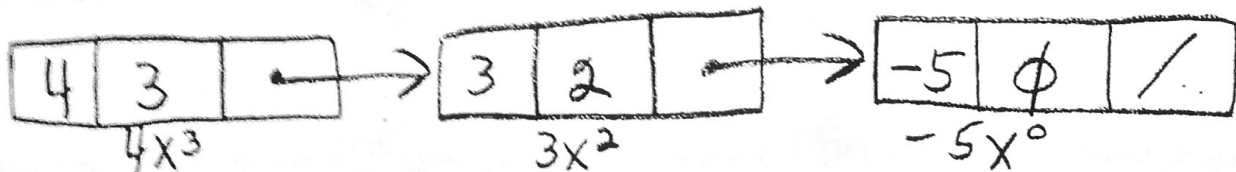## CSC 236 - Lab 3 (2 programs) LLL

1. A polynomial can be represented as a linked list, where each node called a polyNode contains the coefficient and the exponent of a term of the polynomial.

For example, the polynomial $4x^3 + 3x^2 - 5$ would be represented as the linked list:

- Write a Polynomial class that has methods for creating a polynomial, reading and writing a polynomial, and adding a pair of polymomials.

- In order to add 2 polynomials, traverse both lists. If a particular exponent value is present in either one, it should also be present in the resulting polynomial unless its coefficient is zero.

2. Each student at Middlesex County College takes a different number of courses, so the registrar has decided to use linear linked lists to store each student's class schedule and an array to represent the entire student body.

A portion of this data structure is shown below:
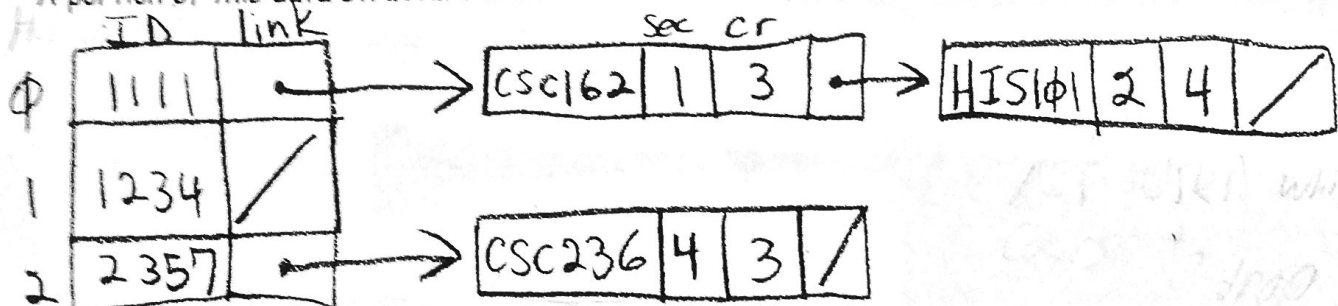
These data show that the first student (ID: 1111) is taking section 1 of CSC162 for 3 credits and section 2 of HIS101 for 4 credits; the second student is not enrolled; the third student is enrolled in CSC236 section 4 for 3 credits.

Write a class for this data structure. Provide methods for creating the original array, inserting a student's initial class schedule, adding a course, and dropping a course. Include a menu-driven program that uses the class.