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Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir

Subject:	Health & Safety IT
Course:	BSc in Construction Health & Safety
Session:	Autumn 2021
Lecturer:	Paul Vesey BEng, MIE, HDip
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Assignment 1 (33%) - Python with Excel

Issue Date:	28 th October 2021
Submission Date:	27 th November 2021

Continuous Assessment

This assignment will account for 33% of the 100% allocated for continuous assessment in this module under COVID-19 regulations

Background Information

Administrative tasks can consume considerable resources within organisations. The documentation requirements within the health and safety domain leads often adds to this administrative overhead. Automating aspects of administrative works increases efficiency, while at the same time providing opportunities to yield data insights not normally achievable.

Assignment Outline

The Health and Safety Authority has produced a checklist document that employers can use to gather data from employees before they return to work. A copy of this form is provided in pdf and Excel format within the asset pack of this assignment. Given the likelihood that forms like this will be issued to numerous employees, and that they need to be tracked and controlled, it offers a good opportunity for automation.

In this assignment you will automate the production of partially populated forms for each of the 12 employees listed below.

Alice Adams Dan Davis Grace Ghosh John Jones	Bob Baker Erin Evans Heidi Hills Kevin Klein	Carol Clark Faythe Frank Ivan Irwin Lisa Lopez
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For each of these employees, you are to create an excel version of the form customised with the name of the employee. To do this, you are required to use batch files and the Python programming language with the *OpenPyXL* package.

Approach

The creation of the individual Excel files is to be carried out using a Windows batch (.bat) file. Python can then be used to iterate over each of these files and insert the name of the employee in the correct cell of the file, along with their manager name and workplace address. The fields to be populated with your programme are indicated in Figure 1

COVID-19 Pre-Return to Work Form

To help prevent the spread of COVID-19 in the workplace, every worker must complete and submit this Pre-Return to Work form before returning to work. On review of the form, management may contact you and ask you not to return to work immediately and will discuss a suitable future date for your return. NB Every question must be answered.

Notes: Your employer may also request you to reconfirm that the details in the Pre-Return to Work form remain the same following an extended period of absence (for example, following annual leave or where you may only access the workplace infrequently).

Employee Name: _____ Manager Name: _____

Workplace Address: _____

Question	✓ Yes	✓ No
1. Do you have symptoms of COVID-19 now or in the last 14 days? Check here for a full list of symptoms.	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you been diagnosed with confirmed or suspected COVID-19 infection in the past 14 days?	<input type="checkbox"/>	<input type="checkbox"/>
3. Are you awaiting the results of a COVID-19 test?	<input type="checkbox"/>	<input type="checkbox"/>
4. In the past 14 days, have you been in contact with a person who is a confirmed or suspected case of COVID-19? Click here for up to date information on 'close contact'.	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you been advised to self-isolate at this time?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have you been advised to restrict your movements at this time?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have you been advised to cocoon at this time?	<input type="checkbox"/>	<input type="checkbox"/>
8. If returning to work following a COVID-19 absence, have you viewed the Interim Guidance for Workers on Fitness for Work following COVID-19 absence ?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have you returned from overseas travel in the past 14 days? If yes, ensure you are aware of restrictions and requirements on arrival into Ireland here .	<input type="checkbox"/>	<input type="checkbox"/>

Please provide details below* of any other circumstances relating to COVID-19, not included in the above, which may need to be considered to allow your safe return to work, e.g. if you are in an 'at risk' group** or returning from travel abroad***.

Additional Information

Print Name: _____ Date: _____

* If your situation changes after you complete and submit this form, please tell your manager/supervisor.
 ** Further information on people at very high risk (personally vulnerable) or high risk from COVID-19 can be found at [hse.ie/coronavirus](#)
 *** See [Department of Foreign Affairs \(DFA\)](#) and [gov.ie](#) for up to date travel advice. Information on travel requirements arriving from Northern Ireland can be found [here](#).

Completed forms should be maintained for as long as necessary, and in line with advice from the [Data Protection Commission](#)

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Figure 1: Screenshot of HSA Return to Work Form

Once complete, your batch file should consist of about 12 commands, and the Python code should be about 25 lines of code.

Extra Credit Section (+20%)

An additional 20% will be awarded, subject to an overall maximum of 100% for creating a Python program that will also copy the excel files, thus negating the need for the batch file. In order to qualify for the extra credit portion, you must also submit files in accordance with the standard assignment specification.

Testing and Marking

When marking your work, I will be running the files as submitted. You should ensure that your batch file and python script(s) have been thoroughly tested before submission. Code that does not run will score poorly.

Submission

Your submission should comprise of at least two files as shown below:

1. Windows Batch File (.bat)
2. Python Script File (.py)

If you choose to submit the extra-credit section, you must also submit all of the standard submission files.

You do not need to submit the excel files as they will be created by me using your batch file and python file where submitted.

In any event all parts of your submission are to be uploaded to Teams on or before the submission deadline.