

IT WORKSHOP

LAB EXTERNAL

SET-1

Instructions:

- Answer any 3 out of 4 questions.
- Write your answers in the provided answer booklets.
- Manage time properly.

Question 1: Linux Commands

Create a file named `ls.output.txt` with the following tabular data:

Name	Type	Size
file1	text	123
file2	image	456
file3	text	789
dir1	folder	-
dir2	folder	-

Use `grep` to count the occurrences of the word "file" in `ls.output.txt`. Then, sort the contents of `ls.output.txt` in reverse order. Extract the first and second columns from `ls.output.txt` using `awk`. Finally, replace all occurrences of "file" with "document" in `ls.output.txt` using `sed`.

Question 2: Prepare the following in L^AT_EX:

1. Prepare the following table with the given formatting:
2. Bibliography
This document cites several references [One21, Two20].

Measurement Data			
Sample	Measurements		
	Length (cm)	Width (cm)	Height (cm)
A	5.5	3.2	2.8
B	4.0	3.8	2.5
C	6.1	2.9	3.0
D	5.3	3.5	2.6

Table 1: Data for the measurements with highlighted important values.

References

[One21] Author One. *Book Title One*. Publisher One, 2021.

[Two20] Author Two. Article title two. *Journal Name*, 2020.

Question 3: Pandas and Matplotlib

1. Import the necessary libraries and create the following DataFrame:

	Product	Category	Sales
0	Laptop	Electronics	1200
1	Smartphone	Electronics	800
2	Tablet	Electronics	600
3	Smartwatch	Electronics	200
4	Laptop	Electronics	1200
5	Smartphone	Electronics	850

6	Tablet	Electronics	600
7	Smartwatch	Electronics	210
8	Laptop	Electronics	1150
9	Tablet	Electronics	610

2. Calculate and print the mean, median, and mode of the Sales column.
3. Display the count of each product type.
4. Plot a histogram of the Sales column as follow:

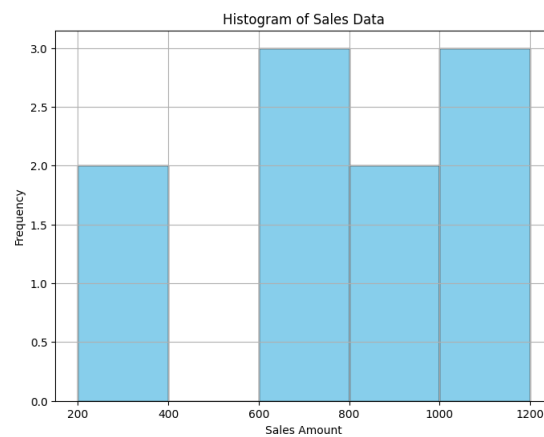


Figure 1: Sales Histogram

Question 4:

Employee Records

ID	Name	City	Age
1	John Doe	New York	28
2	Jane Smith	Los Angeles	34
3	Sam Brown	Chicago	41

Add New Employee

ID:

Name:

City:

Age:

Add Employee

Based on the provided screenshot, write the HTML code to create a small employee record management interface. The interface should:

- Display a table with the following employee details: ID, Name, City, and Age, populated with the details of three employees.
- Include a button labeled "Add New Employee" that links to a separate page.

Additionally, write the HTML code for the "Add New Employee" page, which should contain a form to input the new employee's ID, Name, City, and Age. The form should have a submit button to save the new employee's details.