

EXPERIMENT NO: 1C

Conduct an experiment to differentiate Structured , Un-structured and Semi structured data

Aim:

To demonstrate the three types of data — **structured**, **semi-structured**, and **unstructured** — and display them in Python.

Algorithm:

1. **Import pandas** for handling structured data.
2. **Create structured data** using `pd.DataFrame` with columns `Emp_id`, `Name`, `Salary`.
3. **Print structured data**.
4. **Create semi-structured data** as a list of dictionaries with `Emp_id`, `Name`, and nested `Skills`.
5. **Print semi-structured data**.
6. **Create unstructured data** as a list of plain text strings describing employees.
7. **Print unstructured data**.

Program:

```
[2]: import pandas as pd
structured_data=pd.DataFrame({
    'Emp_id':[1,2],
    'Name':['Alice','Bob'],
    'Salary':[50000,60000]
})
print('Structured Data: \n',structured_data)

Structured Data:
   Emp_id  Name  Salary
0       1  Alice   50000
1       2   Bob   60000

[1]: semi_structured_data=[
    {"Emp_id":1,"Name":"Alice","Skills":["Python","SQL"]},
    {"Emp_id":2,"Name":"Bob","Skills":["Java","Spark"]}
]
print("\nSemi Structured Data: \n",semi_structured_data)

Semi Structured Data:
[{'Emp_id': 1, 'Name': 'Alice', 'Skills': ['Python', 'SQL']}, {'Emp_id': 2, 'Name': 'Bob', 'Skills': ['Java', 'Spark']}]

[3]: unstructured_data=[
    "Alice joined the company in 2020 and works on python and sql.",
    "Bob is skilled in java and spark."
]
print("\nUnstructured Data: \n",unstructured_data)

Unstructured Data:
['Alice joined the company in 2020 and works on python and sql.', 'Bob is skilled in java and spark.']
```

Result:

Data can be **structured**, **semi-structured**, or **unstructured**. Structured data is organized in tables, semi-structured data has some organization like JSON, and unstructured data is plain text without a fixed format.