TITLE:DATA WAREHOUSING WITH IBM CLOUD Db2 WAREHOUSE

Project Overview:

The objective of this project is to retrieve and display student details stored in an Excel file using the Pandas library in Python. The student details are fetched based on the user-provided register number.

Key Components:

Pandas Library:

The project utilizes the pandas library, a powerful data manipulation and analysis library for Python, to handle Excel data.

retrieve_student_details Function:

The core function, retrieve_student_details, loads an Excel file (student_details_nm.xlsx) into a pandas data frame.

It prints the column names to help identify the exact column name containing the register numbers.

The function then prompts the user to enter a register number and searches for the corresponding student details in a case-insensitive manner.

If a match is found, it returns the student details as a dictionary; otherwise, it returns None.

Example usage:

Loading Excel Data:

df = pd.read_excel('student_details_nm.xlsx')

Loads the student details from the Excel file into a pandas DataFrame named df.

Column Names:

Print (df.columns)

Prints the column names to the console, helping the user identify the exact column name containing register numbers.

User input and retrieval:

Register_number = input("Enter student's register number: ")

student_details = retrieve_student_details (Register_number)

Takes user input for a register number.

Calls the retrieve_student_details function to get the details of the student with the entered register number.

Displaying student details:

```
if student_details:
    print("\nStudent Details:")
    for key, value in student_details.items():
        print(f"{key}: {value}")
else:
    print(f"\nStudent with register number {Register_number} not found.")
```

If the student is found, it prints the details; otherwise, it prints a message indicating that the student is not found.

Jupyter Hub was used for code clarification

```
In [2]: import pandas as pd

        # Load the Excel file into a DataFrame
        df = pd.read_excel('student_details_nm.xlsx')

        # Print column names
        print(df.columns)

Index(['Register_number', 'Name ', 'First Name', 'Last Name',
       'Email ID ( personal or domain)', 'Branch of study', 'College Name'],
      dtype='object')
```

1st I run this code to verify the columns present in the excel sheet.

```
In [2]: register_column_name = 'Register_number'

In [1]: import pandas as pd

        # Function to retrieve student details from Excel
        def retrieve_student_details(register_number):
            # Load the Excel file into a DataFrame
            df = pd.read_excel('student_details_nm.xlsx')

            # Print column names
            print(df.columns)


            register_column_name = 'Register_number'

            # Search for the student with the provided register number
            student_details = df[df[register_column_name].astype(str).str.upper() == register_number.upper()]

            # Return the details as a dictionary (or None if not found)
            return student_details.to_dict(orient='records')[0] if not student_details.empty else None

        # Example Usage:
        if __name__ == "__main__":
            # User input: Register number
            Register_number = input("Enter student's register number: ")

            # Retrieve student details
            student_details = retrieve_student_details(Register_number)

            if student_details:
                print("\nStudent Details:")
                for key, value in student_details.items():
                    print(f"{key}: {value}")
            else:
                print(f"\nStudent with register number {Register_number} not found.")

Enter student's register number: 711121104037
Index(['Register_number', 'Name ', 'First Name', 'Last Name',
       'Email ID ( personal or domain)', 'Branch of study', 'College Name'],
      dtype='object')

Student Details:
Register_number: 711121104037
Name : Haswanth S S
First Name: Haswanth
Last Name: S S
Email ID ( personal or domain): haswanthsaravanan@gmail.com
Branch of study: CSE
College Name: Jansons Institute of Technology, Coimbatore
```

register_column_name = 'Register_number' is specifying the column name to search for in the DataFrame.