Math 170S
Homework for Section 7.5 [*†]
Instructor: Swee Hong Chan

Note: Homework will not be collected, but the question for the quizzes might be picked from the homework questions.

1. Let Y be an unknown random variable. Let $Y_1 < \ldots < Y_n$ be the order statistic of a random sample of Y of size n. Let m be the median of Y, and let $[Y_1, Y_n]$ be the confidence interval for m. Show that the corresponding confidence constant $1 - \alpha$ is equal to
$$1 - \frac{1}{2^{n-1}}.$$

2. Solve Problem 7.5-1 in the textbook.

3. Solve Problem 7.5-4 in the textbook.

4. Solve Problem 7.5-7 in the textbook.

[*]Version date: Sunday 3rd May, 2020, 03:12.

[†]This homework is based on Hanbaek Lyu's and Liza Rebrova's homeworks from the previous quarter, and I would like to thank her for her generosity here. "*Nanos gigantum humeris insidentes* (I am but a dwarf standing on the shoulders of giants)".