

Homework 3 for MATH 435

Due: Friday Sep 17

Problem 1

Book, p. 124, Exercise 2.26

Problem 2

Book, p. 124, Exercise 2.28

Problem 3

Book, p. 124, Exercise 2.34

Problem 4

Book, p. 125, Exercise 2.35

Problem 5

(*) Let $n \geq 1$, and let $\alpha \in S_n$. A pair (i, j) , $1 \leq i < j \leq n$, is an *inversion* in α if $\alpha(i) > \alpha(j)$. Show that

$$\operatorname{sgn}(\alpha) = \begin{cases} 1 & \text{if \# of inversions in } \alpha \text{ is even,} \\ -1 & \text{if \# of inversions in } \alpha \text{ is odd.} \end{cases}$$