MAT 150C, Spring 2017
Homework Assignment 3

Due before the start of the class on Monday, April 24

Please read Sections 10.1-10.5 of the textbook before starting on the problem set.

Written Assignment:
Problem C; Page 316: exercise 4.4, 4.8; Page 318, exercise 6.5.

C. Suppose that a group G acts on a finite set X. Let $\mathbb{C}[X]$ denote the space of all functions from X to $\mathbb{C}$.
a) Define a representation of G on $\mathbb{C}[X]$.
b) Prove that every G-orbit in X defines an invariant subspace in $\mathbb{C}[X]$.

The homework must be legible, and written in connected sentences that explains what you are doing. Just the answer (whether correct or not) is not enough. Please put your name and section number on every page and staple the pages together. Homework should be handed in on time, late homework will not be graded.