

Files Assignment

June 3, 2021

1 Files Assignment

1.1 Problem 1

You have a file “Crime and Punishment.txt” in this folder. Write a program to read the contents of the file line by line into a list called lines. In the reading loop, count the number of lines you read. Compare this with the length of the list you get from the len() function.

```
[1]: fh = open("Crime and Punishment.txt", "r")
count = 0
lines = []
for line in fh:
    lines.append(line)
    count = count + 1
fh.close()
len(lines)
```

```
[1]: 21970
```

```
[2]: print(count)
```

```
21970
```

1.2 Problem 2

Use the type() function to determine the type of items in the list.

```
[3]: type(lines[0])
```

```
[3]: str
```

1.3 Problem 3

Compute the average length of a line.

```
[4]: total = 0
for line in lines:
    total = total + len(line)
avg_length = total/count
```

```
print(avg_length)
```

51.458215748748295

1.4 Problem 4

Consider a word to be defined as any sequence of non-blank characters separated by whitespace. Create a list of all of the words in the file. Use the string method `split()`. Print out the first 100 words in the list of words. Print the length of the list of words.

```
[5]: words = []  
    for line in lines:  
        lwords = line.split()  
        for word in lwords:  
            words.append(word)  
    for i in range(100):  
        print(words[i])
```

CRIME
AND
PUNISHMENT
PART
I
CHAPTER
I
On
an
exceptionally
hot
evening
early
in
July
a
young
man
came
out
of
the
garret
in
which
he
lodged
in
S.

Place
and
walked
slowly,
as
though
in
hesitation,
towards
K.
bridge.
He
had
successfully
avoided
meeting
his
landlady
on
the
staircase.
His
garret
was
under
the
roof
of
a
high,
five-storied
house
and
was
more
like
a
cupboard
than
a
room.
The
landlady
who
provided
him
with
garret,

dinners,
and
attendance,
lived
on
the
floor
below,
and
every
time
he
went
out
he
was
obliged
to
pass
her
kitchen,
the

1.5 Problem 5

Count the number of occurrences of the word “is” in the list of words. Be sure to allow for capitalization. What fraction of all the words is this?

```
[6]: count = 0
     for word in words:
         if word.lower() == "is":
             count = count + 1
     print("Number of IS is",count)
```

Number of IS is 1274

[0]: