Experiment No. 5
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Exploring Files and directories: Python program to append data to existing file and then display the entire file
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Roll no: 71

Experiment No. 5

Title: Exploring Files and directories: Python program to append data to existing file and then display the entire file

Aim: To Exploring Files and directories: Python program to append data to existing file and then display the entire file

Objective: To Exploring Files and directories

Theory:

Directory also sometimes known as a folder are unit organizational structure in computer's file system for storing and locating files or more folders. Python now supports a number of APIs to list the directory contents. For instance, we can use the Path.iterdir, os.scandir, os.walk, Path.rglob, or os.listdir functions.

Python too supports file handling and allows users to handle files i.e., to read and write files, along with many other file handling options, to operate on files. The concept of file handling has stretched over various other languages, but the implementation is either complicated or lengthy, but alike other concepts of Python, this concept here is also easy and short. Python treats file differently as text or binary and this is important. Each line of code includes a sequence of characters and they form text file. Each line of a file is terminated with a special character, called the EOL or End of Line characters like comma {,} or newline character. It ends the current line and tells the interpreter a new one has begun. Let's start with Reading and Writing files.

Working of open() function

We use open () function in Python to open a file in read or write mode. As explained above, open ( ) will return a file object. To return a file object we use open() function along with two arguments, that accepts file name and the mode, whether to read or write. So, the syntax being: open(filename, mode). There are three kinds of mode, that Python provides and how files can be opened:

" r ", for reading.

" w ", for writing.

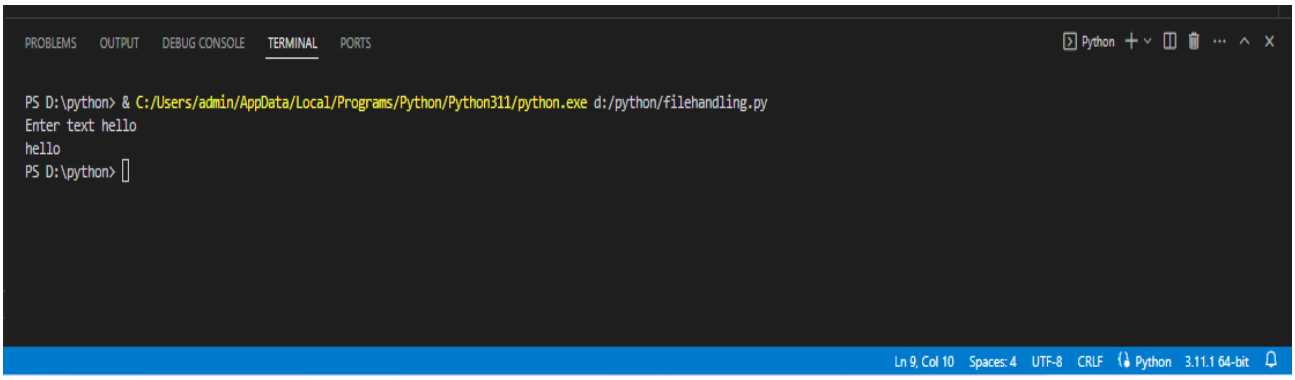
" a ", for appending.

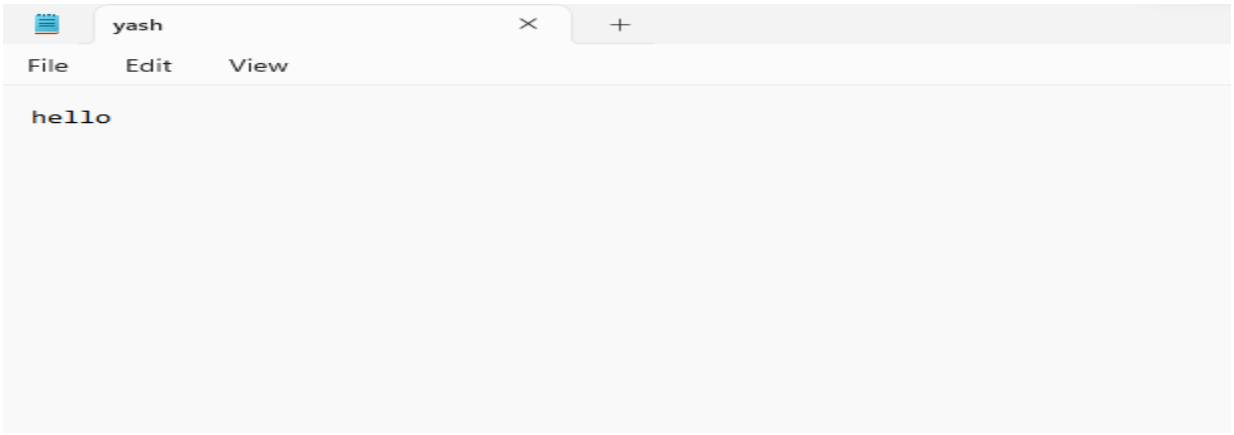
" r+ ", for both reading and writing

Code:

```
f=open("yash.txt","w")
str=input("Enter text ")
f.write(str)
f.close()
f=open("yash.txt","r")
str=f.read()
print(str)
f.close()
```

Output:

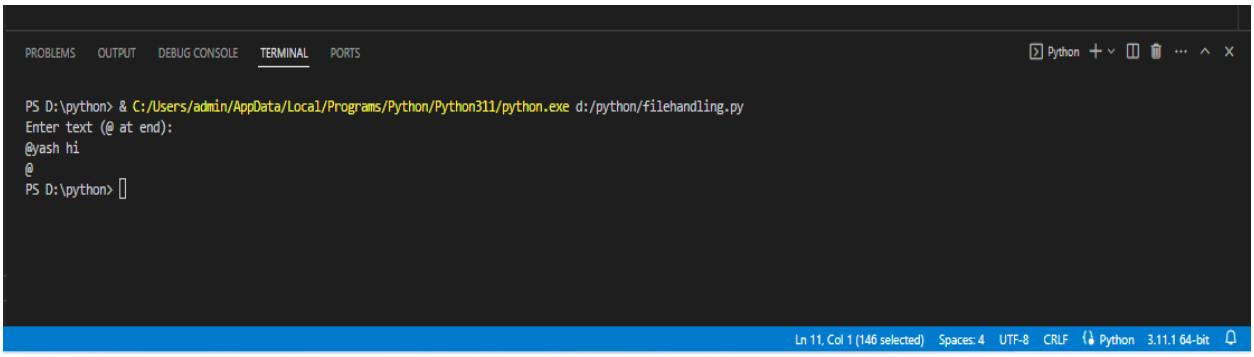


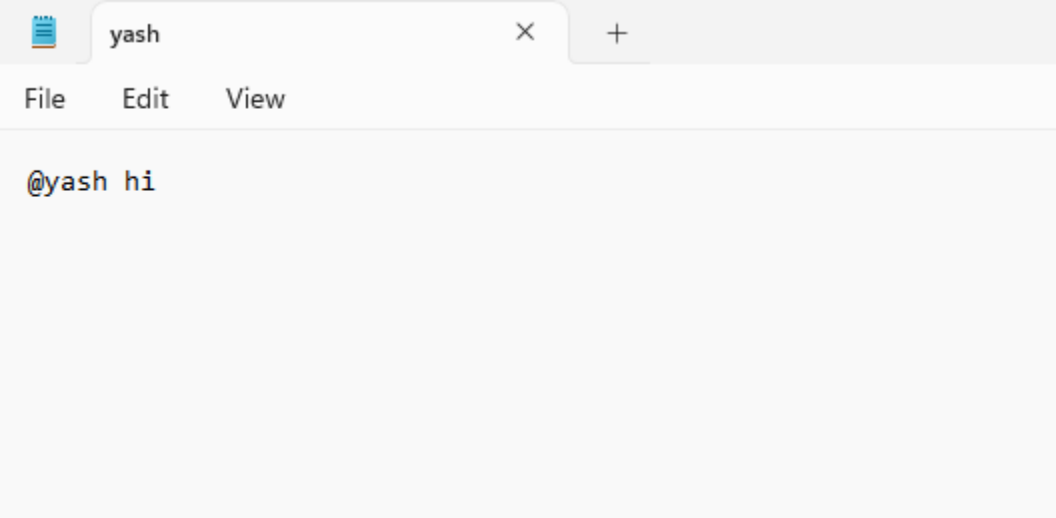


Code:

```
f=open("yash.txt","w")
print("Enter text (@ at end):")
while str!="@":
    str=input()
    if(str!="@"):
        f.write(str+"\n")
f.close()
```

Output:

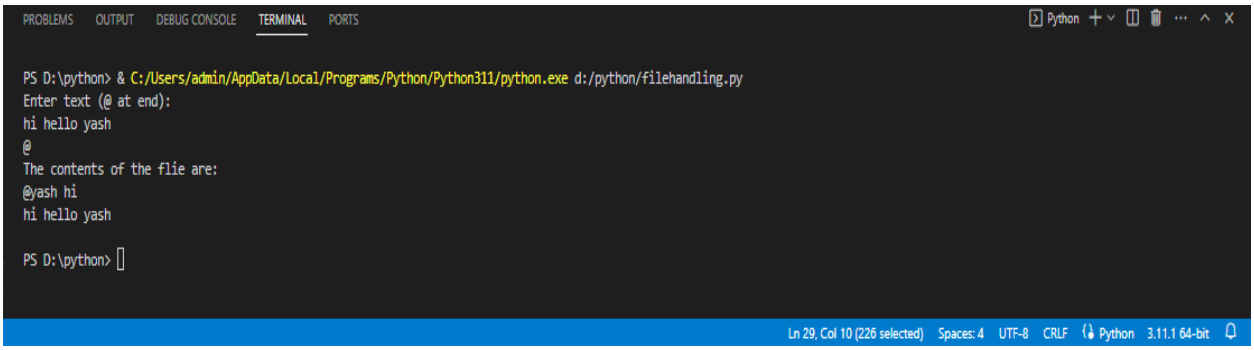




Code:

```
f=open("yash.txt","a+")
print("Enter text (@ at end):")
while str!="@":
    str=input()
    if(str!="@"):
        f.write(str+"\n")
f.seek(0,0)
print("The contents of the flie are:")
str=f.read()
print(str)
f.close()
```

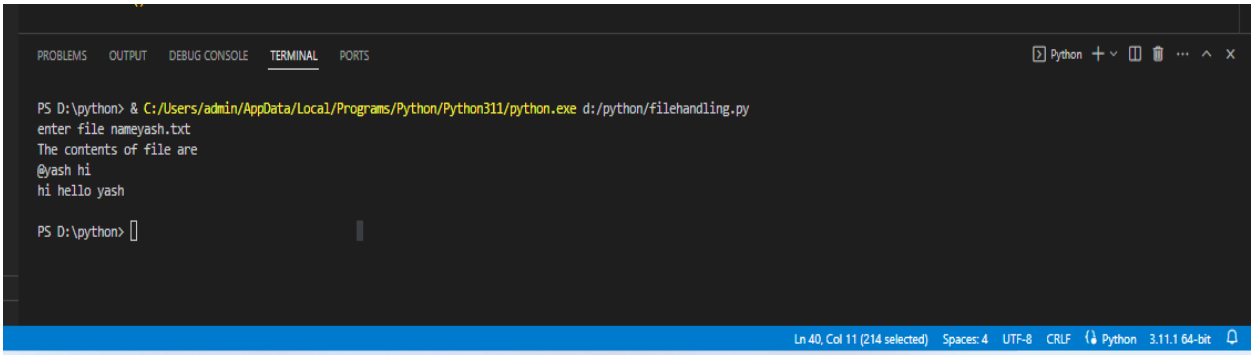
Output:



Code:

```
import os,sys

fname=input("enter file name")

if os.path.isfile(fname):

    f=open(fname,"r")

else:

    print(fname+"does not exist")

    sys.exit()

print("The contents of file are")

str=f.read()

print(str)
```

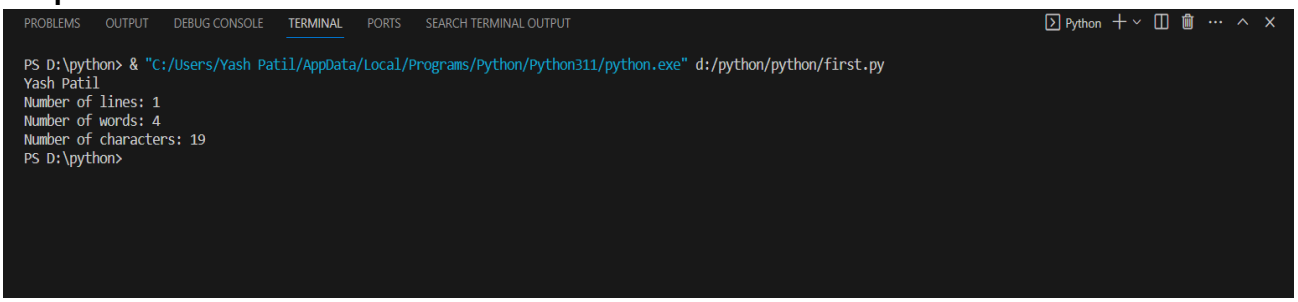
Output:



Code:

```
def count_lines_words_characters(yash):
    lines = 0
    words = 0
    characters = 0

    try:
        with open(filename, 'r') as file:
            for line in file:

                lines += 1

                word_list = line.split()

                words += len(word_list)

                characters += len(line)

        print("Number of lines:", lines)
        print("Number of words:", words)
        print("Number of characters:", characters)

    except FileNotFoundError:
        print("File not found.")
    except PermissionError:
        print("Permission denied to access the file.")
print("Yash Patil")
filename = 'yash.txt'
count_lines_words_characters(filename)
```

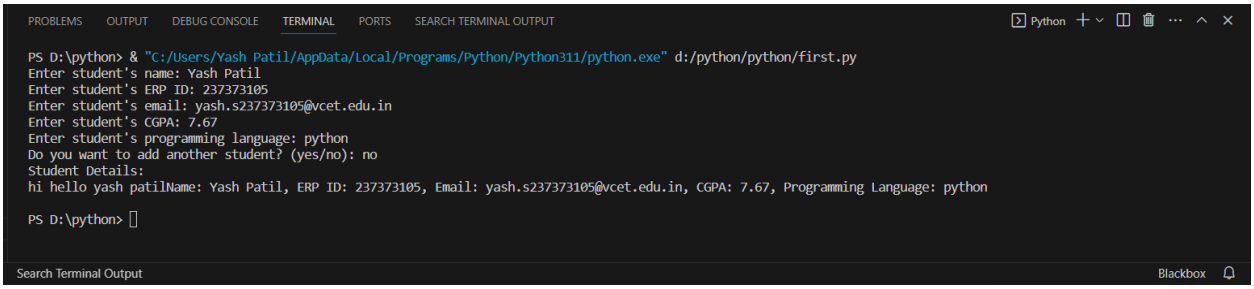
Output:

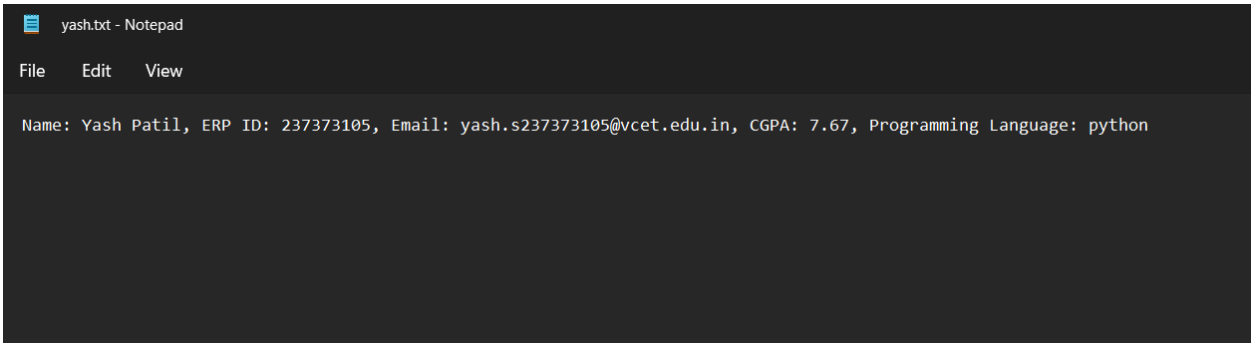


Code:

```
def write_student_details_to_file(yash):
    try:
        with open(filename, 'a') as file:
            while True:
                name = input("Enter student's name: ")
                erp_id = input("Enter student's ERP ID: ")
                email = input("Enter student's email: ")
                cgpa = float(input("Enter student's CGPA: "))
                prog_lang = input("Enter student's programming language: ")

                file.write(f"Name: {name}, ERP ID: {erp_id}, Email: {email}, CGPA: {cgpa},
Programming Language: {prog_lang}\n")

                another = input("Do you want to add another student? (yes/no): ")
                if another.lower() != 'yes':
                    break
    except IOError:
        print("Error writing to the file.")

def display_student_details(filename):
    try:
        with open(filename, 'r') as file:
            print("Student Details:")
            print(file.read())
    except FileNotFoundError:
        print("File not found.")

filename = 'yash.txt'
write_student_details_to_file(filename)
display_student_details(filename)
```

Output:





Conclusion: Directories and files have been explored.