National University of Computer & Emerging Sciences, Karachi
Spring-2020 (CS-Department)

CS217 - Object-oriented Programming (OOP)

Assignment # 2

Max Points: 30 **Due Date:** Wednesday, April 15, 2020, 11 a.m.

Carefully read the following instructions!

- It should be clear that your assignment would not get any credit if the assignment is submitted after the due date. No assignment will be accepted after the due date.
- Strict action will be taken if submitted solution is copied from any other student.
- If you people find any mistake or confusion in assignment (Question statement), please consult before the deadline. After the deadline no queries will be entertained in this regard.
- For any query, feel free to email at: **basit.jasani@nu.edu.pk**
- **Submission:** Submission will only be accepted through SLATE. Submit all your codes in a single folder name it as your Student ID **"KXX-XXXX"**. The folder will contain one C++ program file as Q1.cpp with proper commenting of the code.

Polynomial Problem

Develop class Polynomial.

2x^4

The above object has the coefficient 2, letter ‘x’ and the exponent 4. Develop a complete class containing proper constructor and destructor functions as well as set and get functions. The class should also provide the following overloaded operator capabilities:

a) Overload the addition operator (+) to add two Polynomials.

b) Overload the subtraction operator (-) to subtract two Polynomials.

c) Overload the assignment operator (=) to assign one Polynomial to another.

d) Overload the multiplication operator (*) to multiply two Polynomials.

e) Overload the addition assignment operator (+=), subtraction assignment operator (-=), and multiplication assignment operator (*=).

f) Overload the required operator to solve the whole equation.
   - Eq#1 : 2x^4 + 3y^2 + 1x ***(Input)***
   - Eq#2 : 3x^2 + 2x^4 - 3y ***(Input)***
   - Resulting Equation : 4x^4 + 3y^2 + 1x + 3x^2 – 3y ***(Output)***

********** **Good Luck** **********