Project 0 Design

My project can be described as three sections. One pertaining to the polynomials, one to the nodes and the last to operations with int main. For the two classes, there is a separate document for the definition and declaration

Nodes are used to store the polynomial values. They operate as a linked list where each node has two values, the value of the coefficient and the address of the next node. This is only used for storage purposes, most operations are performed with arrays initialized to the values corresponding to the linked list. The functions consisted of fetching the values in the node class and initializing it by passing an array that contained the coefficient values, a counter and a size. This was initialized recursively.

The polynomial class possesses two key values: the size of the polynomial and the address of the first node within the linked list. There are several different class functions, including creating, comparing, adding and multiplying arrays, as well as evaluating the polynomial. There were also functions to get values corresponding to class. To simplify performed operations, each time one was necessary an array was initialized. Then the expected output was initialized as an array and the two were compared. Initially the arrays were then deleted however some errors prevented this operation. Because this project consists of two polynomial classes, every time a new set of values was given for p1 or p2 the old class instance was deleted.

The polynomialtest.cpp contains the parsing of the input. Each line is read separately and then divided into a vector. Based on the first value within the vector array a different operation is appropriately performed. These include coeff_p1 and coeff_p2 (initializes appropriate class instance), eval (for evaluating polynomial, add (add the two polynomials), mult (multiply two polynomials) and get (compare an expected output to the current polynomial). The only outputs were the cout outs of success or failure. Besides the initializer function there was a function that checked the size of the vector (returned bool) and a vector cleaner which returned a double array. Finally, there was a function that got the size of a vector.