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Recommended Labs – Monday, May 29, 2006

1) Implement ADT Polynomial (with one variable x):
ADT should include:
- constructor for creating "empty" polynomial whose value is always 0;
- methods for setting and retrieving coefficient;
- method for evaluating the polynomial at given value x;
- method for summing, subtracting and multiplying (optional) of 2 polynomials;
- (optionally) a method computing a derivation of polynomial;
- printing method which will display polynomial in human form.

Think of some suitable data structure for representing the polynomial. One possibility would be an array, where A[i] represents a coefficient of x^i. You can reuse implementation of ADT List from the lecture/textbook if you want.

2) If you finish 1) you can work on the optional homework from the last week. That was: take the implementation of ADT List and modify add() method so that it will resize the array when it runs out of space.
Additionally, you can also modify remove() method, to downsize the array when less than 1/4 of array is occupied.