

CSCE 317, Spring 2014, Assignment 4
Due 12:00 noon, Monday March 24

March 10, 2014

As usual, show your work.

1. In class, we described how the accept-reject method can be used to sample a random variable $X \sim \text{Normal}(0, 1)$ using a random variable $Y \sim \text{Exp}(1)$. This is also described in the textbook on pages 76–77. Is this optimal, or is it possible to obtain a smaller value of c (i.e., smaller than $\sqrt{2e/\pi}$) by starting with $Y \sim \text{Exp}(\lambda)$ for some positive $\lambda \neq 1$? Explain.
2. Do Exercise 6.1 on page 111.
3. Do Exercise 6.2 on pages 111–112.
4. Do Exercise 6.3 on page 112.
5. Do Exercise 6.4 on page 112.