CSCI/MATH 3180
Lab Assignment #3

flexible inputs.

Construct the Newton form of the interpolating polynomial of degree 6 for the function $f(x)= (x^2 +1)^{-1}$ using the data points at x= -6, -4, -2, 0, 2, 4, 6.

Part II. Use Visual Studio 2012 to do the following task.

1. Create a C++ console application project in Visual Studio 2012 and name your project **YourLastName3**.
2. Write a program that implements the Newton Interpolation discussed in class.
3. Write a separate function for each of the following. You may define and call additional functions.
   - Computation of divided differences
   - Evaluation of the interpolating polynomial
4. All floating point arithmetic will be **double** precision.
5. Program input: Refer to the lecture notes.
6. Program output
   - Divided difference table
   - Table containing f(x), P(x), |f(x) – P(x)| for the 13 data points.