Homework Set 8 (Lecture 27)

Problem 6

Example 16. Bob randomly generated $N = 119$ for his public RSA key. What is the smallest possible choice for e?

> **Solution.** Recall that e must be invertible modulo $\phi(N) = \phi(7)\phi(17) = 6 \cdot 16$. Hence, $e = 2, 3, 4$ are not allowed. Therefore, the smallest possible choice for e is $e = 5$.