Department of CSE (Artificial Intelligence & Machine Learning)

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Subject: SBL
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Experiment No. 3

Aim: To explore Files and Directories.

Program:

```
import os

def create_database():
    if not os.path.exists("student.txt"):
        with open("student.txt", "w") as file:
            file.write("Roll No,Name,Gender,Batch\n")

def add_entry(roll_no, name, gender, batch):
    with open("student.txt", "a") as file:
        file.write(f"{roll_no},{name},{gender},{batch}\n")

def search_entry(roll_no):
    with open("student.txt", "r") as file:
        for line in file:
            if roll_no in line:
                return line.strip().split(",")
    return None

def delete_entry(roll_no):
    with open("student.txt", "r") as file:
        lines = file.readlines()
    with open("student.txt", "w") as file:
        for line in lines:
            if roll_no not in line:
                file.write(line)

def update_entry(roll_no, new_roll_no=None, new_batch=None):
    with open("student.txt", "r") as file:
        lines = file.readlines()
    with open("student.txt", "w") as file:
        updated = False
        for line in lines:
```

```
            if roll_no in line:
                if new_roll_no:
                    line = line.replace(roll_no, new_roll_no)
                    updated = True
                if new_batch:
                    parts = line.strip().split(",")
                    parts[3] = new_batch
                    line = ",".join(parts) + "\n"
                    updated = True
            file.write(line)
        if not updated:
            raise ValueError("Record not found.")

def main():
    create_database()

    add_entry("001", "Alice", "Female", "2023")
    add_entry("002", "Bob", "Male", "2022")
    add_entry("003", "Charlie", "Male", "2023")
    add_entry("004", "David", "Male", "2024")
    add_entry("005", "Eve", "Female", "2022")

    search_result = search_entry("003")
    if search_result:
        print("Record found:", search_result)
    else:
        print("Record not found.")

    delete_entry("004")

    try:
```

```
    search_result = search_entry("003")
    if search_result:
        print("Record found:", search_result)
    else:
        print("Record not found.")

    delete_entry("004")

    try:
        update_entry("001", new_roll_no="101")
        update_entry("002", new_batch="2024")
    except ValueError as e:
        print(e)

    search_result = search_entry("101")
    if search_result:
        print("Updated record found:", search_result)
    else:
        print("Updated record not found.")

    search_result = search_entry("002")
    if search_result:
        print("Updated record found:", search_result)
    else:
        print("Updated record not found.")

if __name__ == "__main__":
    main()
```

Output:

```
Record found: ['003', 'Charlie', 'Male', '2023']
Updated record found: ['101', 'Alice', 'Female', '2023']
Updated record found: ['002', 'Bob', 'Male', '2024']
PS C:\Users\Admin\Desktop\python expt>
```

Conclusion:

Thus we have demonstrated Files and Directories in Python