Hand in your Python scripts and program output.

1) (3 pts) Write a function that will take in the coordinates of a point (x, y) and return the polar coordinates of the point. Test your function using the point (-4.1,-4.1).

2) (8 pts) Write a function that will take in a list x of double precision values and return either the 1-norm, the 2-norm or the infinity norm of the list. Use a `flag` input variable to determine the type of norm to compute. Test your function for all three cases using the first column of the `hw30_1.dat` data file.