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*Investigating the role of computing in solving counting problems: Four Python commands that correspond to four common problem types.*

Computational thinking and activity are increasingly important aspects of scientific and mathematical work. In mathematics education, there is a need to investigate the ways in which students' computational activity affects how they reason about mathematical concepts. In this talk, I present results from a study in which undergraduate students engaged with Python programming tasks designed to elicit particular combinatorial ideas. I demonstrate how four simple Python commands correspond to four common types of counting problems, and I provide examples from student interviews to illustrate how they reasoned about combinatorics in a computational setting. These results suggest that even elementary programming activity can illuminate important combinatorial distinctions for students. I conclude by providing some practical implications and suggesting avenues for further research investigations. (Received September 15, 2018)