

Reading a CSV File

Name		Date	
Class / Sec		Roll no.	

1 · AIM

To write a Python program that reads data from a **CSV file** using the **Pandas** library and displays its contents.

2 · SOFTWARE AND LIBRARIES USED

TOOL	WHAT IT IS FOR
Python 3	The programming language the program is written in
Jupyter Notebook	The environment used to write and run the code (IDLE or Colab also acceptable)
Pandas	The data library. read_csv() loads a file into a DataFrame — a table Python can work with

3 · THEORY

A **CSV file** — Comma Separated Values — is a plain text file where each line is a row and commas separate the columns. It is the most common way real data is shared, because almost every program can read and write it.

TERM	WHAT IT MEANS
CSV	Comma Separated Values. Plain text, one row per line, commas between columns
Header row	The first line, giving the column names. Pandas reads it automatically
DataFrame	The table Pandas creates in memory once the file has been read
read_csv()	The Pandas function that opens the file and returns a DataFrame

The file used here: students.csv — 8 rows of student data with 5 columns: RollNo, Name, Class, Marks and Attendance. Save it in the **same folder** as your program.

4 · PROGRAM

```
import pandas as pd

# Read the CSV file into a DataFrame
df = pd.read_csv("students.csv")

# Display the whole table
print("Full data:")
print(df)

# Display only the first three rows
print()
print("First 3 rows:")
print(df.head(3))
```

File not found? If Python reports **FileNotFoundError**, the CSV is not in the folder your program is running from. Move the file next to your notebook, or give the full path inside `read_csv()`.

5 • EXPECTED OUTPUT

Running the program prints the DataFrame as a table.

Full data:

	RollNo	Name	Class	Marks	Attendance
0	1	Aditi Sharma	10A	78	92
1	2	Rahul Verma	10A	65	85
2	3	Priya Nair	10B	88	96
3	4	Imran Khan	10A	54	71
4	5	Sneha Patel	10B	91	98
5	6	Arjun Reddy	10B	72	88
6	7	Kavya Iyer	10A	83	94
7	8	Vikram Singh	10B	60	79

First 3 rows:

	RollNo	Name	Class	Marks	Attendance
0	1	Aditi Sharma	10A	78	92
1	2	Rahul Verma	10A	65	85
2	3	Priya Nair	10B	88	96

[PASTE SCREENSHOT HERE]

Paste a screenshot of YOUR program running, with the code and output visible together

6 • READING THE OUTPUT

Before writing your observation, understand what Pandas has actually printed.

WHAT YOU SEE	WHAT IT MEANS
The left-hand 0 to 7	The index — added by Pandas, not from the file. It always starts at 0
The top row of names	The header row from the CSV. Pandas reads it as column names automatically
8 rows of data	The file has 9 lines — 8 of data plus the header, which is not counted as a row
head(3) output	The first three rows only. Useful when a real file has thousands of rows

7 • OBSERVATION AND RESULT

Two or three sentences in your own words. Say what the file contained and what Pandas did with it.

Example observation: The CSV file was read successfully into a DataFrame containing 8 rows and 5 columns. Pandas used the first line of the file as the column headers and added its own index starting at 0. The head() function displayed only the first three rows, which is useful when working with a large file.

Worth knowing: The index Pandas shows on the left is **not** the RollNo column. The index is generated by Pandas and starts at 0; RollNo is real data from the file and starts at 1. Confusing the two is a common viva slip.

8 · VIVA QUESTIONS FOR THIS PROGRAM

LIKELY QUESTION	SHAPE OF A STRONG ANSWER
What does CSV stand for?	Comma Separated Values — a plain text file with commas between the columns
What does <code>read_csv()</code> return?	A DataFrame — a table in memory that Pandas can then sort, filter or summarise
Your file has 9 lines but 8 rows. Why?	The first line is the header row giving the column names. It is not counted as data
What does <code>head(3)</code> do, and why use it?	Shows the first three rows . On a file with thousands of rows you would not print all of it
Is the index on the left the same as RollNo?	No. The index is added by Pandas and starts at 0. RollNo is data from the file, starting at 1

9 · HOW THIS ENTRY IS MARKED

FULL MARKS

The CSV file **submitted alongside** the program ·
commented code · a screenshot of **your own** output ·
an observation naming the number of **rows and columns** · you can explain the index and the header row

LOSES MARKS

No CSV file submitted, so the program cannot be run ·
no screenshot, or someone else's · an observation that
just repeats the printed table · thinks the index is the
RollNo column

Before you submit: Make **your own** CSV with your class's real data — eight rows is plenty. Submit the CSV **with** the program, because without the file the examiner cannot run your code.