Activity: MATLAB 2 Bonus
File: ML2_ACT_katherto.pdf
Date: 22 November 2015
By: Kathryn Atherton
katherto
Ryan Hellyer
rhellyer
Natalie Zimmermann
zimmermn

Section: 04
Team: 59

ELECTRONIC SIGNATURE
Kathryn Atherton
Ryan Hellyer
Natalie Zimmermann

The electronic signatures above indicate that the document submitted for evaluation is the combined effort of all team members and that each member of the team was an equal participant in its creation. In addition, each member of the team has a general understanding of all aspects of the contents of the document.

Task 3:

1) What are the differences between the plots?

   The first and second plots were made up of line segments because the intervals were very big. The third one was a smoother cure, as the interval was smaller.

2) What is an appropriate step size to plot the sine wave shape ‘accurately’?

   As small as possible, in this example 0.01

3) When is it appropriate to choose a lower resolution?

   When accuracy is not important, and we want to minimize the time to run it

Task 4:

PART A:

1) What can you say about the “randomness” of the generator? Does the histogram look like what you expected if the experiment was performed with a (perfectly uniform) real die?

No, we expected every “bin” to have the same frequency, every number to occur the equally often. And, when running the program, to get similar values, with the same distribution. not completely different results, where the frequency changes.

PART B:

2) What is the difference between adding lists together in python to adding arrays together in MATLAB?

   In python, to ad lists together it was necessary to use the command “join” and specify a connector, while in MATLAB you can simply concatenate the matrices with commas or semicolons

3) Of the two programs, which is easier to perform operations on large data sets?

   It is easier to perform operations on large sets of data with MATLAB

Task 5:

1) In this context, explain the terminology ‘map’.

   It means to relate a value to a specific element in a matrix

2) What is a good way of storing such a map in MATLAB?

   Matrices are useful to map, columns and/or rows can be used to map

3) How would you change the function to use 0, 1, and 2 as inputs instead of 1, 2, and 3?

   Using 0, 1, and 2 as inputs instead of 1, 2, and 3, would require to add 1 to the inputted value when calling the specific row/column of the matrix, as the indexing starts with 1 and not 0

4) How does MATLAB differ from Python when using arrays / lists?

   In Python the indexing starts at 0, while in MATLAB it starts 1. Also, MATLAB can separate/specify into rows and columns, while Python does not differentiate rows and columns.