Assignment 4

Module 5 – Files, Exceptions and Errors in Python

Task 1 : Read a File and Handle Errors –

In this task, a file named 'sample.txt' is opened in read mode and its contents are read line by line. While opening the file, the error is handled if the file does not exist.

Code -

```
#Task 1 of Assignment 4 - Read a File and Handle Errors
import io
file_name = "sample11.txt"
try:
    fh = open(file_name,"rt")   #opening file for reading purpose
    print("Reading file content:")
except FileNotFoundError:       #handling error if file not exists
    print(f"Error: The file \'{file_name}\' was not found.")
    exit()
except io.UnsupportedOperation as e:    #handling error if unable to read file
    print(f"Error: File \'{file_name}\' cannot be opened.")
    exit()
else:
    l_count = 0
    while line := fh.readline():
        l_count += 1
        print(f"Line {l_count}: {line}",end="")
    print()
    fh.close()
finally:
    print("Bye!!!")
#end of program
```

Output –

a) *If the file exists*

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Reading file content:
Line 1: This is a sample text file.
Line 2: It contains multiple lines.
Bye!!!
```

b) *If file does not exists*

```
Error: The file 'sample11.txt' was not found.
Bye!!!
```

Task 2 : Write and Append Data to a File –

In this task, a file named 'output.txt' is opened in write mode. An input is accepted from the user and written to the file. After this additional input is taken from the user and appended to the file. Finally entire content of the file is displayed.

Code –

```
#Task 2 of Assignment 4 - Write and Append Data to a File
import io

file_name = "output.txt"
try:
   text = input("Enter text to write to the file: ")
   with open(file_name,"wt") as fh:        #opening file in write mode
      fh.write(text + "\n")
   print(f"Data successfully written to the file \'{file_name}\'.\n")

   text = input("Enter additional text to append to the file: ")
   with open(file_name,"at") as fh:       #opening file in append mode
      fh.write(text + "\n")
   print(f"Data successfully appended to the file \'{file_name}\'.\n")

   with open(file_name,"rt") as fh:   #opening file for reading purpose
      print(f"Final content of the file \'{file_name}\':")
      while line := fh.readline():
         print(f"{line}",end="")
   print()

except FileNotFoundError:       #handling error if file not exists
   print(f"Error: The file \'{file_name}\' was not found.")
   exit()

except io.UnsupportedOperation as e:    #handling error if unable to read file
   print(f"Error: File \'{file_name}\' cannot be opened.")
   exit()

finally:
   print("Bye!!!")

#end of program
```

Output -

```
Enter text to write to the file: Hello, Python!
Data successfully written to the file 'output.txt'.

Enter additional text to append to the file: Learning file handling in Python.
Data successfully appended to the file 'output.txt'.

Final content of the file 'output.txt:
Hello, Python!
Learning file handling in Python.

Bye!!!
```

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