

# A PLETHORA OF VALLEY DATA

## 1. WITHOUT ASSUMPTION OF $q, t$ -SYMMETRY

We would like to find a bijection between standard parking functions with  $k$  marked rises and standard parking functions with  $k$  marked valleys.

**Example 1.** We tabulate all parking functions of semilength 3 with one marked rise/valley of area 1 as in figs. 1 and 2.

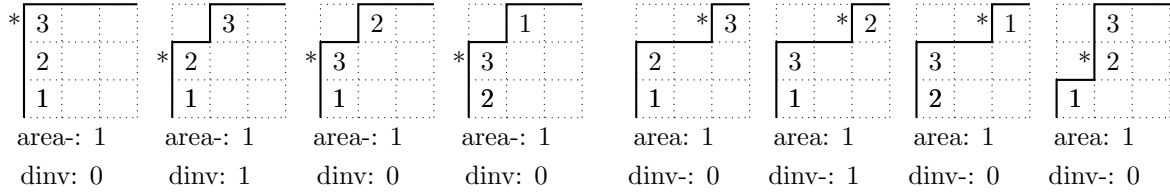


FIGURE 1. Parking functions of 3 cars with one marked double rise and area 1.

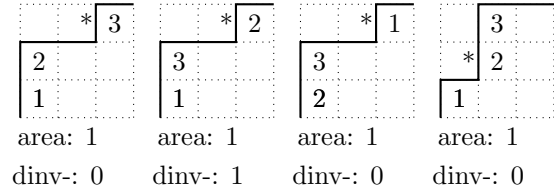


FIGURE 2. Parking functions of 3 cars with one marked valley and area 1.

**Example 2.** We tabulate all parking functions of semilength 4 with two marked rises/valleys with area 2 in figs. 3 and 4.

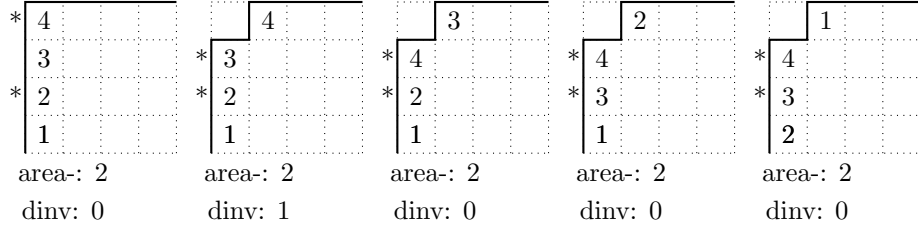


FIGURE 3. Parking functions of semilength 4 with two marked rises and area 2.

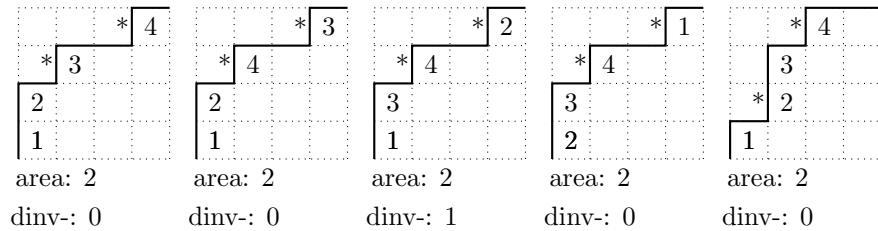


FIGURE 4. Parking functions of semilength 4 and two marked valleys and area 2

**Example 3.** We tabulate all parking functions of semilength 4 with two marked rises/valleys of area 1 in figs. 5 and 6.

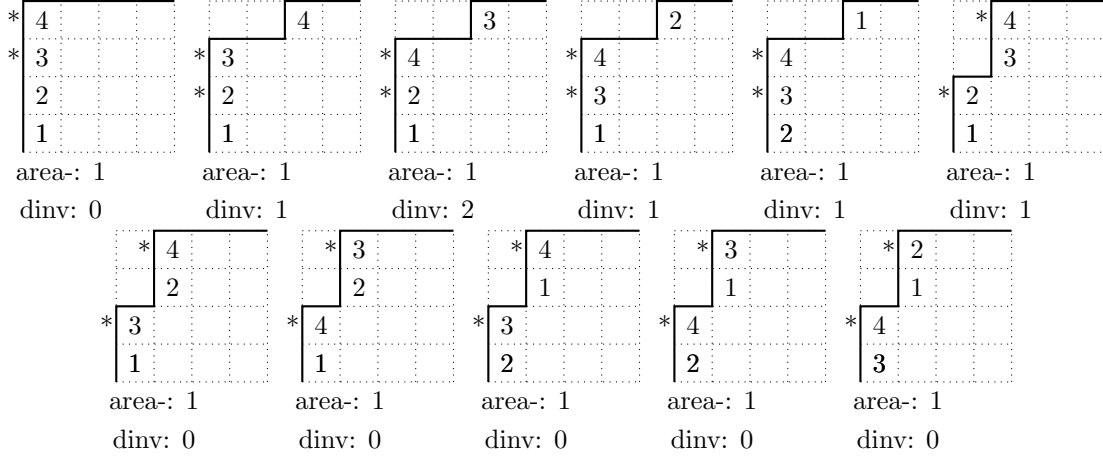


FIGURE 5. Parking functions of semilength 4 with two marked rises and area 1.

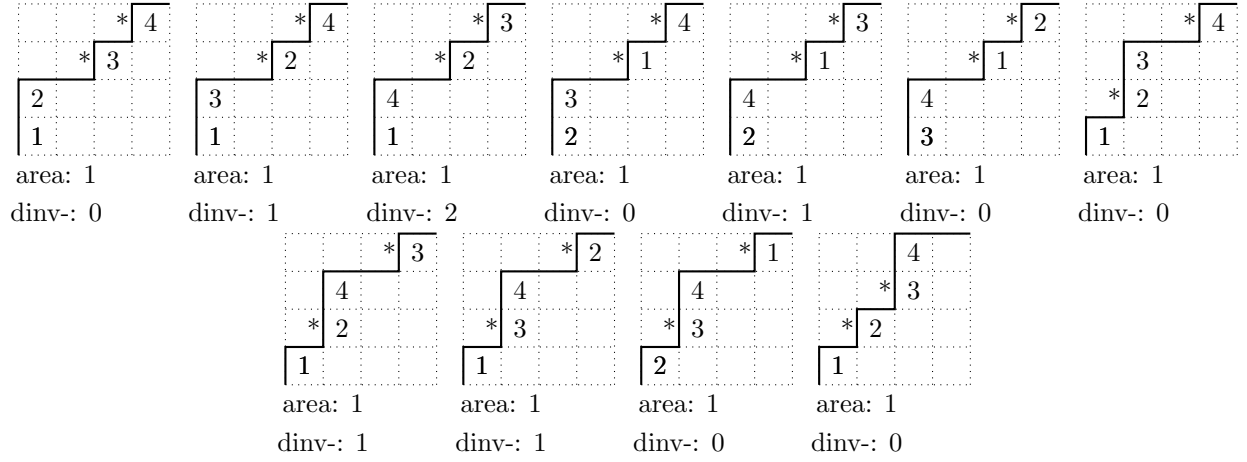


FIGURE 6. Parking functions of semilength 4 with two marked valleys and area 1.