AKTU B.Tech Second Year

PYTHON PROGRAMMING

UNIT 4

Python Program Flow Control Conditional blocks

LEC-2

Today's Target

AKTU PYQs

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Gateway Classes

Read()	Readline()	Readlines()
• The read method reads the entire contents of a file and returns it as a string. • content = file.read()	➢ The readline method reads a single line from a file and returns it as a string. ➢ This means that if you use readline, you can read the contents of a file line by line, which can be useful for processing large files that do not fit in memory file = open("filename.txt", "r") file.readline()	The readlines method reads the entire contents of a file and returns it as a list of strings, where each element of the list is a single line of the file file = open("filename.txt","r") file.readlines()

Gateway classes

Write in a file

There are two ways to write in a file.

write() : Inserts the string str1 in a single line in the text file.

File_object.write(str1)

writelines() : For a list of string elements, each string is inserted in the text file. Used to insert multiple strings at a single time.

File_object.writelines(L)

for L = [str1, str2, str3]

Close a file

close() function closes the file and frees the memory space acquired by that file. It is used at the time when the file is no longer needed or if it is to be opened in a different file mode.

Syntax: File_object.close()

Gateway classes

main.py example.txt

```
1  file_name = "example.txt"
2  # Using write()
3  with open(file_name, "w") as file:
4      file.write("This is a single line written using write().\n")
5  # Using writelines()
6  with open(file_name, "a") as file:  # Open in append mode
7      lines = ["Line 1: Hello\n", "Line 2: World\n", "Line 3: Python\n"]
8      file.writelines(lines)
9  # Verify file content
10 with open(file_name, "r") as file:
11     print("File content:")
12     print(file.read())
13
```

Gateway classes

main.py | example.txt

```
1  This is a single line written using write().
2  Line 1: Hello
3  Line 2: World
4  Line 3: Python
5
```

```
File content:
This is a single line written using write().
Line 1: Hello
Line 2: World
Line 3: Python
```

Gateway Classes

write a python program to read a file line by line store it into a list

```python
def read_file_to_list(file_name):
    lines=[]
    with open(file_name,'r')as file:
        while True:
            k=file.readline()
            if not k:
                break
            lines.append(k.strip())
    return lines
file_name="example.txt"
a=read_file_to_list(file_name)
print(a)
```

main.py | example.txt

```
Line 1: Hello
Line 2: World
Line 3: Python
```

```
['Line 1: Hello', 'Line 2: World', 'Line 3: Python']
```

Gateway classes

Write a Python program to read an entire text file

main.py | example.txt

```
1 file_name = "example.txt"
2 with open(file_name, "r") as file:
3     content = file.read()
4 print("Content of the file:")
5 print(content)
6
```

```
Content of the file:
hello
while
hi
bye
```

main.py | example.txt

```
1 hello
2 while
3 hi
4 bye
```

Gateway classes

Write a Python program to read a file line by line store it into a variable.

main.py | example.txt

```
1 file_name = "example.txt"
2 k = ""
3 with open(file_name, "r") as file:
4     for line in file:
5         k=k+line
6 print("Content of the file stored in a variable:")
7 print(k)
```

main.py | example.txt

```
1 hello
2 while
3 hi
4 bye
```

```
Content of the file stored in a variable:
hello
while
hi
bye
```

Gyanray classes

Write a Python program to read first n lines of a file

main.py | example.txt

```
1  def read_first_n_lines(file_name,n):
2      with open(file_name,'r')as file:
3          for i in range(n):
4              line=file.readline()
5              if not line:
6                  break
7              print(line,end="")
8  file_name="example.txt"
9  n=int(input("enter the number\n"))
10 read_first_n_lines(file_name,n)
```

```
enter the number
3
hello
while
hi
```

main.py | example.txt

```
1  hello
2  while
3  hi
4  bye
5  breakk
6  lambda
```

Gateway classes

Write a Python program to read last n lines of a file

main.py | example.txt

```python
def read_last_n_lines(file_name, n):
    with open(file_name, "r") as file:
        lines = file.readlines()
        last_n_lines = lines[-n:]
    return last_n_lines
file_name = "example.txt"
n = 3
last_lines = read_last_n_lines(file_name, n)
print("Last", n, "lines from the file:")
for line in last_lines:
    print(line, end="")

```

```
Last 3 lines from the file:
bye
breakk
lambda
```

main.py | example.txt

```
hello
while
hi
bye
breakk
lambda
```

Gateway class

Write a python program to find the longest words.

main.py | example.txt

```
1  def find_longest_word(file_name):
2      longest_word = ""
3      with open(file_name, "r") as file:
4          for line in file:
5              # Split the line into words
6              words = line.split()
7   # Check each word's length and update the longest word
8              for word in words:
9                  if len(word) > len(longest_word):
10                     longest_word = word
11     return longest_word
12 file_name = "example.txt"
13 longest_word = find_longest_word(file_name)
14 print("The longest word in the file is:", longest_word)
```

Gateway Classes

```
The longest word in the file is: students
```

main.py | example.txt

```
1  hello students unit 4 start
```

Gateway Class

Thank you

Gateway classes