

MAT631 PROBLEM SET 6

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Last Date of Submission. 06 March, 2025.

Instructions. Please read the instructions on the course website carefully before submitting your solution(s).

Questions.

- (1) (**Shubham**) Give a detailed proof of equation (3.23) from the textbook.
- (2) (**Anant**) Give a detailed proof of equation (3.24) from the textbook.
- (3) (**Saikat**) Similar to equation (3.23) and (3.24) find an expression between h_n and e_j 's.
- (4) (**Anubhav**) Give a good formula for the following determinant:

$$\det \left(\binom{x_i + j}{j} \right)_{0 \leq i, j \leq n}.$$

- (5) (**Kanak**) Give a good formula for the following determinant:

$$\det \left(\frac{1}{1 - x_i x_j} \right)_{1 \leq i, j \leq n}.$$