03.09.25

Task 6. Implement various text file operations.
a. student record file Handling

Aim:
To write a python program to
- Create a text file and store student names with their marks
- Read and display all student records
- Append new student data to the same file

Algorithm:
1. Start
2. Create/open a file in write mode and store student names with marks
3. Read the file content and display all student records
4. Append new student details into the same file using append mode.
5. Read and display the updated file content
6. Stop

program:

```
filename = "students.txt"
with open(filename, "w") as f:
    f.write("Alice 85\n")
    f.write("Bob 90\n")
    f.write("Charlie 78\n")
print("Initial records created.")
print("\n Student Records:")
with open(filename, "r") as f:
    print(f.read())
with open(filename, "a") as f:
    f.write("David 88\n")
print("new record appended.")
print("\n Updated student records:")
with open(filename, "r") as f:
    print(f.read())
```

Output:

Initial records Created

Student Records:

Alice 85

Bob 90

Charlie 78

New record appended.

Updated Student Records:

Alice 85

Bob 90

Charlie 78

David 88

Result:

Thus the program to create, read and append student records in text file executed successfully

b. Text File word Analyzer

Aim:
To write a program to:
- Read a text file given by the user
- count the number of lines, words and characters.
- Display the frequency of each word.

Algorithm:
1. Start
2. Input a filename
3. open the file in read mode
4. Read the entire content of the file
5. count:
   - number of lines → using readlines()
   - number of words → using split().
   - number of character → using len()
6. Create a dictionary to store word frequencies
7. Display counts and word frequency
8. Stop

Program:

```
filename = "Sample.txt"
with open(filename, "w") as f:
    f.write("Python is simple.\n")
    f.write("Python is powerful.\n")
    f.write("Python is easy to learn\n")
with open(filename, 'r') as f:
    text = f.read()
with open(filename, "r") as f:
    lines = f.readlines()
num_lines = len(lines)
num_words = len(text.split())
```

Output:

```
Number of lines: 3
Number of words: 12
Number of characters: 68

Word Frequency:
python: 3
is: 3
simple: 1
powerful: 1
easy: 1
to: 1
learn
```

```
num_chars = len(text)
words = text.lower().split()
frequency = {}
for word in words:
    word = word.strip('".,!?"')
    frequency[word] = frequency.get(word,0)+1
print("Number of Lines:", num_lines)
print("Number of words:", num_words)
print("Number of characters:", num_chars)
print("\n word Frequency:")
for word, freq in frequency.items():
    print(word,":", freq)
```

Result:

Thus the program to read, count and display the frequency of each word executed successfully