Title of the Paper

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Abstract

This is the abstract of the paper. It provides a brief summary of the content.

1 Introduction

2 Definition

3 Main Results

Theorem 3.1. *Let $w \in Q_n$ then the parking of w is also in Q_n.*

Proof. Consider $i \in [n]$. We can write w as $w = w(1)w(2)\dots i \dots j \dots j \dots i \dots w(2n)$. Notice that the first i must park in ahead of the first j. If this was not the case then j must be lucky while i was not lucky; however, since i appears before j, the jth spot would be open for i to park in which is a contradiction. Thus, the first i must park before the first j. The second pair will always be unlucky; hence, would maintain their relative order in the parking. This shows that w is in Q_n. □

It turns out that the set of image of Q_n under the parking map is a subset of the set of stirling permutations that is easily characterized.

Lemma 3.2. *The image of Q_n under the parking map is the set of stirling permutations such that $w(j) = i$ implies $i \leq j$.*

Proof. Since a car with prefence i can only park in position i or later and a parked stirling permutation is a stirling permutation, we must have $w(j) = i$ parking at or after spot i. □

In fact, we have $|p(\mathrm{Q}_n)| = n!$ because

3.1 Theorem and Proof

Theorem 3.3. *Statement of the theorem.*

Proof. Proof of the theorem. □

4 Conclusion

The conclusion section goes here.

References

[1] Author, *Title of the Book*, Publisher, Year.