

Homework Assignment 6

Due on Friday 11/9

Programming Problems:

1. Write a Matlab code that generates Neville's tables for given $\{x_i, f_i\}$ data and x . Your code should take $x, \{x_i, f_i\}$ as input data. After executing the code, it should display whole table and output $P_n(x)$.

2. Write a Matlab code that generates Netwon's form table of the interpolating polynomials for given $\{x_i, f_i\}$ data. Your code should take $\{x_i, f_i\}$ as input data. After executing the code, it should display whole table and output all a_i .

Save your code as function M-file and submit them to num_ana@math.nthu.edu.tw

Writing Problems:

Do the following exercise problems in the text book by Bradie,

Sec 5.1: 1, 5*, 7, 8, 9*, 11*, 16*

Sec 5.2: 3, 6*, 7, 10*

Sec 5.3: 5*, 10*, 12*

Do all problems by hand without using codes except 3 and 16 in Sec 5.1. **Please provide the intermediate steps and results to show how you get the final answer instead of giving it only.**

We only discuss * problems in discussion section.