

Worksheet #13 (2017/11/27)

Name:

ID:

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- We plan to cover Sections 7.1–7.3.5 today.
 - We use Chapter 07 slides 1–39.
 - This is corresponding to the textbook pages 309–326.
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- 1) What is the main difference between interpolation and least squares problems?
 - 2) What are the major considerations when selecting interpolation functions?
 - 3) Why monomial basis leads to ill-conditioned A ?
 - 4) Compare monomial basis and Lagrange interpolation in easy of: (i) derivation and (ii) evaluation.
 - 5) Will the order of points t_1, t_2, \dots, t_n affect the answers (outputs) of the newton interpolation? Will it affect the condition number? How do we sort them for better condition number?
 - 6) When interpolating continuous functions, equally spaced samples lead to larger errors close to ends of intervals. How can we address it?