

Distribution of sets of descent tops and descent bottoms on restricted permutations

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We prove some and conjecture other results regarding the distribution of descent top and descent bottom sets on some pattern-avoiding permutations. In particular, for 3-letter patterns, we show bijectively that the set of descent tops and the set of descent bottoms are jointly equidistributed on the avoiders of 231 and 312. We also conjecture similar equidistributions for 4-letter patterns, in particular, that the set of descent tops and the set of descent bottoms are jointly equidistributed on the avoiders of 3142, 3241, 4132. This conjecture has been recently generalized and proved by Zhou, Zang, and Yan.

References

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