FDT coursework assignment 3
Using the command line and installing Postgres

Installing software and using the command line are key data science skills which are hardly ever covered on taught programmes. This coursework asks you to get used to the command line and install the Postgres server and the PSQL tool.

You will be asked to take screenshots of some stages and to document any errors you encounter. You will not be marked down if, for any reason, you could not complete either of the software installs.

To accomplish this coursework, you may need to do some research online. We recommend Stack Overflow as a good place to search for answers and ask questions.

Please assemble the coursework into one PDF file (not a Word file), including all the screenshots in the document.

Useful commands

	OS X/Linux/Unix	**Windows**
Show current folder	**pwd** print working directory	**cd** by itself
Change directory	**cd** change directory	**cd**
List files in current folder	**ls**	**dir**
Make new directory	**mkdir**	**mkdir**
Show the file in which a command is stored	**which**	N/A
Set environment variable *(just in current command line session)*	**export var=val**	**set var=val** *(or control panel)*
View env. variable	**echo $var**	**echo %var%**

You can search online to see examples of these commands.

An environment variable is simply a text variable which is held on your machine. Environment variables contain useful information about your system configuration, for example PATH, which holds a list of folders in which the command line looks for files to run when you type a command.

Questions

Document any problems or issues you have while completing these tasks.

1. Open a command line on your machine. Use the command line to make a new folder on your desktop, called “test”, and change directory into that folder; then take a screenshot.

2. In the command line, use echo to display your PATH variable; take a screenshot.

3. Use the **set** or **export** commands to temporarily set an environment variable called IMPERIAL; make it equal to “A public research university located in London”. Display this variable in the terminal using **echo**. Take a screenshot.

4. In this question we will permanently append “/example” to the PATH. Answer one only of a (Windows) and b (Mac).

a. If on Windows, open the Control Panel and find your environment variables. Find the PATH environment variable and add the fake path /example to PATH. Take a screenshot.

b. If on Mac, create a **plain text** file called .bash_profile (the name starts with a dot and there is no extension) in your home folder. This file will run in the Terminal whenever you open a new Terminal.

Make the contents of this file:

```
echo 'Running .bash_profile!'
export PATH="$PATH:/example"
```

Open a new Terminal window and verify that “Running .bash_profile” appears, in other words that the .bash_profile is running. Take a screenshot.

5. In question 4, we appended “/example” permanently to the end of the PATH. In the command line, display your PATH variable using **echo** and verify that it contains the path “/example”. Take a screenshot.

6. Install the Postgres server, which is a database server program equivalent to the one we are connecting to with pgAdmin. The Postgres server holds data and responds to queries. It may help to follow these tutorials:

Windows:

- https://www.postgresql.org/download/windows/
- https://www.labkey.org/Documentation/wiki-page.view?name=installPostgreSQLWindows

Mac:

- https://www.postgresql.org/download/macosx/
- https://www.codementor.io/engineerapart/getting-started-with-postgresql-on-mac-osx-are8jcopb

- (An alternative method)
  https://postgresapp.com/

Note down any usernames or passwords which you may be asked to set during installation. Take a screenshot during the installation process.

If you encounter problems, search online to find potential solutions and try and resolve the problem. Document any problems or issues you encounter during the error and the steps you took to resolve them.

You will not be marked down if you do not manage to install the software (as long as you have attempted to fix the problem and documented this), so do not spend too much time on this part if you get stuck.

If you have already installed and uninstalled Postgres before, you may need to use a different port than the default (5432).

7. PSQL should have been installed along with the Postgres server. Open a command line and type psql. Take a screenshot. If PSQL does not open, check it is installed and added to your path (search “windows psql add to path” or “os x psql add to path”).