

MATH 113: DISCRETE STRUCTURES
HOMEWORK DUE WEDNESDAY WEEK 8

Problem 1. List all parking functions $p = (p_1, p_2, p_3, p_4)$ such that $p_i \leq 2$ for all i .

Problem 2. Which of the following are parking functions? Explain your reasoning.

- (a) $(4, 1, 3, 3)$ (b) $(1, 1, 1)$ (c) $(4, 1, 3, 3, 4)$ (d) $(5, 2, 6, 2, 2, 5, 1)$.

Problem 3. For each of the following parking functions p , let q be the corresponding increasing parking function, found by sorting the elements of p , and then draw the Dyck path corresponding to q according to the method described in our text.

- (a) $(1, 5, 3, 3, 1, 4)$ (b) $(1, 1, 1, 1)$ (c) $(4, 4, 1, 1, 2)$.