

TECHNICAL COMPUTING WITH MATLAB – EXERCISES

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Some of the exercises are based on or from the book *MATLAB: a practical introduction to programming and problem solving* by Stormy Attaway (3rd edition).

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Logbook

Note: more information on your logbook can be found in the lecture notes and the logbook examples on Blackboard.

To help you with your logbook, you can copy-paste the commands entered in MATLAB to a Word document. This is the most straightforward way. Copy-paste is done by selecting the command with your mouse, pressing CTRL+C, switch to your Microsoft Word document, and pressing CTRL+V. Note that you can create an online Word document via <https://onedrive.lincoln.ac.uk>. Don't forget to *logout* at the end of the session.

You can also create screen shots. In windows 10 this is done by pressing WINDOWSKEY+SHIFT+S, then select an area you would like to copy, and subsequently paste it in Word. Make sure the text is large enough to read in the Word document.

Alternatively, you can do this later on, but record the commands using the `diary` command.

The diary can be started by executing the following command

```
diary session1.txt
```

Also do this at the start of every new session (but with an appropriately named filename). When you finish your session, use `diary off`. Hint: if you type in the command

```
format compact
```

the resulting output does not take up too much space.

Don't forget to also copy-paste scripts, functions, figures, etc. – they are not included in the diary.

Note that the diary file needs to be modified and annotated – a logbook consisting only of diary files will be marked down considerably.

Remember to save a copy of all your created files (Word file if you didn't do it online, diary file, scripts, etc). This can be achieved in several ways:

- Email it to yourself (e.g., as a draft; safest way)
- Save to your OneDrive (login via onedrive.lincoln.ac.uk, don't forget to logout at the end of the session otherwise other people may see your files).

- One may want to store it on a USB stick, but they are not very reliable. Hence always make an extra backup! To prevent data loss, use the 'eject' button in Windows at the end of your session instead of just pulling out your USB stick.

Best is to do at least two of the previously mentioned options.

Notes:

1. Sometimes errors that you typed in MATLAB can also be included in your logbook, since this may be part of your learning process.
2. Every student should have their own logbook; copying between students is plagiarism and can have serious consequences.
3. Pages of long repeated output (such as an array of a million elements) do not add much to a logbook; please only include the first few and last few lines of them.

1 Exercises session 1

1.1 MATLAB OnRamp course

1. Register online for a Matlab account using your university email address, and complete the online Matlab OnRamp course entirely. See <https://matlabacademy.mathworks.com/R2023a/portal.html?course=gettingstarted>

When you finish the entire MATLAB Onramp course, include your certificate of completion in your logbook (in contrast to the other exercises it is not necessary to include the solution of each task of the OnRamp course in your logbook, but you are free to do so).

More help for accessing the OnRamp course can be found on Blackboard.

1.2 MATLAB Installation

1. Install MATLAB on your own laptop/desktop computer. Instructions are on Blackboard.