Structure and Interpretation of Computer Programs
October 2000

Problem Set 8
Streams and Series, Addendum

Exercise 5

This exercise suggests testing of your definition of `mul-series` with S_1 and S_1 to generate S_2. This test, unfortunately, masks many potential bugs in `mul-series`. Instead of these sequences, we recommend testing with the following sequences, which are taken from the example multiplication worked out in the exercise.

$$\begin{aligned} S_{11111} &= 1 + x + x^2 + x^3 + x^4 \\ S_{12321} &= 1 + 2x + 3x^2 + 2x^3 + 1x^4 \end{aligned}$$

With all higher terms being zero. When applying your definition of `mul-series` to these two, you would expect to see the series represented by the product shown in the example (136898631, again with all higher terms being zero). You should also test that S_1 against S_1 gives S_2, as suggested by the original text.