

This project is about the Data of internet usage [in kb] by graduate student at an indian university.

Answer for the following questions using Data Analysis.

1. What is the most frequent internet activity time of the day ?

Ans: # Extract the hour from the timestamp

```
data['Timestamp'] = pd.to_datetime(data['Timestamp'])
```

```
data['Hour'] = data['Timestamp'].dt.hour
```

```
# Calculate the mode of the hours
```

```
most_frequent_hour = data['Hour'].mode()[0]
```

```
print("The most frequent internet activity time of the day is:", most_frequent_hour, "o'clock")
```

2. How often the ip changes ?

Ans: # Extract the hour from the timestamp

```
data['Timestamp'] = pd.to_datetime(data['Timestamp'])
```

```
data['Hour'] = data['Timestamp'].dt.hour
```

```
# Calculate the mode of the hours
```

```
most_frequent_hour = data['Hour'].mode()[0]
```

```
print("The most frequent internet activity time of the day is:", most_frequent_hour, "o'clock")
```

3. How often the device changed.

Ans: # Count the unique occurrences of devices

```
device_changes = data['Device'].nunique()
```

```
print("The device changed", device_changes, "times.")
```

4. What is the average usage per hour , per day and per month ?

Hint: internet_session.csv provided to students.

Ans: # Group by hour and calculate average usage

```
hourly_average = data.groupby(data['Timestamp'].dt.hour)['Usage'].mean()
```

```
print("Average usage per hour:")
```

```
print(hourly_average)
```

```
# Group by day and calculate average usage

daily_average = data.groupby(data['Timestamp'].dt.date)['Usage'].mean()

print("\nAverage usage per day:")

print(daily_average)

# Group by month and calculate average usage

monthly_average = data.groupby(data['Timestamp'].dt.to_period('M'))['Usage'].mean()

print("\nAverage usage per month:")

print(monthly_average)
```