

## Lab 7

### Turn In:

1. Coding Assignment – Due Thursday, ???? ??, 2013
  - a) For each exercise, a hardcopy package must be generated to include the following items:
    - Cover Sheet (see the sample copy include in lecture note)
    - Exercise/problem statement
    - Copy of program (named as **cis27Spring2013YourNameLab7Ex1**)
    - Copy of output (copy and paste from output screen as possible)
  - b) Submitting in class one hard copy package for each exercise; and
  - c) Emailing your work as follows,
    - One message for each exercise.
    - Attaching the source file (program) that was created in part (a).
    - The SUBJECT line of the message should have one of the following lines:  
**CIS 27 Spring 2013 Your Name : Lab 7 - Exercise #1**  
Or,  
**cis27Spring2013YourNameLab7Ex1**
2. Q.E.D.

\*\*\*\*\*

## 1. Coding Assignment

### Exercise #1

1. Write a menu program to have the display below,

```
CIS 27 - C Programming
Laney College
Your Name
```

```
Assignment Information --
```

```
Assignment Number:  Lab 07,
                                Coding Assignment -- Exercise #1
Written by:          Your Name
Submitted Date:      Due Date
```

2. You are going to work with polynomials that have fraction as coefficients and integers as powers/exponents. The polynomials will be created as linked lists with the information and specifications given below.

```
struct PolyTermYourName {
    int expo;
    struct FractionYourName coeff;
};

typedef PolyTermYourName* PolyTermAdrYourName;

struct PolyNodeYourName {
    PolyTermAdrYourName* dataPtr;
    struct PolyNodeYourName* next;
};

typedef struct PolyNodeYourName* PolyNodeAdrYourName;

typedef struct PolyNodeYourName* PolyListYourName;

typedef PolyListYourName* PolyListAdrYourName;
```

3. And, you are to create several functions to create and perform some simple tasks as indicated below.

```
PolyNodeAdrYourName createPolyNodeYourName(void)

int insertPolyNodeYourName(PolyListAdrYourName*, PolyNodeAdrYourName)

PolyNodeAdrYourName searchPolyNodeYourName(PolyListAdrYourName,
                                           struct PolyTermYourname);

int getPolyOrderYourName(PolyListAdrYourName);

int printPolyYourName(PolyListAdrYourName);

void menuPolyYourName(/*Your Choice of Argument List*/);
```

4. Write a **menu** program to have the above options for the polynomials.

Your menu program should not use global data; data should be allowed to be read in and stored dynamically.

5. Name your program as `cis27Spring2013YourNameLab7Ex1.c`

Test your output with the data below.

Poly #1:  $\{\{2, 1/1\}, \{1, 3/4\}, \{0, 5/12\}\}$

Poly #2:  $\{\{4, 1/1\}, \{2, -3/7\}, \{1, 4/9\}, \{0, 2/11\}\}$

Make sure that the output is reasonable and detailed enough so that the user would understand the list – Use `printf()` measurably.

Attach the output at the end of your source code (as comment).

```
*****
*      POLYNOMIAL MENU      *
* 1. Creating polynomial *
* 2. Searching for node   *
* 3. Getting poly order  *
* 4. Displaying poly     *
* 5. Quit                *
*****
Select the option (1, 2, 3, 4, or 5): 6
```

You should not be in this class!

```
*****
*      POLYNOMIAL MENU      *
* 1. Creating polynomial *
* 2. Searching for node   *
* 3. Getting poly order  *
* 4. Displaying poly     *
* 5. Quit                *
*****
Select the option (1, 2, 3, 4, or 5): 4
```

No Polynomial to be DISPLAYED!

```
*****
*      POLYNOMIAL MENU      *
* 1. Creating polynomial *
* 2. Searching for node   *
* 3. Getting poly order  *
* 4. Displaying poly     *
* 5. Quit                *
*****
Select the option (1, 2, 3, 4, or 5): 1
```

`//Performing the required task`

```
*****
*      POLYNOMIAL MENU      *
* 1. Creating polynomial *
* 2. Searching for node   *
```

```
* 3. Getting poly order *
* 4. Displaying poly    *
* 5. Quit               *
*****
```

Select the option (1, 2, 3, 4, or 5): 2

```
//Performing the required task
```

```
*****
*      POLYNOMIAL MENU      *
* 1. Creating polynomial *
* 2. Searching for node   *
* 3. Getting poly order  *
* 4. Displaying poly     *
* 5. Quit                *
*****
```

Select the option (1, 2, 3, 4, or 5): 3

```
//Performing the required task
```

```
*****
*      POLYNOMIAL MENU      *
* 1. Creating polynomial *
* 2. Searching for node   *
* 3. Getting poly order  *
* 4. Displaying poly     *
* 5. Quit                *
*****
```

Select the option (1, 2, 3, 4, or 5): 4

```
//Performing the required task
```

```
*****
*      POLYNOMIAL MENU      *
* 1. Creating polynomial *
* 2. Searching for node   *
* 3. Getting poly order  *
* 4. Displaying poly     *
* 5. Quit                *
*****
```

Select the option (1, 2, 3, 4, or 5): 5

Having Fun!