

Practical No. 06**1. Basic file handling operations.****Code:**

```
file = open("Books.txt", "w+")

l = ["This file is for books. \n", "Books are good source of
knowlegde.\n"]

file.write("Writing something in file.\n")

file.writelines(l)

file.close()

file = open("Books.txt", "r+")

print(file.read())

file.seek(0)

print(file.readline())

file.seek(0)

print(file.read(9))

file.seek(0)

print(file.readline(9))

file.seek(0)

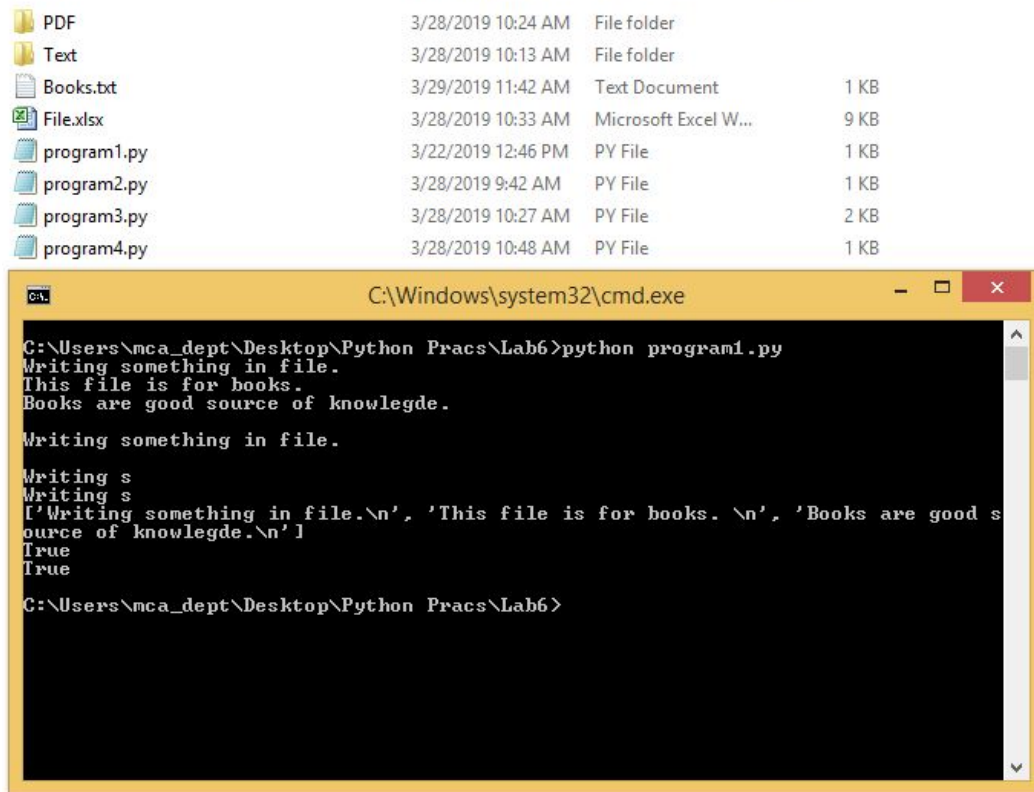
print(file.readlines())

print(file.readable())

print(file.writable())

file.close()
```

Output:



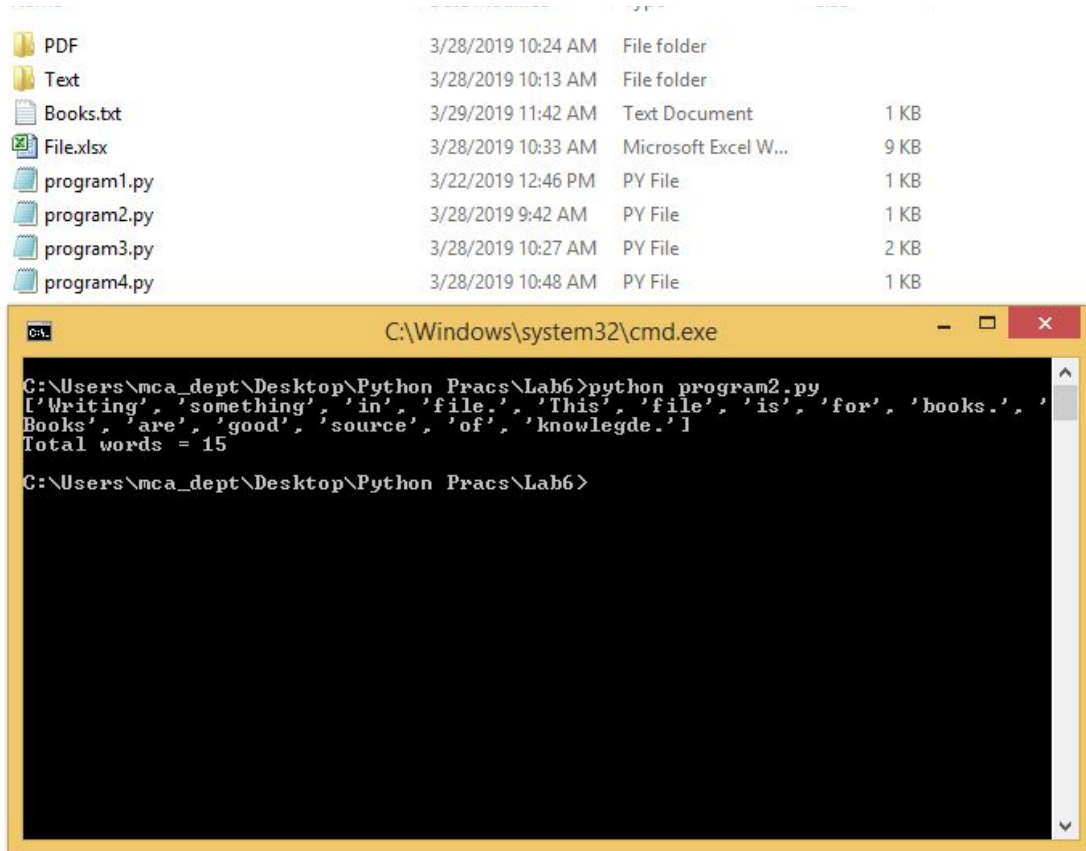
2. To take a sentence and split and display each word one by one.

Code:

```
filePath = "Books.txt"
wordList = []
wordCount = 0

#Read lines into a list
file = open(filePath, 'r')
for line in file:
    for word in line.split():
        wordList.append(word)
        wordCount += 1
print(wordList)
print("Total words = %d" % wordCount)
```

Output:



3. To rearrange the files of different extension and group them accordingly into their folder.

Code:

```
import os,shutil
```

```
fullpath = os.path.join
```

```
start_directory = "."
```

```
text_files = "./Text"
```

```
pdf_files = "./PDF"
```

```
html_files = "./HTML"
```

```
jpeg_files = "./JPEG"
```

```
def main():
```

```
    for dirname, dirnames, filenames in os.walk(start_directory):
```

```
        for filename in filenames:
```

```
            source = fullpath(dirname, filename)
```

```
            if filename.endswith("txt"):
```

```
                if not os.path.exists(text_files):
```

```
                    os.mkdir(text_files)
```

```
                    shutil.move(source, fullpath(text_files, filename))
```

```
            elif filename.endswith("pdf"):
```








```
                if not os.path.exists(pdf_files):
```

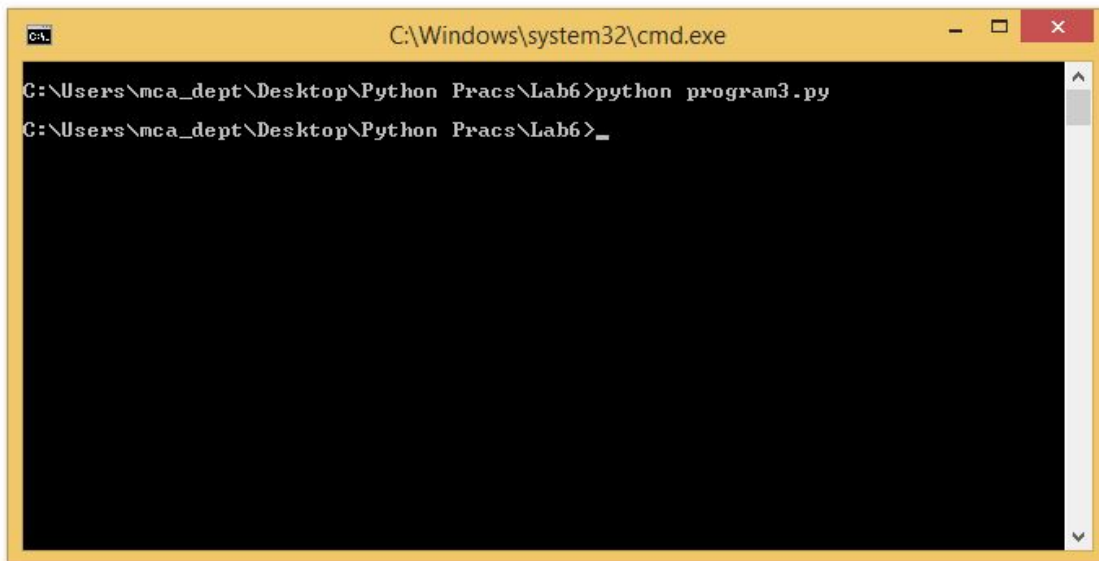
```
                    os.mkdir(pdf_files)
```

```
        shutil.move(source, fullpath(pdf_files, filename))
    elif filename.endswith("html"):
        if not os.path.exists(html_files):
            os.mkdir(html_files)
        shutil.move(source, fullpath(html_files, filename))
    elif filename.endswith("jpeg"):
        if not os.path.exists(jpeg_files):
            os.mkdir(jpeg_files)
        shutil.move(source, fullpath(jpeg_files, filename))

if __name__ == "__main__":
    main()
```

Output:

	PDF	3/28/2019 10:24 AM	File folder	
	Text	3/28/2019 10:13 AM	File folder	
	File.xlsx	3/28/2019 10:33 AM	Microsoft Excel W...	9 KB
	program1.py	3/22/2019 12:46 PM	PY File	1 KB
	program2.py	3/28/2019 9:42 AM	PY File	1 KB
	program3.py	3/28/2019 10:27 AM	PY File	2 KB
	program4.py	3/28/2019 10:48 AM	PY File	1 KB



4. Reading an excel file.

Code:

```
import xlrd

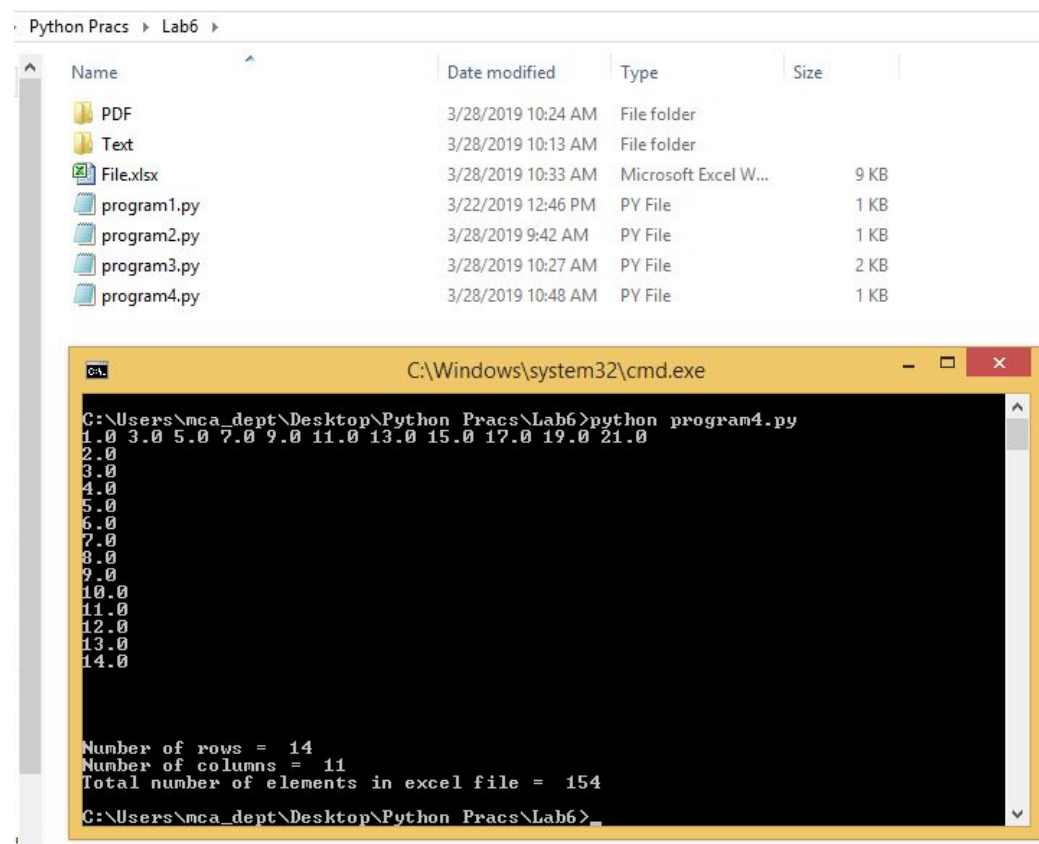
file=xlrd.open_workbook("File.xlsx");
```

```
worksheet=file.sheet_by_index(0);
len_of_row=worksheet.nrows;
len_of_col=worksheet.ncols;
for i in range(0,len_of_row):
    for j in range(0,len_of_col):
        print(worksheet.cell_value(i,j),end=' ');
    print("");

print("\n");
print("\n");

print("Number of rows = ",len_of_row);
print("Number of columns = ",len_of_col);
print("Total number of elements in excel file =
",len_of_row*len_of_col);
```

Output:



5. Demonstrate inbuilt exception handling in python.

Code:

try:

```
import sys;
except ImportError:
    print("Could not import sys module \n");
try:
    file=open(input("Enter file name to open\n"),"rt");
    print("File contents \n");
    print(file.read());
except FileNotFoundError:
    print("File was not found, system exiting\n");
    sys.exit(0);
except IOError:
    print("Could not read \n");
    sys.exit(0);

try:
    print("Enter two numbers whose division you want to save in a
file \n");
    a=int(input());
    b=int(input());
    file.close();
    file=open(input("Enter file name to write \n"),"a");
    file.write(" "+str(a/b));
    file.close();
except FileNotFoundError:
    print("Given file was not found ");
except IOError:
    print("File cannot be opened ");
except ArithmeticError:
    print("Illegal number entered ");
```

Output:

The screenshot shows a Windows File Explorer window at the top, displaying a folder named 'Python Pracs' on the Desktop. Inside this folder, there are two text files: 'abc.txt' and 'Books.txt', both dated 3/29/2019 12:08 PM and 1 KB in size. Below the File Explorer is a Windows Command Prompt window. The prompt shows the execution of a Python script 'program5.py' from the directory 'C:\Users\mca_dept\Desktop\Python Pracs\Lab6'. The script prompts the user to 'Enter file name to open', and the user enters 'books'. The script then reports 'File was not found, system exiting'. The user then enters 'books.txt', and the script displays 'File contents'. The script then prompts 'Writing something in file.' and 'This file is for books. Books are good source of knowlegde.' followed by a division calculation '0.25 0.8571428571428571'. The user is then prompted 'Enter two numbers whose division you want to save in a file' and enters '6' and '12'. The script then prompts 'Enter file name to write' and the user enters 'books.txt'. The script then prompts 'Enter file name to open' and the user enters 'books.txt'. The script then displays 'File contents' and shows the updated division result '0.25 0.8571428571428571 0.5'. Finally, the user enters 'abc.txt' and the script prompts 'Enter file name to write'.

```
C:\Users\mca_dept\Desktop\Python Pracs\Lab6>python program5.py
Enter file name to open
books
File was not found, system exiting

C:\Users\mca_dept\Desktop\Python Pracs\Lab6>python program5.py
Enter file name to open
books.txt
File contents

Writing something in file.
This file is for books.
Books are good source of knowlegde.
0.25 0.8571428571428571
Enter two numbers whose division you want to save in a file
6
12
Enter file name to write
books.txt

C:\Users\mca_dept\Desktop\Python Pracs\Lab6>python program5.py
Enter file name to open
books.txt
File contents

Writing something in file.
This file is for books.
Books are good source of knowlegde.
0.25 0.8571428571428571 0.5
Enter two numbers whose division you want to save in a file
6
18
Enter file name to write
abc.txt

C:\Users\mca_dept\Desktop\Python Pracs\Lab6>
```

6. Demonstrate custom exception handling in python.

Code:

```
class err(Exception):
    def __init__(self,error):
        self.error_name=error;

    def get_error(self):
        return "{}".format(self.error_name);

try:
    name=input("Enter name ");
    if not name:
        raise(err("String cannot be empty"));
    email=input("Enter email ");
```

```
if not email:
    raise(err("Email cannot be empty"));
if "@" not in email or "." not in email:
    raise(err("Invalid email address"));
age=int(input("Enter age "));
if age < 18:
    raise(err("Age cannot be less than 18"));

print("The entered information is valid ");
print("Name = ",name);
print("Age = ",age);
print("Email = ",email);
except err as e:
    print(e.get_error());
```

Output:

```
C:\Users\mca_dept\Desktop\Python Pracs\Lab6>python program6.py
Enter name Hammad
Enter email Hammadansari@gmail.com
Enter age 20
The entered information is valid
Name = Hammad
Age = 20
Email = Hammadansari@gmail.com

C:\Users\mca_dept\Desktop\Python Pracs\Lab6>python program6.py
Enter name asd123
Enter email ad12f
Invalid email address

C:\Users\mca_dept\Desktop\Python Pracs\Lab6>python program6.py
Enter name asd
Enter email asd@
Invalid email address

C:\Users\mca_dept\Desktop\Python Pracs\Lab6>python program6.py
Enter name 123asd
Enter email asdeaf@asd
Invalid email address
```