CS515 CS Lab 2

Assignment No: 1

A polynomial is composed of different terms where each of them holds a 'coefficient' and an 'exponent'. Ex.: Polynomial **$p(x) = 3x^5 + 2x^4 + 5x^2 + 2x + 7$.** Each term of the polynomial contains a 'coefficient' and 'variable with exponent'. In the above polynomial, '3' is the 'coefficient' of 'x^5 '. If any term has no coefficient then it means the coefficient is '1'. 'X' is a variable with a different 'exponent'. If any term does not have a variable the exponent of that variable is '0', i.e. 'x^0 '. Thus P(x) can be represented as [(3,5) (2,4) (5,2) (2,1) (7,0)]

Write a program in C or C++ program to multiply two polynomials

Ex.: **$p1(x) = 3x^5 + 2x^4 + 5x^2 + 2x + 7$ and $p2(x) = 2x^5 + x^4 + 3x^2$.**

The resulting polynomial P(x) = p1(x) * p2(x)

$P(x) = 6x^{10} + 7x^9 + 2x^8 + 19x^7 + 15x^6 + 16x^5 + 22x^4 + 6x^3 + 21x^2$