**Exams1**

Instructions:

Answer All 5 questions. Each question should have its own .py file. So, you should have 5 different .py file (qestion1.py, qestion2.py, qestion3.py, qestion4.py, qestion5.py). You have to compress all these folders in one zip file then upload it to the blockboard dropbox.

NO SCREENSHOT OR ANY OTHER FORMAT WILL BE ACCEPTED. AUTOMAIC 0 IF IT IS NOT A .PY FILE

TEST YOU CODE BEFORE SUBMITTING IT. IF I RUN YOUR CODE AND I GET AN ERROR, NO MARK FOR THAT CODE.

Q.1:

Use the NumPy’s random number generation to create an array of five random integers that represent summertime temperatures in the range 60–100, then perform the following tasks:

a. Convert the array into the Series named temperatures and display it.

b. Determine the lowest, highest and average temperatures.

c. Produce descriptive statistics for the Series.

Q.2:

Given the following dictionary;

temps = {'Mon': [68, 89], 'Tue': [71, 93], 'Wed': [66, 82], 'Thu': [75, 97], 'Fri': [62, 79]}

perform the following tasks:

a. Convert the dictionary into the DataFrame named temperatures with Low and High as the indices, then display the DataFrame.

b. Use the column names to select only the columns for Mon through Wed.

c. Use the row index Low to select only the low temperatures for each day.

d. Set the floating-point precision to 2, then calculate the average temperature for each day.

e. Calculate the average low and high temperatures.

Q.3:

Given the following array:

array([[ 1, 2, 3, 4, 5],

[ 6, 7, 8, 9, 10],

[11, 12, 13, 14, 15]])

write statements to perform the following tasks:

a. Select the second row.

b. Select the first and third rows.

c. Select the middle three columns.

Q.4:

Use NumPy function arange to create an array of 20 even integers from 2 through 40, then reshape the result into a 4-by-5 array.

Q.5:

Use NumPy random-number generation to create an array of twelve random grades in the range 60 through 100, then reshape the result into a 3-by-4 array. Calculate the average of all the grades, the averages of the grades in each column and the averages of the grades in each row.