

Subject: Health & Safety IT

Course: | BSc in Construction Health & Safety

Session: Autumn 2021

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Filename: HSIT01-LIT-00-ZZ-SP-A-001-A1-P01

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	Bob Baker	Carol Clark
Dan Davis	Erin Evans	Faythe Frank
Grace Ghosh	Heidi Hills	Ivan Irwin
John Jones	Kevin Klein	Lisa Lopez

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

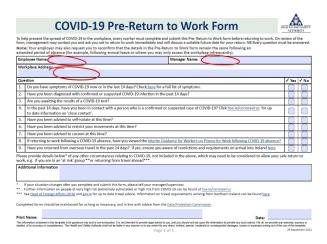


Figure 1: Screenshot of HSA Return to Work Form

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.