Experiment No 3:

Aim: To implement File Handling in Python.

Theory:

The key function for working with files in Python is the open()

function. The open() function takes two parameters; *filename*, and

mode.

There are four different methods (modes) for opening a file:

" r" - Read - Default value. Opens a file for reading, error if the file does not

exist "a" - Append - Opens a file for appending, creates the file if it does not

exist "w" - Write - Opens a file for writing, creates the file if it does not exist "x"

- Create - Creates the specified file, returns an error if the file exists In addition

you can specify if the file should be handled as binary or text mode "t" - Text -

Default value. Text mode

"b" - Binary - Binary mode (e.g. images)

Python has a set of methods available for the file object.

Method Description

close() Closes the file

detach() Returns the separated raw stream from the buffer

fileno() Returns a number that represents the stream, from the operating system's perspective

flush() Flushes the internal buffer

isatty()Returns whether the file stream is interactive or not

read() Returns the file content

readable() Returns whether the file stream can be read or not

readline() Returns one line from the file

readlines() Returns a list of lines from the file seek() Change the file position

seekable() Returns whether the file allows us to change

the file positiontell() Returns the current file position

truncate() Resizes the file to a specified size

writable() Returns whether the file can be

written to or notwrite() Writes the

specified string to the file

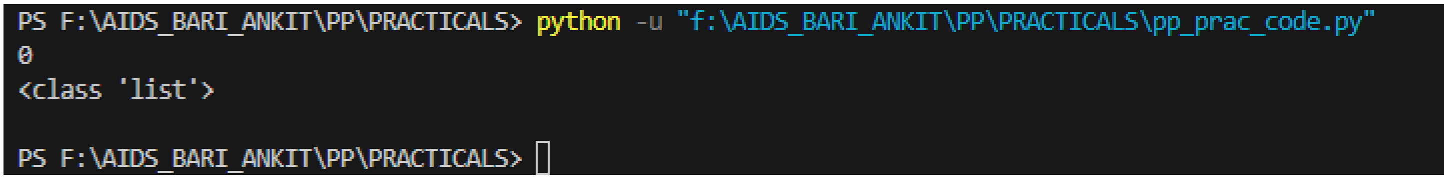
writelines() Writes a list of strings to the file

PROGRAM:

Program 3.1: Python program to copy odd noline from one file to other

```
# open file in read mode
fn = open('myfile.txt', 'r')

# open other file in write mode
fn1 = open('myfile.txt', 'w')

# read the content of the file line by line
cont = fn.readlines()

print(len(cont))  # Print the number of lines in the file
print(type(cont))  # Print the type of cont variable

# Loop through each line in the file
for i in range(0, len(cont)):
    # Check if the line number is odd
    if i % 2 != 0:
        # Write the line to the new file
        fn1.write(cont[i])
    else:
        pass

# close the file
fn1.close()

# open file in read mode
fn1 = open('myfile.txt', 'r')

# read the content of the file
cont1 = fn1.read()

# print the content of the file
print(cont1)

# close all files
fn.close()
fn1.close()
```

OUTPUT:



```
PS F:\AIDS_BARI_ANKIT\PP\PRACTICALS> python -u "f:\AIDS_BARI_ANKIT\PP\PRACTICALS\pp_prac_code.py"
0
<class 'list'>

PS F:\AIDS_BARI_ANKIT\PP\PRACTICALS> 
```

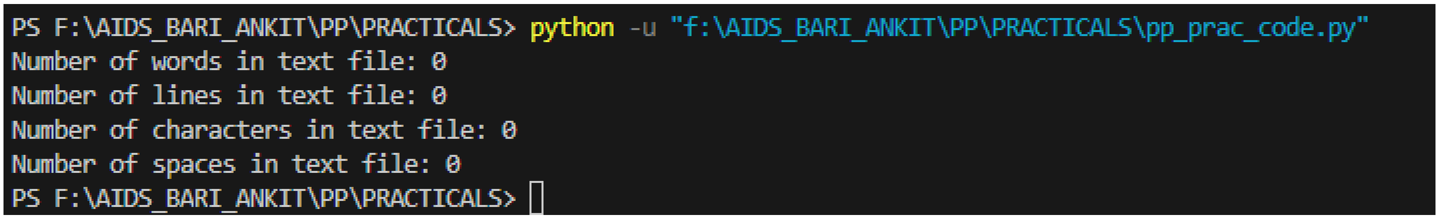
Program 3.2:

```
 # Function to count
number
 # of characters,
words, spaces, and
lines in a file
 def counter(fname):
     # Variables to
store total counts
     num_words = 0
     num_lines = 0
     num_charc = 0
     num_spaces = 0





     # Opening file
using with statement
to automatically
close the file
     with open(fname,
'r') as f:
         # Loop to
iterate file line by
line
         for line in f:
             #
Incrementing total
line count
             num_lines
+= 1

             # Flag to
track word presence
in the line
             word = 'Y'

             # Loop to
iterate every
```

```
character in the line
            for letter in
line:
                #
Condition to check if
the character is not a
white space and a
word
                if letter !=
' ' and word == 'Y':
                    #
Incrementing the
word count

num_words += 1
                    word =
'N'
                #
Condition to check if
the character is a
white space
                elif letter
== ' ':
                    #
Incrementing the
space count

num_spaces += 1
                    word =
'Y'

                #
Incrementing
character count for
every character
except space and
newline
                if letter !=
" " and letter != "\n":

num_charc += 1

    # Printing total
counts
    print("Number of
words in text file:",
num_words)
    print("Number of
lines in text file:',
num_lines)
    print('Number of
characters in text
file:', num_charc)
    print('Number of
spaces in text file:',
num_spaces)
```

```
 # Driver Code
 if __name__ ==
'__main__':
    fname =
'myfile.txt'
    try:
        counter(fname)
    except
FileNotFoundError:
        print('File not
found')
```

OUTPUT



```
PS F:\AIDS_BARI_ANKIT\PP\PRACTICALS> python -u "f:\AIDS_BARI_ANKIT\PP\PRACTICALS\pp_prac_code.py"
Number of words in text file: 0
Number of lines in text file: 0
Number of characters in text file: 0
Number of spaces in text file: 0
PS F:\AIDS_BARI_ANKIT\PP\PRACTICALS> 
```

Conclusion:

The experiment successfully demonstrated the implementation of File Handling inPython, showcasing its versatility in reading, writing, and manipulating various file formats.