

Lab Exercise 7

1. Write a Python program to read first n lines of a file.
2. Write a Python program to append text to a file and display the text.
3. Write a Python program to read a file line by line and store it into a list.
4. Write a program to print each line of a file in reverse order.
5. Write a Python program to write a list content to a file.
6. Write a program to compute the number of characters, words and lines in a file.
7. Write a program to accept string/sentences from the user till the user enters "END" to. Save the data in a text file and then display only those sentences which begin with an uppercase alphabet.
8. Write a program to enter the following records in a binary file: Item No integer Item_Name string Qty integer Price float Number of records to be entered should be accepted from the user. Read the file to display the records in the following format: Item No: Item Name : Quantity: Price per item: Amount: (to be calculated as Price * Qty)

In [4]: `pip install --upgrade notebook nbconvert`

```
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: notebook in c:\users\dell\appdata\roaming\python\python39\site-packages (7.0.6)
Requirement already satisfied: nbconvert in c:\users\dell\appdata\roaming\python\python39\site-packages (7.9.2)
Requirement already satisfied: jupyterlab<5,>=4.0.2 in c:\users\dell\appdata\roaming\python\python39\site-packages (from notebook) (4.0.7)
Requirement already satisfied: notebook-shim<0.3,>=0.2 in c:\users\dell\appdata\roaming\python\python39\site-packages (from notebook) (0.2.3)
Requirement already satisfied: jupyter-server<3,>=2.4.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from notebook) (2.8.0)
Requirement already satisfied: tornado>=6.2.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from notebook) (6.3.3)
Requirement already satisfied: jupyterlab-server<3,>=2.22.1 in c:\users\dell\appdata\roaming\python\python39\site-packages (from notebook) (2.25.0)
Requirement already satisfied: defusedxml in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (0.7.1)
Requirement already satisfied: nbclient>=0.5.0 in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (0.5.13)
Requirement already satisfied: nbformat>=5.7 in c:\users\dell\appdata\roaming\python\python39\site-packages (from nbconvert) (5.9.2)
Requirement already satisfied: packaging in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (21.3)
Requirement already satisfied: jupyter-core>=4.7 in c:\users\dell\appdata\roaming\python\python39\site-packages (from nbconvert) (5.4.0)
Requirement already satisfied: markupsafe>=2.0 in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (2.0.1)
Requirement already satisfied: beautifulsoup4 in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (4.11.1)
Requirement already satisfied: traitlets>=5.1 in c:\users\dell\appdata\roaming\python\python39\site-packages (from nbconvert) (5.11.2)
Requirement already satisfied: tinycss2 in c:\users\dell\appdata\roaming\python\python39\site-packages (from nbconvert) (1.2.1)
Requirement already satisfied: pygments>=2.4.1 in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (2.11.2)
Requirement already satisfied: bleach!=5.0.0 in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (4.1.0)
Requirement already satisfied: pandocfilters>=1.4.1 in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (1.5.0)
Requirement already satisfied: Jinja2>=3.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from nbconvert) (3.1.2)
Requirement already satisfied: importlib-metadata>=3.6 in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (4.11.3)
Requirement already satisfied: jupyterlab-pygments in c:\programdata\anaconda3\lib\site-packages (from nbconvert) (0.1.2)
Requirement already satisfied: mistune<4,>=2.0.3 in c:\users\dell\appdata\roaming\python\python39\site-packages (from nbconvert) (3.0.2)
Requirement already satisfied: webencodings in c:\programdata\anaconda3\lib\site-packages (from bleach!=5.0.0->nbconvert) (0.5.1)
Requirement already satisfied: six>=1.9.0 in c:\programdata\anaconda3\lib\site-packages (from bleach!=5.0.0->nbconvert) (1.16.0)
Requirement already satisfied: zipp>=0.5 in c:\programdata\anaconda3\lib\site-packages (from importlib-metadata>=3.6->nbconvert) (3.7.0)
Requirement already satisfied: pywin32>=300 in c:\programdata\anaconda3\lib\site-packages (from jupyter-core>=4.7->nbconvert) (302)
Requirement already satisfied: platformdirs>=2.5 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-core>=4.7->nbconvert) (3.11.0)
Requirement already satisfied: anyio>=3.1.0 in c:\programdata\anaconda3\lib\site-packages (from jupyter-server<3,>=2.4.0->notebook) (3.5.0)
Requirement already satisfied: jupyter-client>=7.4.4 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-server<3,>=2.4.0->notebook) (7.4.9)
Requirement already satisfied: websocket-client in c:\programdata\anaconda3\lib\site-packages (from jupyter-server<3,>=2.4.0->notebook) (0.58.0)
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Requirement already satisfied: prometheus-client in c:\programdata\anaconda3\lib\site-packages (from jupyter-server<3,>=2.4.0->notebook) (0.13.1)

Requirement already satisfied: overrides in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-server<3,>=2.4.0->notebook) (7.4.0)

Requirement already satisfied: pyzmq<24 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-server<3,>=2.4.0->notebook) (25.1.1)

Requirement already satisfied: jupyter-events<=0.6.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-server<3,>=2.4.0->notebook) (0.8.0)

Requirement already satisfied: send2trash<=1.8.2 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-server<3,>=2.4.0->notebook) (1.8.2)

Requirement already satisfied: jupyter-server-terminals in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-server<3,>=2.4.0->notebook) (0.4.4)

Requirement already satisfied: pywinpty in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-server<3,>=2.4.0->notebook) (2.0.12)

Requirement already satisfied: argon2-cffi in c:\programdata\anaconda3\lib\site-packages (from jupyter-server<3,>=2.4.0->notebook) (21.3.0)

Requirement already satisfied: terminado<=0.8.3 in c:\programdata\anaconda3\lib\site-packages (from jupyter-server<3,>=2.4.0->notebook) (0.13.1)

Requirement already satisfied: sniffio<=1.1 in c:\programdata\anaconda3\lib\site-packages (from anyio<=3.1.0->jupyter-server<3,>=2.4.0->notebook) (1.2.0)

Requirement already satisfied: idna<=2.8 in c:\programdata\anaconda3\lib\site-packages (from anyio<=3.1.0->jupyter-server<3,>=2.4.0->notebook) (3.3)

Requirement already satisfied: nest-asyncio<=1.5.4 in c:\programdata\anaconda3\lib\site-packages (from jupyter-client<=7.4.4->jupyter-server<3,>=2.4.0->notebook) (1.5.5)

Requirement already satisfied: python-dateutil<=2.8.2 in c:\programdata\anaconda3\lib\site-packages (from jupyter-client<=7.4.4->jupyter-server<3,>=2.4.0->notebook) (2.8.2)

Requirement already satisfied: entrypoints in c:\programdata\anaconda3\lib\site-packages (from jupyter-client<=7.4.4->jupyter-server<3,>=2.4.0->notebook) (0.4)

Requirement already satisfied: jsonschema[format-nongpl]<=4.18.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (4.19.1)

Requirement already satisfied: python-json-logger<=2.0.4 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (2.0.7)

Requirement already satisfied: pyyaml<=5.3 in c:\programdata\anaconda3\lib\site-packages (from jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (6.0)

Requirement already satisfied: rfc3339-validator in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (0.1.4)

Requirement already satisfied: referencing in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (0.30.2)

Requirement already satisfied: rfc3986-validator<=0.1.1 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (0.1.1)

Requirement already satisfied: attrs<=22.2.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (23.1.0)

Requirement already satisfied: rpds-py<=0.7.1 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (0.10.6)

Requirement already satisfied: jsonschema-specifications<=2023.03.6 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (2023.7.1)

Requirement already satisfied: jsonpointer<1.13 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (2.4)

Requirement already satisfied: isoduration in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (20.11.0)

Requirement already satisfied: uri-template in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (1.3.0)

Requirement already satisfied: fqdn in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (1.5.1)

Requirement already satisfied: webcolors<=1.11 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jsonschema[format-nongpl]<=4.18.0->jupyter-events<=0.6.0->jupyter-server<3,>=2.4.0->notebook) (1.13)

Requirement already satisfied: async-lru<=1.0.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyterlab<5,>=4.0.2->notebook) (2.0.4)

Requirement already satisfied: tomli in c:\programdata\anaconda3\lib\site-packages (from jupyterlab<5,>=4.0.2->notebook) (1.2.2)

Requirement already satisfied: ipykernel in c:\programdata\anaconda3\lib\site-packages (from jupyterlab<5,>=4.0.2->notebook) (6.9.1)

Requirement already satisfied: jupyter-lsp<=2.0.0 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyterlab<5,>=4.0.2->notebook) (2.2.0)

Requirement already satisfied: typing-extensions<=4.0.0 in c:\programdata\anaconda3\lib\site-packages (from async-lru<=1.0.0->jupyterlab<5,>=4.0.2->notebook) (4.1.1)

Requirement already satisfied: babel<=2.10 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyterlab-server<3,>=2.22.1->notebook) (2.13.0)

Requirement already satisfied: requests<=2.31 in c:\users\dell\appdata\roaming\python\python39\site-packages (from jupyterlab-server<3,>=2.22.1->notebook) (2.31.0)

Requirement already satisfied: json5<=0.9.0 in c:\programdata\anaconda3\lib\site-packages (from jupyterlab-server<3,>=2.22.1->notebook) (0.9.6)

Requirement already satisfied: fastjsonschema in c:\programdata\anaconda3\lib\site-packages (from nbformat<=5.7->nbconvert) (2.15.1)

Requirement already satisfied: pyparsing<=3.0.5,>=2.0.2 in c:\programdata\anaconda3\lib\site-packages (from packaging->nbconvert) (3.0.4)

Requirement already satisfied: certifi<=2017.4.17 in c:\programdata\anaconda3\lib\site-packages (from requests<=2.31->jupyterlab-server<3,>=2.22.1->notebook) (2021.10.8)

Requirement already satisfied: charset-normalizer<4,>=2 in c:\programdata\anaconda3\lib\site-packages (from requests<=2.31->jupyterlab-server<3,>=2.22.1->notebook) (2.0.4)

Requirement already satisfied: urllib3<3,>=1.21.1 in c:\programdata\anaconda3\lib\site-packages (from requests<=2.31->jupyterlab-server<3,>=2.22.1->notebook) (1.26.9)

Requirement already satisfied: argon2-cffi-bindings in c:\programdata\anaconda3\lib\site-packages (from argon2-cffi->jupyter-server<3,>=2.4.0->notebook) (21.2.0)

Requirement already satisfied: cffi<=1.0.1 in c:\programdata\anaconda3\lib\site-packages (from argon2-cffi-bindings->argon2-cffi->jupyter-server<3,>=2.4.0->notebook) (1.15.0)

Requirement already satisfied: pycparser in c:\programdata\anaconda3\lib\site-packages (from cffi<=1.0.1->argon2-cffi-bindings->argon2-cffi->jupyter-server<3,>=2.4.0->notebook) (2.21)

Requirement already satisfied: soupsieve>1.2 in c:\programdata\anaconda3\lib\site-packages (from beautifulsoup4->nbconvert) (2.3.1)

Requirement already satisfied: matplotlib-inline<0.2.0,>=0.1.0 in c:\programdata\anaconda3\lib\site-packages (from ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.1.2)

Requirement already satisfied: debugpy<2.0,>=1.0.0 in c:\programdata\anaconda3\lib\site-packages (from ipykernel->jupyterlab<5,>=4.0.2->notebook) (1.5.1)

Requirement already satisfied: ipython>=7.23.1 in c:\programdata\anaconda3\lib\site-packages (from ipykernel->jupyterlab<5,>=4.0.2->notebook) (8.2.0)

Requirement already satisfied: stack-data in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.2.0)

Requirement already satisfied: colorama in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.4.4)

Requirement already satisfied: prompt-toolkit!=3.0.0,!<3.0.1,<3.1.0,>=2.0.0 in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (3.0.20)

Requirement already satisfied: decorator in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (5.1.1)

Requirement already satisfied: jedi>=0.16 in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.18.1)

Requirement already satisfied: setuptools>=18.5 in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (61.2.0)

Requirement already satisfied: backcall in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.2.0)

Requirement already satisfied: pickleshare in c:\programdata\anaconda3\lib\site-packages (from ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.7.5)

Requirement already satisfied: parso<0.9.0,>=0.8.0 in c:\programdata\anaconda3\lib\site-packages (from jedi>=0.16->ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.8.3)

Requirement already satisfied: wcwidth in c:\programdata\anaconda3\lib\site-packages (from prompt-toolkit!=3.0.0,!<3.0.1,<3.1.0,>=2.0.0->ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.2.5)

Requirement already satisfied: arrow>=0.15.0 in c:\programdata\anaconda3\lib\site-packages (from isoduration->jsonschema[format-nongpl]>=4.18.0->jupyter-events>=0.6.0->jupyter-server<3,>=2.4.0->notebook) (1.2.2)

Requirement already satisfied: executing in c:\programdata\anaconda3\lib\site-packages (from stack-data->ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.8.3)

Requirement already satisfied: pure-eval in c:\programdata\anaconda3\lib\site-packages (from stack-data->ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (0.2.2)

Requirement already satisfied: asttokens in c:\programdata\anaconda3\lib\site-packages (from stack-data->ipython>=7.23.1->ipykernel->jupyterlab<5,>=4.0.2->notebook) (2.0.5)

Note: you may need to restart the kernel to use updated packages.

WARNING: Ignoring invalid distribution -pencv-python (c:\users\dell\appdata\roaming\python\python39\site-packages)

WARNING: Ignoring invalid distribution -pencv-python (c:\users\dell\appdata\roaming\python\python39\site-packages)

WARNING: Ignoring invalid distribution -pencv-python (c:\users\dell\appdata\roaming\python\python39\site-packages)

WARNING: Ignoring invalid distribution -pencv-python (c:\users\dell\appdata\roaming\python\python39\site-packages)

WARNING: Ignoring invalid distribution -pencv-python (c:\users\dell\appdata\roaming\python\python39\site-packages)

WARNING: Ignoring invalid distribution -pencv-python (c:\users\dell\appdata\roaming\python\python39\site-packages)

```
In [2]: #Q1
def read_first_n_lines(file_path, n):
    try:
        with open(file_path, 'r') as file:
            lines = file.readlines() # Read all lines from the file into a list
            for i in range(min(n, len(lines))): # Iterate up to the minimum of n and the number of lines
                print(lines[i].strip()) # Print each line, stripping whitespace

    except FileNotFoundError:
        print(f"File '{file_path}' not found.")
    except Exception as e:
        print(f"An error occurred: {e}")

if __name__ == "__main__":
    file_path = "C:/Users/DELL/Desktop/SCHOLARSHIP.txt" # Change this to the path of your file
    n = 5 # Change this to the number of lines you want to read

    read_first_n_lines(file_path, n)
```

High-Level and Readable: Python
 Interpreted Language: Python
 Multi-Purpose Language
 Strong Community and Ecosystem: Python

```
In [3]: #Q2
def append_text_to_file(file_path, text):
    try:
        with open(file_path, 'a') as file:
            file.write(text) # Append the text to the file

        with open(file_path, 'r') as file:
            content = file.read() # Read the entire content of the file
            print("File content after appending:")
            print(content)

    except FileNotFoundError:
        print(f"File '{file_path}' not found.")
    except Exception as e:
        print(f"An error occurred: {e}")
```

```

if __name__ == "__main__":
    file_path = "C:/Users/DELL/Desktop/SCHOLARSHIP.txt" # Change this to the path of your file
    text_to_append = "This is the text to append."

    append_text_to_file(file_path, text_to_append)

```

File content after appending:
 High-Level and Readable: Python
 Interpreted Language: Python
 Multi-Purpose Language
 Strong Community and Ecosystem: Python
 This is the text to append.

```

In [14]: #Q3
def read_file_into_list(file_path):
    lines = [] # Initialize an empty list to store the lines

    try:
        with open(file_path, 'r') as file:
            for line in file:
                lines.append(line.strip()) # Append each line to the list, stripping any leading/trailing white spaces

    return lines

    except FileNotFoundError:
        print(f"File '{file_path}' not found.")
    except Exception as e:
        print(f"An error occurred: {e}")

if __name__ == "__main__":
    file_path = "C:/Users/DELL/Desktop/SCHOLARSHIP.txt" # Change this to the path of your file

    lines_list = read_file_into_list(file_path)

    if lines_list:
        print("Lines read from the file and stored in a list:")
        for line in lines_list:
            print(line)

```

Lines read from the file and stored in a list:
 High-Level and Readable: Python
 Interpreted Language: Python
 Multi-Purpose Language
 Strong Community and Ecosystem: Python
 This is the text to append.

```

In [15]: #Q4
def reverse_lines_in_file(file_path):
    try:
        with open(file_path, 'r') as file:
            lines = file.readlines() # Read all lines from the file into a list
            reversed_lines = [line.strip()[::-1] for line in lines] # Reverse each line and store them in a list

        print("Lines in reverse order:")
        for line in reversed_lines:
            print(line)

    except FileNotFoundError:
        print(f"File '{file_path}' not found.")
    except Exception as e:
        print(f"An error occurred: {e}")

if __name__ == "__main__":
    file_path = "C:/Users/DELL/Desktop/SCHOLARSHIP.txt" # Change this to the path of your file

    reverse_lines_in_file(file_path)

```

Lines in reverse order:
 nohtyP :elbadaeR dna level-hgiH
 nohtyP :egaugnaL deterpretnI
 egaugnaL esopruP-itluM
 nohtyP :metsysocE dna ytinummoC gnorts
 .dneppa ot txet eht si sihT

```

In [16]: #Q5
def write_list_to_file(file_path, data):
    try:
        with open(file_path, 'w') as file:
            for item in data:
                file.write(str(item) + '\n') # Write each item from the list to the file

        print(f"Data has been written to '{file_path}'.")

    except Exception as e:
        print(f"An error occurred: {e}")

if __name__ == "__main__":
    file_path = "C:/Users/DELL/Desktop/SCHOLARSHIP.txt" # Change this to the path of the file you want to write to

```

```
data_to_write = ["High-Level and Readable: Python", "Interpreted Language: Python", "Multi-Purpose Language"]  
write_list_to_file(file_path, data_to_write)
```

Data has been written to 'C:/Users/DELL/Desktop/SCHOLARSHIP.txt'.

```
In [17]: #Q6  
def count_characters_words_lines(file_path):  
    try:  
        with open(file_path, 'r') as file:  
            text = file.read()  
            num_characters = len(text)  
            num_words = len(text.split())  
            num_lines = len(text.splitlines())  
  
            print(f"Number of characters: {num_characters}")  
            print(f"Number of words: {num_words}")  
            print(f"Number of lines: {num_lines}")  
  
    except FileNotFoundError:  
        print(f"File '{file_path}' not found.")  
    except Exception as e:  
        print(f"An error occurred: {e}")  
  
if __name__ == "__main__":  
    file_path = "C:/Users/DELL/Desktop/SCHOLARSHIP.txt" # Change this to the path of your file  
  
    count_characters_words_lines(file_path)
```

Number of characters: 123
Number of words: 14
Number of lines: 4

```
In [18]: #Q7  
def main():  
    user_input = [] # Initialize a list to store user input  
  
    while True:  
        sentence = input("Enter a sentence (or 'END' to finish): ")  
        if sentence == "END":  
            break  
        user_input.append(sentence)  
  
    # Save the user input to a text file  
    with open("user_input.txt", "w") as file:  
        for sentence in user_input:  
            file.write(sentence + "\n")  
  
    # Display sentences that start with an uppercase letter  
    with open("C:/Users/DELL/Desktop/SCHOLARSHIP.txt", "r") as file:  
        lines = file.readlines()  
        print("Sentences that start with an uppercase letter:")  
        for line in lines:  
            if line.strip() and line[0].isupper():  
                print(line.strip())  
  
if __name__ == "__main__":  
    main()
```

Enter a sentence (or 'END' to finish): I LOVE PYTHON
Enter a sentence (or 'END' to finish): END
Sentences that start with an uppercase letter:
High-Level and Readable: Python
Interpreted Language: Python
Multi-Purpose Language
Strong Community and Ecosystem: Python

```
In [23]: #Q8  
import struct  
  
def write_records_to_binary_file(file_path, num_records):  
    try:  
        with open(file_path, 'wb') as file:  
            for _ in range(num_records):  
                item_no = int(input("Enter Item No: "))  
                item_name = input("Enter Item Name: ")  
                quantity = int(input("Enter Quantity: "))  
                price = float(input("Enter Price per item: "))  
                amount = quantity * price  
  
                # Pack the data and write to the binary file  
                packed_data = struct.pack('i32sif', item_no, item_name.encode('utf-8'), quantity, price)  
                file.write(packed_data)  
  
    except Exception as e:  
        print(f"An error occurred: {e}")  
  
def read_records_from_binary_file(file_path):  
    try:
```

```

with open(file_path, 'rb') as file:
    record_size = struct.calcsize('i32sif')
    while True:
        packed_data = file.read(record_size)
        if not packed_data:
            break

        item_no, item_name, quantity, price = struct.unpack('i32sif', packed_data)
        item_name = item_name.decode('utf-8').rstrip('\x00')
        amount = quantity * price

        print(f"Item No: {item_no}")
        print(f"Item Name: {item_name}")
        print(f"Quantity: {quantity}")
        print(f"Price per item: {price}")
        print(f"Amount: {amount}")
        print()

    except FileNotFoundError:
        print(f"File '{file_path}' not found.")
    except Exception as e:
        print(f"An error occurred: {e}")

if __name__ == "__main__":
    file_path = "records.dat"
    num_records = int(input("Enter the number of records to be entered: "))

    write_records_to_binary_file(file_path, num_records)
    print("\nRecords written to the binary file.\n")
    print("Reading and displaying records from the binary file:\n")
    read_records_from_binary_file(file_path)

```

Enter the number of records to be entered: 1

Enter Item No: 1

Enter Item Name: BOOKS

Enter Quantity: 5

Enter Price per item: 20

Records written to the binary file.

Reading and displaying records from the binary file:

Item No: 1

Item Name: BOOKS

Quantity: 5

Price per item: 20.0

Amount: 100.0

THANK YOU