Problem 1 (due on Monday, September 9)

Find all natural numbers $n>1$ such that $2!+3!+\ldots+n!$ is a cube of an integer.

The problem was solved by Sasha Aksenchuk, Prof. Vladislav Kargin, Josiah Moltz, and Mithun Padinhare Veettil. The only solution is $n=3$. All solutions received and our in-house solution are based on the observation that a cube of an integers must yield a remainder 0, 1, or 6 when divided by 7. For a detailed solution see the following link Solution.