

EE538 Digital Signal Processing I

Homework 1

Due Date for On-Campus Students: Monday, 28 September 2009

Due Date for Off-Campus Students: Due by e-mail the day Session 11 is viewed at your site.

Note 1: This homework is worth $15/3 = 5$ points of your final grade.

Note 2: The goal of this Matlab homework is to exercise you on the practical applications of discrete-time correlation. An additional goal is to get you started on using Matlab.

Problem. 2.62. pp. 148-149 of the Proakis and Manolakis Textbook.

Corrections:

- (c) Plot $r_{yx}(\ell)$ NOT $r_{xy}(\ell)$.
- (e) Repeat parts (b), (c), and (d) for the signal sequence ...
- (f) Repeat parts (b), (c), and (d) for a sequence of period ...

General Information.

Deliverables for this project include 21 plots. Each plot should be clearly labeled, and should be accompanied by a brief explanation. The collection of plots and accompanying explanations should be put together in a cohesive manner in the form of a very brief report. Don't go overboard – this is simply a homework, **not** a project. Append source code to the report.

You may use any Matlab command you like in solving these problems. Each student is expected to do his/her own work and each must turn in his/her own report. Again, your write-up for this homework should be in the form of a very brief report. Handwriting is acceptable but please be sure it is legible. Your report should include:

- Answers to all questions posed including mathematical development where necessary.
- The 21 plots and explanations.