknown degree.

add / subtract two polynomials and store the answer as a new polynomial

multiply two polynomials and store the answer as a new polynomial

evaluate a polynomial for a given value of  $c$  and return the value.

Write a driver program to **fully** test your program for a variety of inputs.

Explain the time and space complexity of each of the methods / functions.

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### Part 2: Implementation using Linked List Structure

Basically, the same as part 1 **except** use a linked list to implement your polynomial!

Include a comparison of time and space complexity with your array implementation, and discuss which method is best or how you would choose between them!