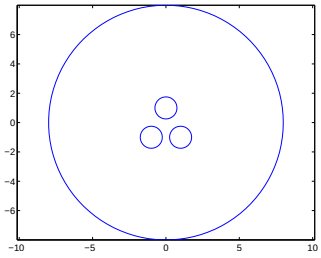
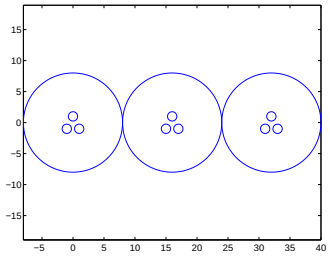
Lecture 2: CADLAB Exercises

Tasks

1. Write your own version of `threeTermSine.m` to compute the three term approximation to $\sin(x)$
   - Input x, the argument of $\sin(x)$ and output only s, the value of the three term approximation.
   - Test your `threeTermSine` function with a range of x values. Compute the error $e = s(x) - \sin(x)$, where $s(x)$ is the output from your `threeTermSine` function.
2. Write a second function, say `demoThreeTerm` that calls your `threeTermSine` function and plots the error for a range of x. Do not change the `threeTermSine` function except to allow a vector of input values.
3. Log off/Log on test – prove that you know where your files are kept.
   - Save your work
   - Log out
   - Log on
   - Prove that you can find your files and run them again
4. Download the `draw_circle` and `fill_circle` codes for problem set 1.
5. Write an m-file function, say `bowlingBall` that makes a simple cartoon of a bowling ball.
6. Modify your bowling ball function so that it draws a bowling ball with it's origin at (x_o, y_o), where x_o and y_o are inputs.
7. Write another m-file function, say `threeBalls` that calls your bowling-ball-drawing m-file three times with different (x_o, y_o) values so that the three bowling balls appear side-by-side. How many times is the `draw_circle` function called?



Output of `bowlingball`



Output of `threeBalls`