Homework #7

- Textbook:
  - Due: 2.1.17, 2.1.31 2.1.32, 2.1.33, 2.2.15.
  - Not due: 2.1.30, 2.2.24, 2.2.22.
- Programming:

1. (a) Write a function that takes as input
   - dimension n;
   - $n \times n$ matrix A;

   calculates the infinity norm of A using the formula

   $$||A||_\infty = \max_{1 \le i \le n} \sum_{j=1}^{n} |a_{ij}|,$$

   and outputs the result. Write out or print out your function and turn it in.

   (b) Let A = the tridiagonal matrix with p's for elements on the main diagonal and q's for elements on the lower diagonal and r's for elements on the upper diagonal. For $n = 100$ and $(p, q, r) = (2, -1, -1)$ and $(4, 2, 1)$ and $(-10, 3, -5)$, have Matlab calculate A^{-1} using the command: inv(A), and write out or print out the results of your function on A^{-1}.