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Course Name:Devops and Cloud Computing Course

Assignment Name: Python Scripting

Git Link:<https://github.com/Hydra-Dev110/Python>

Drive Link:

https://docs.google.com/document/d/1DfqcA5RbQLsDv4-1AoPBe3_kurz2_M7ZGNHhTeT9yag/edit?usp=sharing

Question 1:

Write Python scripts for basic file operations and data processing.

->

```
def file_operations():
    data = [
        "DevOps involves collaboration",
        "Automation improves efficiency",
        "Python is widely used in DevOps"
    ]

    # Write data to file
    with open("sample.txt", "w") as file:
        for line in data:
            file.write(line + "\n")

    print("File written successfully.")

    # Read and process file
    with open("sample.txt", "r") as file:
        lines = file.readlines()

    line_count = len(lines)
    word_count = sum(len(line.split()) for line in lines)

    print("Number of lines:", line_count)
    print("Number of words:", word_count)
```

Question 2:

Develop a simple web scraper to extract data from a website.

```
->
def web_scraper():
    url = "https://example.com"

    response = requests.get(url)

    if response.status_code == 200:
        soup = BeautifulSoup(response.text, "html.parser")

        # Extract page title
        title = soup.find("title").text
        print("\nWeb Scraping Output")
        print("Page Title:", title)

        # Extract all links
        print("Links found:")
        for link in soup.find_all("a"):
            print(link.get("href"))
    else:
        print("Failed to retrieve webpage")

if __name__ == "__main__":
    print("Running File Operations...")
    file_operations()

    print("\nRunning Web Scraper...")
    web_scraper()
```

Output:

```
hydra_02@DESKTOP-1FI938H:/mnt/e/PW Assignment/Python$ python3 main.py
Running File Operations...
File written successfully.
Number of lines: 3
Number of words: 12

Running Web Scraper...

Web Scraping Output
Page Title: Example Domain
Links found:
https://iana.org/domains/example
```