# Excel Filtration Tool in Python - V-4

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Version: 1.0

Created: 31/07/2024

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## Purpose

This script reads an Excel file, searches for a specific value in a specified column, and saves the search results to a new Excel file.

## Requirements

- pandas: Used for data manipulation and analysis, providing powerful data structures like DataFrames and Series.

## Environment Setup

Ensure you have the `pandas` library installed. You can install it using the following command:  
```  
pip install pandas  
```

## Execution

1. Save the provided code in a file named `excel\_search\_save.py`.  
2. Ensure the Excel file `data.xlsx` is in the same directory or provide the full path to the file.  
3. Open a terminal or command prompt.  
4. Navigate to the directory where `excel\_search\_save.py` is saved.  
5. Run the program using the command:  
```  
python excel\_search\_save.py  
```

## How It Works

1. Function `search\_and\_save\_excel(input\_file, search\_column\_index, search\_value, output\_file)`:  
 - Parameters:  
 - `input\_file` (str): Path to the input Excel file.  
 - `search\_column\_index` (int): Index of the column to search.  
 - `search\_value` (str): Value to search for in the specified column.  
 - `output\_file` (str): Path to save the search results.  
 - Description:  
 - Reads the input Excel file into a DataFrame.  
 - Checks if the search column index is valid.  
 - Gets the column name using the index.  
 - Performs the search operation, checking if the column contains the search value (case insensitive).  
 - Saves the search results to the output Excel file.  
 - Returns a success message indicating the path to the saved file.

## Output

The program saves the search results to a new Excel file and prints a message indicating the path to the saved file. If no matching records are found, the resulting Excel file will be empty.