Core Python

Healthcare Industry

Design a Python class ClinicAppointment that manages patient appointments in a clinic. The system should have the following features:

- ➔ Book Appointment:
  - Prompt for patient name, age, mobile number, and preferred doctor.
  - Show time slots (10am, 11am, 12pm, 2pm, 3pm).
  - Check slot availability and confirm booking.
- ➔ View/Cancel Appointment:
  - Allow patient to view or cancel their appointment using mobile number.
- ➔ Doctor Availability:
  - Maintain a maximum of 3 appointments per time slot per doctor.
- ➔ Data Persistence:
  - Store appointments in memory only (no files/dbs required).

School Management System

Design a Python class SchoolManagement that helps manage student admissions and records. The system should support:

- ➔ New Admission:
    - Collect student name, age, class (1–12), and guardian's mobile number.
    - Assign a unique student ID automatically.
    - Validate age: must be between 5 and 18.
    - Validate mobile number: must be 10 digits.

- ➔ View Student Details:
    - Allow lookup using student ID.

- ➔ Update Student Info:
    - Update mobile number or class.
- ➔ Remove Student Record:
    - Remove a student using their student ID.
- ➔ Exit System

Transport Reservation System (Bus Ticketing)

Design a Python class BusReservation that simulates a basic bus ticket booking system. Features should include:

➔ Show Available Routes:
- Predefined city routes with fixed prices.
- Example: "Mumbai to Pune - ₹500", "Delhi to Jaipur - ₹600", etc.

➔ Book Ticket:
- Enter passenger name, age, mobile, and route.
- Assign seat number (max 40 per bus per route).
- Generate a unique ticket ID.

➔ View Ticket:
- Lookup using ticket ID.

➔ Cancel Ticket:
- Cancel the ticket if it exists.

➔ Exit