Polynomial

A **polynomial** is an expression that is constructed from one or more variables and constants, using only the operations of addition, subtraction, multiplication, and constant positive integer number exponents. For example, x^2-4x+ 7 is a polynomial, but x^2- 4/x+ $7x^{3/2}$ is not a polynomial because it involves division by a variable and because it has an exponent that is not a positive integer number.

Lab work:

Write a Class called polynomial which has:

1. A print function that displays the polynomial in a suitable form.
2. The following logical operators = =, ! =.
3. A copy function that returns a copy of the polynomial.
4. A PolyVal function that takes the value of x and returns the value of the polynomial.
5. A RemoveTerm function that takes the term exponent and remove the term of that exponent.
6. An AddTerm function that takes two numbers represent a coefficient and an exponent of a term and add that term to the polynomial. If a term of the same exponent is found in the polynomial, the coefficient of that term should be updated only and if the updated term coefficient became zero, it should be removed.
7. A MulTerm function that multiply the polynomial by a term (exponent and coefficient) and returns the resultant polynomial.
8. The following mathematical operators +, - , *, /, %.
9. An Integral function that returns a polynomial after integration (Set the integration constant to zero).
10. A Differentiate function that returns a polynomial after differentiation.

Note you have to write a main function to test the polynomial class.