

## ASSIGNMENT NO: 03

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### Problem Statement:

Develop a Python program for Log Capturing using a wireless router. Perform suitable event correlation and analysis of network traffic.

### Objectives:

1. To create analysis on Log Captured through wireless router.

### Theory:

1) Fetch logs from Wireless router.

2) Load the dataset into a python program.

3) Create a function to return the Dataset for the required LIP, DIP & Ports.

4) Search for the given input and display all the values of the matching row.

Code:

```
import pandas as pd
```

```
col_list = ["LIP", "DIP", "PN"]
```

```
file = pd.read_csv("./logs1.csv", usecols=col_list)
```

```
def source(ip1, file):
```

```
    selec = pd.DataFrame(file.loc[file["LIP"] == ip1])
```

```
    return selec
```

```
def des(ip1, file):
```

```
    selec = pd.DataFrame(file.loc[file["DIP"] == ip1])
```

```
return selec
```

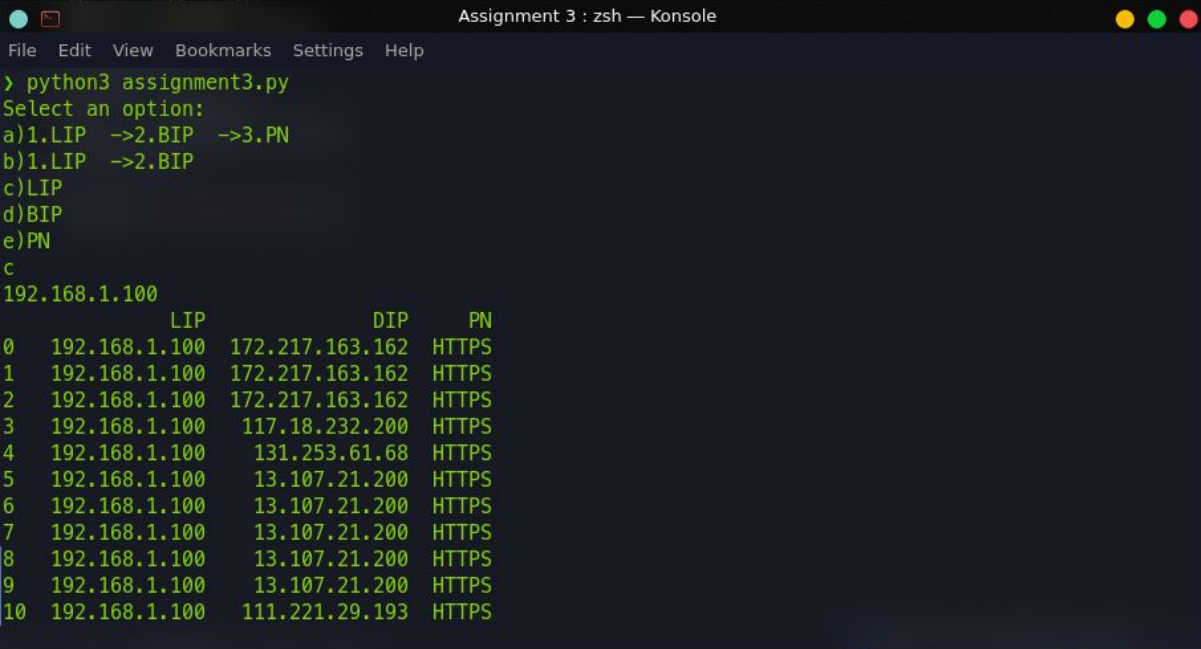
```
def proto(ip1, file):  
    selec = pd.DataFrame(file.loc[file["PN"] == ip1])  
    return selec
```

```
print("Select an option:")  
print("a)1.LIP ->2.BIP ->3.PN")  
print("b)1.LIP ->2.BIP")  
print("c)LIP")  
print("d)BIP")  
print("e)PN")  
option = str(input())  
selec = file  
if option == "a":  
    sip = str(input())  
    dip = str(input())  
    pip = str(input())  
    selec = source(sip, selec)  
    selec = des(dip, selec)  
    selec = proto(pip, selec)  
    print(selec)  
elif option == "b":  
    sip = str(input())  
    dip = str(input())  
    selec = source(sip, selec)  
    selec = des(dip, selec)  
    print(selec)  
elif option == "c":  
    sip = str(input())  
    selec = source(sip, selec)  
    print(selec)  
elif option == "d":  
    dip = str(input())  
    selec = des(dip, selec)  
    print(selec)  
elif option == "e":  
    pip = str(input())  
    selec = proto(pip, selec)  
    print(selec)  
else:  
    print("Invalid Option!")
```

**Dataset:** Wireless Router Captured Dataset

**Input:** Local IP and/or Destination IP and/or Ports

**Output:** Matched Dataset in CSV to the Input



The screenshot shows a terminal window titled "Assignment 3 : zsh — Konsole". The user has run the command `python3 assignment3.py`. The script prompts the user to "Select an option:" and lists five choices: a) 1.LIP ->2.BIP ->3.PN, b) 1.LIP ->2.BIP, c) LIP, d) BIP, and e) PN. The user has entered 'c'. The script then displays a table of network data with columns LIP, DIP, and PN. The first row shows the header, and the following 11 rows (indexed 0 to 10) show data entries where the LIP is consistently 192.168.1.100 and the PN is HTTPS, with varying DIPs.

```
> python3 assignment3.py
Select an option:
a)1.LIP ->2.BIP ->3.PN
b)1.LIP ->2.BIP
c)LIP
d)BIP
e)PN
c
192.168.1.100
      LIP      DIP      PN
0  192.168.1.100 172.217.163.162 HTTPS
1  192.168.1.100 172.217.163.162 HTTPS
2  192.168.1.100 172.217.163.162 HTTPS
3  192.168.1.100 117.18.232.200 HTTPS
4  192.168.1.100 131.253.61.68  HTTPS
5  192.168.1.100 13.107.21.200  HTTPS
6  192.168.1.100 13.107.21.200  HTTPS
7  192.168.1.100 13.107.21.200  HTTPS
8  192.168.1.100 13.107.21.200  HTTPS
9  192.168.1.100 13.107.21.200  HTTPS
10 192.168.1.100 111.221.29.193  HTTPS
```

**Platform:** Ubuntu 20.04

**Programming Language Used:** Python.

**Conclusion:** Hence, we analyzed the networking data.