



## FCS Multi-File Version Modifier

### 1. Preface

The Flow Cytometry Standard version 3.2, released in 2020, is currently facing implementation challenges since several software packages are unable to load or read these files.

The script below can modify file versions on multiple files sequentially without compromising their integrity.

### 2. The Script

This Python script is a simple program that modifies the header of files with the .fcs extension within a specified folder. The main purpose is to update the version information in the header from "FCS3.2" to "FCS3.1". Below are the details of each module and function:

#### Importing Modules

The script imports necessary modules for file manipulation (`os`) and GUI creation (`tkinter`), including modules for file dialogs (`filedialog`) and message boxes (`messagebox`).

#### Header Modification Function

Defines a function (`modify_fcs_header`) to modify the header of a file. It reads the first 10 bytes of the file, checks if it's a valid FCS file with version 3.2, and if so, modifies the header to version 3.1. It logs success or error messages to an output file.

#### Get Documents Path Function

Provides a function (`get_documents_path`) to obtain the path to the documents folder of the currently logged-in user.

#### Choose Folder Function

Creates a hidden GUI window, prompting the user to choose a folder using a file dialog. It returns the selected folder path.

#### Main Function

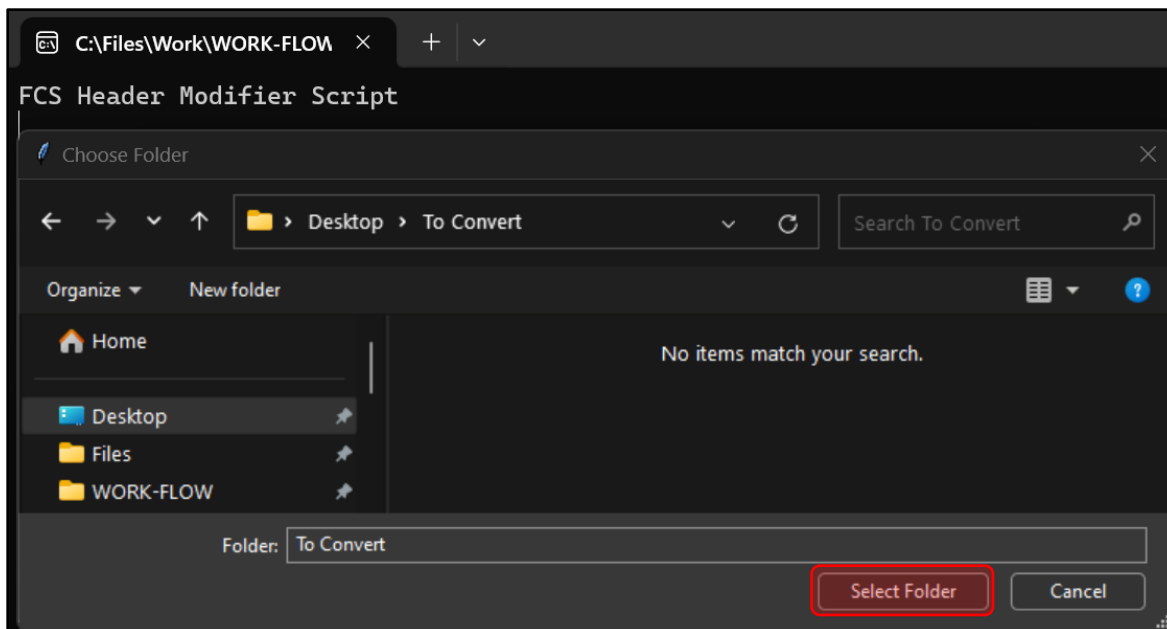
Serves as the main entry point of the script. Invokes the folder selection function and proceeds to iterate through each file in the chosen folder. For valid FCS files (those with a '.fcs' extension), it calls the header modification function and logs the results to an output file. Finally, it displays a completion message using a pop-up dialog and prints the path of the output file to the console.

# WORK-FLOW

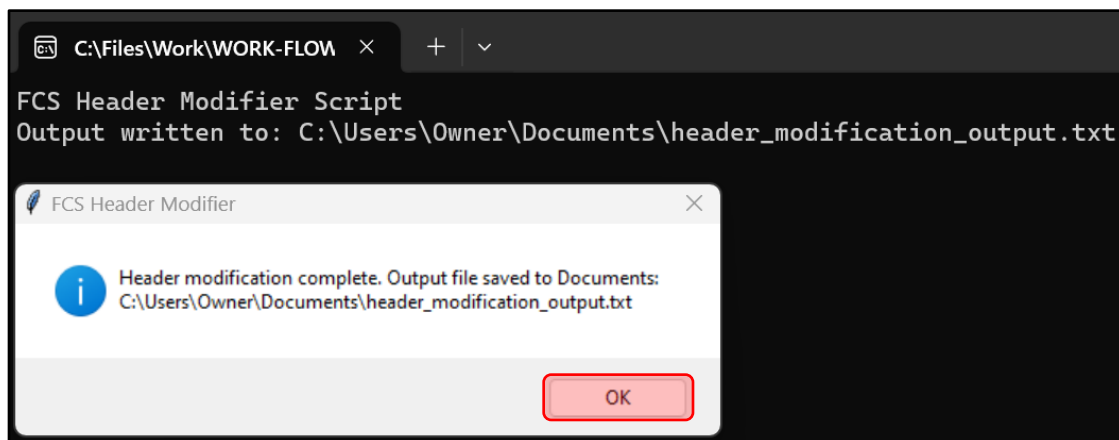
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## 3. Running the Script

- Double-click the FCSvMod.exe to start the conversion process.
- Choose the folder where the FCS files to convert reside. In the example below, this folder is named “To Convert”.



- Click “Select Folder”.



- Click “OK” to close the task completion message.
- If desired, review the Output log file.

**Make a copy of your FCS files before testing the script.**