Practical 1

Aim : Create .xls file as dataset containing student records. Dataset should contain following information.

In [1]:
```
import pandas as pd


data = {
    "Sr. No.": list(range(1, 21)),
    "Enrolment Number": [f"ENR{i:05d}" for i in range(1, 21)],
    "Department Name": ["Information Technology"] * 20,
    "Student Name": [f"Student_{i}" for i in range(1, 21)],
    "Current Semester": [6] * 20,
    "Email ID": [f"student{i}@example.com" for i in range(1, 21)],
    "Mobile Number": [f"98765432{i:02d}" for i in range(1, 21)],
    "Current SPI": [round(6.5 + i % 3 * 0.5, 2) for i in range(20)],
    "CPI": [round(7.0 + i % 3 * 0.4, 2) for i in range(20)],
    "Professional Elective": [f"Elective_{i % 3 + 1}" for i in range(20)],
    "TOE Name": [f"TOE_{i % 2 + 1}" for i in range(20)],
    "CNS Marks": [40 + i % 5 * 5 for i in range(20)],
    "SE Marks": [35 + i % 4 * 10 for i in range(20)],
    "DMBI Marks": [45 + i % 3 * 5 for i in range(20)],
    "WT Marks": [50 + i % 4 * 5 for i in range(20)],
    "EO Marks": [30 + i % 3 * 5 for i in range(20)],
}

df = pd.DataFrame(data)

df["Grand Total"] = df[["CNS Marks", "SE Marks", "DMBI Marks", "WT Marks", "


df["Percentage"] = (df["Grand Total"] / 500) * 100


df["Result"] = df["Percentage"].apply(lambda x: "PASS" if x >= 35 else "FAIL


def get_class(percentage):
    if percentage > 75:
        return "Distinction"
    elif percentage >= 60:
        return "First Class"
    elif percentage >= 35:
        return "Second Class"
    else:
        return "Fail"

df["Class"] = df["Percentage"].apply(get_class)

file_path = "Student_Records.xlsx"
df.to_excel(file_path, index=False, engine='openpyxl')
```

```
print(f"Dataset saved successfully to {file_path}")
```

```
Dataset saved successfully to Student_Records.xlsx
```

In [2]:
```
df.head()
```

Out[2]:

	Sr. No.	Enrolment Number	Department Name	Student Name	Current Semester	Email ID	
0	1	ENR00001	Information Technology	Student_1	6	student1@example.com	9
1	2	ENR00002	Information Technology	Student_2	6	student2@example.com	9
2	3	ENR00003	Information Technology	Student_3	6	student3@example.com	9
3	4	ENR00004	Information Technology	Student_4	6	student4@example.com	9
4	5	ENR00005	Information Technology	Student_5	6	student5@example.com	9