Tops Technology

Module 15) Advance Python Programming

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Reading and Writing Files

1.Reading from a file using read(), readline(), readlines().

There are different methods to read data from a file: `read()`, `readline()`, and `readlines()`. Each method serves different purposes depending on how you want to process the file's content.

`read()`

The `read()` method reads the entire content of the file as a single string.

Example:

```
with open("example.txt", "r") as file:
    content = file.read()
    print(content)
```

`readline()`

The `readline()` method reads one line at a time from the file. Each call reads the next line.

- Example:
- with open("example.txt", "r") as file:
- line = file.readline()
- while line:
- print(line.strip()) # `.strip()` removes the trailing newline
- line = file.readline()
- **readlines()**
- Reads **all lines** from the file and returns them as a **list of strings**.
- Each element in the list corresponds to a single line from the file.
- Example:
- with open("example.txt", "r") as file:
- lines = file.readlines()
- for line in lines:
- print(line.strip())

2.Writing to a file using write() and writelines().

- **write()**
- Writes a single string to the file.
- Does not add a newline automatically; you must include \n if needed.
- Example:
- with open("example.txt", "w") as file:
- file.write("Hello, World!\n")
- file.write("This is another line.")
- **Result:** The file example.txt will contain:
- Hello, World!
- This is another line.

- **writelines()**
- Writes a list of strings to the file.
- Does not add newlines automatically; each string in the list should include \n if required.
- Example:
- lines = ["Hello, World!\n", "This is another line.\n", "Goodbye!"]
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- with open("example.txt", "w") as file:
- file.writelines(lines)
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- **Result:** The file example.txt will contain:
- Hello, World!
- This is another line.
- Goodbye!