CS 323E **Homework 1** **Due: February 3**

1. Read Sections 1.1 and 1.2 from the textbook (nothing needs to be turned in).

2. Run the MATLAB script file **ExpPlot** given on page 16. Try 200 equally spaced points (as on page 16) as well as 10 equally spaced points. Turn in both plots.

3. Do Problem P1.2.9 from the textbook.

4. Write a MATLAB function to compute P_n, where

$$\begin{aligned} P_{n+1} &= 2^n \sqrt{2\left\{1 - \sqrt{1 - \left(\frac{P_n}{2^n}\right)^2}\right\}}, \quad \text{for } n = 2, 3, \ldots \\ P_2 &= 2\sqrt{2}. \end{aligned}$$

   For your function, you should create a text file called myFunc.m (or choose a different name). On the first line of the file, write: function p = myFunc(n). This says that myFunc is a MATLAB function that takes n as an argument and outputs p.

   Compute and print out P_n for $n = 2, 3 \ldots 40$. Does P_{21} seem to approximate π? What about P_{30}?