CITS2401 Computer Analysis and Visualisation
Semester 2, 2017

Lab Exam 2 marking instructions
Maximum marks: 40

Question 1: (Matlab)
Look at the solution. Each part has 2 marks. For each part, check following

- Assign 1 mark if correct function is used.
- Assign 1 mark if overall statement has no syntax error.

Maximum marks: 4, Minimum marks: 0

Question 2: (Matlab)
Testing Inputs and their outputs:

Change the Q1_data.csv file by adding more error data (check error representation in the question), adding few rows at the end and change the name of the file. Run the code and match the results of submission with sample solution.

Check the following tasks and allocate marks accordingly.
Maximum marks: 16, Minimum marks: 0

- Task A: Assign 1 mark if function definition is correct and similar to the one as mentioned in the question. This also includes that input file name is not hard coded.
- Task B: Assign 2 marks if CSV file is read correctly and data is imported correctly and stored in variable(s).
- Task C: Assign 2 marks if output points *npts* is correct and stored in the output variable.
- Task D: Assign 2 marks if interpolation is done correctly (interp1 function). Remember for correct interpolation, it is required to get the correct points which needs interpolation and they should be removed from original data for interpolation. If not then check the following
    - Assign 1 mark if interp1 function is correctly used without syntax error and interpolation method is correct.
    - Assign 1 mark if interpolation method is correctly done for missing (corrupt) points.
- Task E: Assign 2 marks if curve fitting is done correctly using polyfit or regression. If not then check the following

    - Assign 1 mark if polyfit function or regression is used correctly without syntax error.
- Task F: Assign 1 marks if curve fitted data is found (one way is to use polyval function) correctly.
- Task G: It is expected to have a single plot containing three curves. If they are plotted separately then deduct 2 marks from marks obtained in this task. Check the plot and assign marks as follows:
    - Assign 1 mark if curve fitted data is plotted correctly.
    - Assign 1 mark if original data is plotted correctly including error data.
    - Assign 1 mark if interpolated data is plotted correctly
    - Assign 1 mark if meaningful title is given
    - Assign 1 mark if both axes labels are mentioned correctly: 0.5 each
    - Assign 1 mark if legends are mentioned correctly

  Maximum: 6 marks, Minimum: 0 mark

Question 3: (Excel)

Check the solution and grade the submission accordingly.

Maximum marks: 20, Minimum marks: 0

- Task A: Assign 5 marks if annual/average anomaly is calculated correctly in Column N using cell array formula as discussed in the lectures. Change the values in data to ensure that formula updates the results. Try to delete a cell, if it is deleted then it is incorrect. If everything is not correct then look for the following. *One of the following cases can be correct only.*
    - Assign 2 marks if formula is correct but array formula is not used. Simple check is to try deleting a formula in any cell in Column N. If you can delete then array formula is not correctly used.
    - Assign 4 marks if everything is correct but result is not displayed in correct column.
- Task B: Assign 4 marks for finding the correct category for each year in Column O. Change the values in data to ensure that formula updates the

results. If everything is not correct then check the following. *One of the following can be true only*.

  - Assign 3 marks if everything is correct but category name is not matching the one provided in test sheet or in other words it is spelled incorrectly.
  - Assign 3 marks if everything is correct but category is not displayed in correct column.

- Task C: Assign 4 marks if number of years' category(ies) calculated is correct in cell Q6. Change the values in data to ensure that formula updates the results. If everything is not correct then check the following.
  - Assign 3 marks if everything is correct but final result is not in cell Q6.
- Task D: It is expected to have a single plot containing all required curves. If multiple plots are provided for curves then deduct 2 marks from the marks obtained in this task. Check the following in the plot.
  - Assign 2 marks if all curves plotted are correct. If not then deduct 1 mark for each missing curve. If two or more curves are missing then assign 0 marks.
  - Assign 1 mark if tick marks at horizontal axis are showing correct titles i.e. years/months.
  - Assign 1 mark for correct legends
  - Assign 1 mark for correct horizontal label.
  - Assign 1 mark for correct vertical label and unit.
  - Assign 1 mark for meaningful title.

  Maximum: 7 marks, Minimum: 0 mark