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 position

tell() Returns the current file position

truncate() Resizes the file to a specified size

writable() Returns whether the file can be written to or not

write() Writes the specified string to the file

writelines() Writes a list of strings to the file

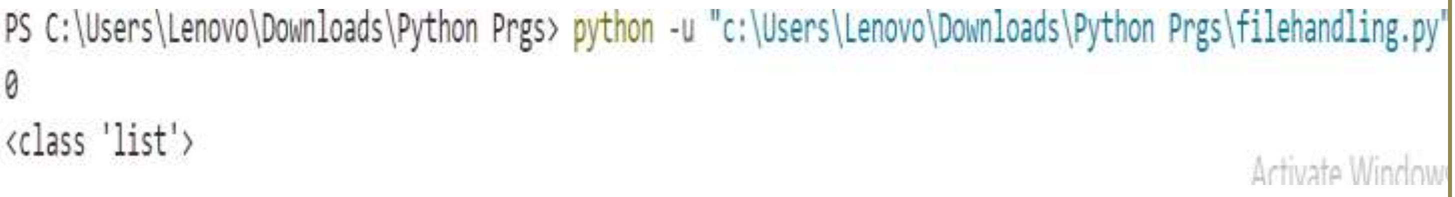
PROGRAM:

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 C:\Users\Lenovo\Downloads\Python Prgs> python -u "c:\Users\Lenovo\Downloads\Python Prgs\filehandling.py"
0
<class 'list'>
```

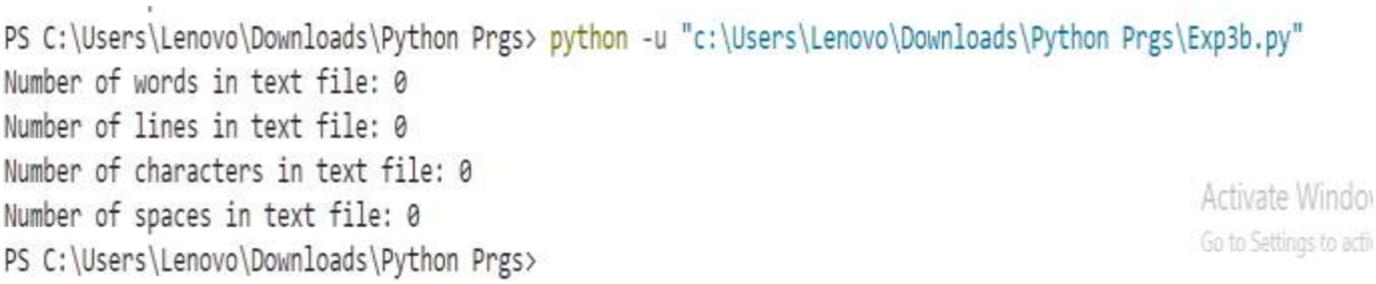
Program 3.2:

```
 # 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
```

```
    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 C:\Users\Lenovo\Downloads\Python Prgs> python -u "c:\Users\Lenovo\Downloads\Python Prgs\Exp3b.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 C:\Users\Lenovo\Downloads\Python Prgs>
```

Conclusion:

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