On an open problem of the symmetric group

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Abstract: Many people are often surprised to hear that mathematicians do research. What is mathematical research? Research in mathematics takes many forms, but one common theme is that the research seeks to answer an open question concerning some collection of mathematical objects. The goal of this talk will be to introduce you to one of the many open questions in mathematics: how many commutation classes does the longest element in the symmetric group have? We will review the basics of the symmetric group and introduce all of the necessary terminology, so that we can understand this question.