08-09-25

Task 7 - Implement various txt/csv file operations

AIM :-

To write a Python Program for creating and updating student registration details using txt file operations.

Algorithm :-

Step 1 :- Start

Step 2 :- using open() method, create and write text file "my file.txt" with student details.

Step 3 :- update the new registered student details using append operation in it.

Step 4 :- open the file in read mode and using read() method print the student details.

Step 5 :- using seek method print the particular student record.

Step 6 :- using tell method print the current position of the file.

Step 7 :- close the file.

Step 8 :- Stop

Program :-

```
file = open("student1.txt", "w")
input1 = input("Enter columns name\n")
file.write(input1)
file.write("\n")
n = int(input("Enter the no of students"))
for i in range(0,n):
    input2 = input("Enter students details with for new")
    file.write(input2)
    file.write("\n")
file = open("student1.txt", "a")
input3 = input("Enter updated students details\n")
```

Output:-

Student Details using Read function is :

VTUNO	NAME	AGE
2305	RAM	20
1920	SHIVA	21
2305	RAM	20
1920	SHIVA	21

The length of first line is : 15

output of Read line (first student record) function is : 2035

find the current position of file pointer : 29

```
File.write(input3)
file= open("student1.txt","r")
Print("Student details using read function is:")
Print(file.read())
Print("\n")
file.seek(0)
Print("The length of first line is:")
line=file.readline()
len= len(line)
Print(len)
file.seek(len+1)
Print("output of Readline (first student record) function is:")
Print(file.readline())
Print("\n find the current position of file pointer:")
f=file.tell()
Print(f)
file.close()
```

Input :-

File name : merge.txt

output : 5,48,4

Program to count uppercase, lowercase and digits in a file (merge.txt)

Step 1 :- create and write content to the file

with open ("merge.txt", "w") as f:

f.write ("Python is a High level language, developed by Guid Van rossum in 1991")

step 2: open the file for reading

with open ("merge.txt", "r") as f:

text = f.read()

Step 3: initialize counters

upper_count = 0

lower_count = 0

digit_count = 0

Step 4: count uppercase, lower case, and digits

for char in text:

if char.isupper():

upper_count += 1

elif char.is lower():

lower_count += 1

elif char.is digit():

digit_count += 1

Step 5: Print the result

Print ("upper case letters:", upper_count)

Print ("Lower case letters:", lower_count)

Print ("Digits:", digit_count)

Compact output as required

Print (f"{upper_count}, {lower_count}, {digit_count}")

6-2 Counting Cases

Construct a Python program whose file name is "merge.txt". To illustrate the below content inside of the life

"Python is a high level language developed by Guido van Rossum in 199

Coun the total number of upper case, and digits used in the text file "merge.txt".

Input:

4

0.2 0.3 0.4 0.5

Gaurav 100 80 90 75

Abhinav 20 50 60 90

Harvard 60 80 50 100

Jai 70 80 60 90

7.3 Avg grade:

A vertech faculty assigns the following weightage of marks/grades on four assignments for five students in the Python course.

Program:

```
# Program to calculate average grade of students with assignment weightage
# Step1: Get number of students
n=int(input("Enter number of students:"))
# Step 2: Get assignment weightages
print("Enter 4 assignment weightages:")
weights=[]
for i in range(4):
    w=float(input(f"weight {i+1}:"))
    weights.append(w)
# Step 3: Get student details
students=[]
for i in range(n):
    print(f"\nEnter name of students{i+1}:")
    name = input()
    marks=[]
    for j in range(4):
        m = int(input(f"Enter mark{j+1} for {name}:"))
        marks.append(m)
    students.append([name]+marks)
# Step4: Calculate and display weighted average grade
print("\n--Average Grades---")
for student in students:
    name = student[0]
    marks = student[1:]
    total=0
    for j in range(4):
        total = total+marks[j]* weights[j]
    print(name,"-> Average Grade:", round(total,2))
```

Construct a Python Program to read the above table of Students grades from a text file (grades.txt) calculate average grade for each student and print out the result Students name along with their average grade using another text file (results.txt).

```
# Program to read student's grades from a file, calculate avg
    and save results
# Step 1: Read input data from grades.txt
with open("grades.txt","r") as f:
    lines = f.readlines()
# Step 2: Extract number of students
n = int(lines[0].strip())
# Step 3: Extract weights
weights = lines[1].strip().split()
weights = [float(w) for w in weights]
# Step 4: Process each student's data
students = []
for i in range(2,2+n):
    parts = lines[i].strip().split()
    name = parts[0]
    marks = [int(m) for m in parts[1:]]
    # Calculate weighted average
    total = 0
    for j in range(4):
        total = total + marks[j] * weights[j]
    students.append((name, round(total,2)))
# Step 5: Write results into results.txt
with open("results.txt", "w") as f:
    for name, avg in students:
```

f.write(name+"->"+str(avg)+"\n")

print("Average grades have been written to results.txt")

Example results.txt (output)

Gautav ->169.0

Abhinav ->188.0

Harvard ->152.0

Jai ->162.0

Ravi->188.0

VEL TECH - CSE	
EX NO.	7
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	
RECORD (5)	
TOTAL (20)	15
SIGN WITH DATE	

Result:- Thus, the Python Program Implement various text file operations was successfully executed and the output was verified