APPENDICES
APPENDIX A-SOURCE CODE

S.No: 1	Exp. Name: ***Project Module***	Date: 2024-06-13

Aim:

Project Module.

Source Code:

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CTP28132.py
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from collections import Counter

class Student:
    def __init__(self, name):
        self.name = name
        self.attendance = []

    def mark_attendance(self, status):
        self.attendance.append(status)

    def get_attendance_percentage(self):
        total_days = len(self.attendance)
        status_count = Counter(self.attendance)
        present_days = status_count['P']
        absent_days = status_count['A']
        if total_days == 0:
            return 0, 0
        else:
            present_percentage = (present_days / total_days) * 100
            absent_percentage = (absent_days / total_days) * 100
            return present_percentage, absent_percentage


class AttendanceSystem:
    def __init__(self):
        self.students = {}
        self.logged_in = False

    def login(self, username, password):
        # Perform actual authentication logic here
        if username == 'admin' and password == 'admin123':
            self.logged_in = True
            print("Login successful!")
        else:
            print("Invalid username or password.")

    def add_student(self, name):
        if self.logged_in:
            if name not in self.students:
                self.students[name] = Student(name)
            else:
                print("Student already exists!")
        else:
            print("Please login first!")

    def mark_attendance(self, name, status):
        if self.logged_in:
            if name in self.students:
                self.students[name].mark_attendance(status)
            else:
                print("Student not found!")
        else:
            print("Please login first!")

    def view_attendance_details(self, name):
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                student = self.students[name]
                present_percentage, absent_percentage = student.get_attendance_percentage()
                print(f"Attendance details for {name}:")
                print(f"Present: {present_percentage:.2f}%")
                print(f"Absent: {absent_percentage:.2f}%")
            else:
                print("Student not found!")
        else:
            print("Please login first!")

    def view_overall_attendance(self):
        if self.logged_in:
            total_students = len(self.students)
            total_present = 0
            total_absent = 0
            for student in self.students.values():
                present_percentage, absent_percentage = student.get_attendance_percentage()
                total_present += present_percentage
                total_absent += absent_percentage
            overall_present_percentage = total_present / total_students if total_students >
0 else 0
            overall_absent_percentage = total_absent / total_students if total_students > 0
else 0
            print("Overall Attendance:")
            print(f"Present: {overall_present_percentage:.2f}%")
            print(f"Absent: {overall_absent_percentage:.2f}%")
        else:
            print("Please login first!")


# Create Attendance System
attendance_system = AttendanceSystem()

# Login
username = input("Enter your username: ")
password = input("Enter your password: ")
attendance_system.login(username, password)

if attendance_system.logged_in:
    # Add Students
    students = ["John", "Jane", "Alice", "Bob", "Charlie", "David", "Emma", "Frank",
"Grace", "Henry"]
    for student in students:
        attendance_system.add_student(student)

    # Mark Attendance
    attendance_system.mark_attendance("John", 'P')
    attendance_system.mark_attendance("Jane", 'P')
    attendance_system.mark_attendance("Alice", 'A')
    attendance_system.mark_attendance("Bob", 'P')
    attendance_system.mark_attendance("Charlie", 'A')
    attendance_system.mark_attendance("David", 'P')
    attendance_system.mark_attendance("Emma", 'P')
    attendance_system.mark_attendance("Frank", 'A')
    attendance_system.mark_attendance("Grace", 'P')
```

```
# Options to View Attendance Details
print("\nOptions:")
print("1. View Attendance Details by Student Name")
print("2. View Overall Attendance")
option = int(input("Enter your choice: "))

if option == 1:
    print("Students:")
    for student in students:
        print(student)
    name = input("Enter student name: ")
    attendance_system.view_attendance_details(name)
elif option == 2:
    attendance_system.view_overall_attendance()
else:
    print("Invalid option.")
```