



MODERN ACADEMY

FOR ENGINEERING & TECHNOLOGY

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Model (F)



Article Name : Program Design Exam
Course Title: Program Design and Computer Languages
Course Code: CMPN010 – CMP110

Question 1:

Project Cinema

Assume you're asked to create a database for cinemas in egypt, which contains:

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure movie_type{ String name, string description, integer allowed_age }
- ✓ Structure Cinema { Long ID, String Name, integer phone_number ,Address address , integer rating ,integer hall_numbers , movie_type movie}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Cinema.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on Cinema by Name
 - Press 4 to search on Cinema by "5 " stars rating
 - Press 5 to search on Cinema by names of viewing movies
 - Press 6 to search on Cinema by ID
 - Press 7 to search on Cinema in StreetNo "109"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 2:

Project car maintenance

Assume you're asked to create a database for car maintenance workshop, which contains:

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure service_type { Long ID ,String service_name, string car_type, integer price , string maintenance_duration }
- ✓ Structure maintenance_workshop { Long ID, String Name, integer phone_number ,Address address , integer rating , service_type service }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from maintenance_workshop.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on maintenance_workshop by Name
 - Press 4 to search on maintenance_workshop by "5" stars rating
 - Press 5 to search on maintenance_workshop by service_name" car painting"
 - Press 6 to search on maintenance_workshop by ID
 - Press 7 to search on maintenance_workshop in city "el_shrouk"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 3:

Project theatre

Assume you're asked to create a database for theatres, which contains:

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure play_type{ String name, string description , string viewing_date}
- ✓ Structure theatre { Long ID, String Name, integer phone_number ,Address address , integer rating , play_type play}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from theatre.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on theatre by Name
 - Press 4 to search on theatre by "5 " stars rating
 - Press 5 to search on theatre by viewing plays
 - Press 6 to search on theatre by ID
 - Press 7 to search on theatre in StreetNo "100"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 4:

Project bank system

Assume you're asked to create a database for bank employees, which contains:

- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure employees{ Name name, Address address, Long ID,float salary}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from employees structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on employee by First Name
 - Press 4 to search on employees with salary greater than 1000 L.E
 - Press 5 to search on employee that take 500 L.E
 - Press 6 to search on employee by ID
 - Press 7 to search on employee Who lives in "Maadi" city
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 5:

Project pharmacy

Assume you're asked to create a database for pharmacy, which contains:

- ✓ Structure medicine { String Name, integer price, integer amount}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure pharmacy { string name, Address address, Long ID, integer rating, products product}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from pharmacy structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on pharmacy by Name
 - Press 4 to search on pharmacy that have medicine "revo"
 - Press 5 to search on pharmacy by "5 " stars rating
 - Press 6 to search on pharmacy by ID
 - Press 7 to search on pharmacy in street no "300"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 6:

Project Stadium

Assume you're asked to create a database for Stadiums, which contains:

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure game{ String first_team_name, string second_team_name, string viewing_date}
- ✓ Structure Stadium { Long ID, String Name, integer phone_number ,Address address , integer rating , game g}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Stadium.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on Stadium by Name
 - Press 4 to search on Stadium by "5 " stars rating
 - Press 5 to search on Stadium by viewing games
 - Press 6 to search on Stadium by ID
 - Press 7 to search on Stadium in "Nasr" city
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 7:

Project supermarket

Assume you're asked to create a database for supermarkets, which contains:

- ✓ Structure products { String Name, integer price, integer amount}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure supermarket { string name, Address address, Long ID, integer rating, products product}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from supermarket structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on supermarket by Name
 - Press 4 to search on supermarket that have product "molto"
 - Press 5 to search on supermarket by "5 " stars rating
 - Press 6 to search on supermarket by ID
 - Press 7 to search on supermarket in street no "20"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 8:

Project fashion brand

- ✓ Structure brand { string name, string description, integer price, integer amount }
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure brand_factor { Long ID, Address address ,integer rating, brand b}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from brand_factor structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on brand_factor by ID
 - Press 4 to search on brand_factor that have brand" red T-shirt"
 - Press 5 to search on brand_factor by "5 " stars rating
 - Press 6 to search on brand_factor that have min amount of brand "short Jeans"
 - Press 7 to search on brand_factor in street no "50"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 9:

Mall System

Assume you're asked to create a database for all the Malls in Egypt, which contains

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure mall{Long ID, String Name,Address address , String mall_type , integer num_of_stores , float average_rent}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from mall structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search on "electric " as a mall type
 - Press 4 to search on the name of malls in Cairo
 - Press 5 to search about mall that has average rent greater than 5000 L.E
 - Press 6 to search on mall with max number of stores
 - Press 8 to search on mall by ID
 - Press 9 to search on mall by name
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 10:

Football_Tournament System

Assume you're asked to create a database for Football Tournament, which contains:

- ✓ Structure Location{ String country, String City}
- ✓ Structure Tournament {String name, Long ID, Location location , integer num_of_teams}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Tournament structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on " African Champions League " as a Tournament
 - Press 4 to search on the names of Tournament that has 12 Team
 - Press 5 to search about Tournament in " Egypt"
 - Press 6 to search on Tournament by ID
 - Press 7 to search if there is any Tournament played in "UAE"
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 11:

Park System

Assume you're asked to create a database for all the Park in Egypt, which contains

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure Park{Long ID, String Name, Address address , String day_off , Float average_ticket_price }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Park structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search on the names of Park in Cairo
 - Press 4 to search about Park type that has average ticket price greater than 100 L.E
 - Press 5 to search if there is Park working in Sunday
 - Press 6 to search on Park by ID
 - Press 7 to search on Park by name
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 12:

Telecom_Company System

Assume you're asked to create a database for customers, which contains:

- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure customer{Name name, Address address, Long ID,integer telephone_number}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from customer structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on customer by First Name
 - Press 4 to search on employees with certain telephone number entered by user
 - Press 5 to search on customers lives in " Maadi "
 - Press 6 to search on customer by ID
 - Press 7 to search for customer "Mohammed Hassan"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 13:

Museum System

Assume you're asked to create a database for all the Museums in Egypt, which contains

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure Museum_type{ Long ID, String Name, Float average_ticket_price}
- ✓ Structure Museum{Long ID, String Name, integer phone_number ,Address address , String day_off , Museum_type type}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Museum structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search on museum with "historical " as a type
 - Press 4 to search on the names of Museum in Cairo
 - Press 5 to search about Museum type that has average ticket price greater than 100 L.E
 - Press 6 to search if there is Museum working in Friday
 - Press 7 to search on Museum by ID
 - Press 8 to search on Museum by name
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 14:

Gallery System

Assume you're asked to create a database for Gallery, which contains:

- ✓ Structure Painting{ String name, String painter_name}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure Purchaser{Name name, Address address, Long ID,String email , Painting painting , float amount_of_money}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Purchaser structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on Purchaser by First Name
 - Press 4 to search on Purchaser who buy " the Mona Lisa" painting
 - Press 5 to search on Purchaser by ID
 - Press 6 to search on Purchaser who paid more than 1000 L.E
 - Press 7 to search If there is a process of selling a painting for the painter " Picasso "
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 15:

Furniture_Gallery System

Assume you're asked to create a database for Furniture Gallery, which contains:

- ✓ Structure Company{ String name, String city }
- ✓ Structure item{String name, Long ID, float price , Company company , integer amount, String wood_type }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from item structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on item by Name
 - Press 4 to search on item with price greater than 15000 L.E
 - Press 5 to search on item made by company in " Damietta"
 - Press 6 to search on item by ID
 - Press 7 to search for item with maximum amount
 - Press 8 to search if there is items with 0 amount
 - Press 9 to search on items made with "Zan" as a wood type
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 16:

Toy Store System

Assume you're asked to create a database for Toy Store, which contains:

- ✓ Structure Company{ String name, String city }
- ✓ Structure item{String name, Long ID, float price , Company company , integer amount, integer age}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from item structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on item by Name
 - Press 4 to search on item with price greater than 150 L.E
 - Press 5 to search on item made from a "EL-araby" company
 - Press 6 to search on item by ID
 - Press 7 to search for item with maximum amount
 - Press 8 to search if there is items with 0 amount
 - Press 9 to search on items for age >3 years
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 17:

Restaurant System

Assume you're asked to create a database for all the restaurants in Egypt, which contains

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure Food_type{ Long ID, String Name, Float average_price}
- ✓ Structure restaurant{Long ID, String Name, integer phone_number ,Address address , String day_off , Food_type food}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from restaurant structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search on "Chinese food " as a food type
 - Press 4 to search on the names of restaurant in Cairo
 - Press 5 to search about food type that has average price greater than 500 L.E
 - Press 6 to search on restaurant the present "Pizza" as a food type
 - Press 7 to search if there is restaurant working in Sunday
 - Press 8 to search on restaurant by ID
 - Press 9 to search on food category with ID
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 18:

Football_Team System

Assume you're asked to create a database for football team, which contains:

- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure players{ Name name, Long ID, String position , integer num_of_goals}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Players structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on "Ahmed Fathi" as a player
 - Press 4 to search on the names of players that has 4 goals
 - Press 5 to search about players in " Defender" position
 - Press 6 to search on players who has goals greater than 10 goals
 - Press 7 to search on players by ID
 - Press 8 to search on players with first name
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 19:

Hotel System

Assume you're asked to create a database for all Hotels in Egypt, which contains

- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure hotel{Long ID, String Name, integer phone_number ,Address address , integer rating , integer num_of_rooms , float average_price}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from hotel structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search on hotels by "5 stars " as rating
 - Press 4 to search on the names of hotels in Alex.
 - Press 5 to search about hotel that has average price greater than 500 L.E per day
 - Press 6 to search on hotels by specific name
 - Press 7 to search if there is hotels has only 50 rooms
 - Press 8 to search on hotel by ID
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 20:

HR System

Assume you're asked to create a database for employees, which contains:

- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure employees{ Name name, Address address, Long ID,float salary}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from employees structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on employee by First Name
 - Press 4 to search on employees with salary greater than 1000 L.E
 - Press 5 to search on employee that take 500 L.E
 - Press 6 to search on employee by ID
 - Press 7 to search on employee Who lives in Maadi
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 21:

Hospital System

Assume you're asked to create a database for hospital, which contains:

- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure patient{ Name name, Address address, Long ID,float payment , string doctor_name , integer num_of_days}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from patient structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on patient by First Name
 - Press 4 to search on patient that pay more than 200 L.E
 - Press 5 to search on patient with doctor "Ahmed Hossam"
 - Press 6 to search on patient by ID
 - Press 7 to search on patient that spent 5 days in hospital
 - Press 8 to search if there is patient spent 0 days on hospital
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 22:

Library System

Assume you're asked to create a database for Library, which contains:

- ✓ Structure Book{ String book_name, String author_name}
- ✓ Structure Address{ String City, Integer StreetNo}
- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure Borrower{Name name, Address address, Long ID,String email , integer telephone_num ,Book book ,integer num_of_days}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Borrower structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on Borrower by First Name
 - Press 4 to search on Borrower that borrow "Recommended system" Book
 - Press 5 to search on borrower by ID
 - Press 6 to search on borrower who borrow a book for 5 days
 - Press 7 to search If there is a process of borrowing a book for the author "Hassan El-gendy"
 - Press 8 to exit
- ✓ Use Do ... While to restart menu.

Question 23:

Airport System

Assume you're asked to create a database for Airport, which contains:

- ✓ Structure Name{ String firstName, String SecondName, String LastName}
- ✓ Structure traveler{Name name, Long passport_num, float payment , string from_country , string to_country , integer seat_num}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from traveler structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on traveler by First Name
 - Press 4 to search on traveler that pay more than 2000 L.E
 - Press 5 to search on traveler who goes to "Paris"
 - Press 6 to search on traveler by passport_num
 - Press 7 to search on traveler with seat number 12
 - Press 8 to search if there is traveler come from "Egypt"
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 24:

Store System

Assume you're asked to create a database for Store, which contains:

- ✓ Structure Company{ String name, String city }
- ✓ Structure item{String name, Long ID, float price , Company company , integer amount}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from item structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the database
 - Press 3 to search on item by Name
 - Press 4 to search on item with price greater than 150 L.E
 - Press 5 to search on item made from a "EL-araby" company
 - Press 6 to search on item by ID
 - Press 7 to search for item with maximum amount
 - Press 8 to search if there is items with 0 amount
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 25:

Charity System

Assume you're asked to create a database for charity System, which contains:

- ✓ Structure Needy_People{ Long ID, String name, String Address, Float monthly_allowance, String Cause}
- ✓ Structure Volunteers{Long ID, String Name, String Days}
- ✓ Structure Donors{ Long ID, String Name, Float donation_money}
- ✓ Structure Charity {Needy_People man, Volunteers volunteer ,Donors donor}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from charity structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search of "Ahmed Osama" as a donor
 - Press 4 to search about the names of people need 1000 L.E monthly
 - Press 5 to search about needy_people in "MoQatam" area
 - Press 6 to search if there is a volunteer working in Sunday
 - Press 7 to search about people who donate with money greater than 10000 L.E
 - Press 8 to search about volunteer by ID [User will enter ID to search]
 - Press 9 to search about Donor with ID [User will enter ID to search]
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 26:

Train System

Assume you're asked to create a database for Train Station System, which contains

- ✓ Structure Trains{ Long ID, Float Departure_Time, Float Arrival_Time, float Seats_Number, String Departure_City, String Arrival_City}
- ✓ Structure Drivers{Long ID, String Name, Long Train_ID}
- ✓ Structure Trip_ Schedule {Trains train , Drivers driver , Float SideWalk_number}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Trip_Schedule structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search of "Ahmed Osama" as a driver
 - Press 4 to search about driver by his ID. [User will enter ID to search]
 - Press 5 to search about trains which leave "Cairo" at 9:00 a.m.
 - Press 6 to search about trains which arrive "Aswan" at 10:00 p.m.
 - Press 7 to search about who drive train number "12345"
 - Press 8 to search about train by its ID[User will enter ID to search]
 - Press 9 to search about driver by his name[User will enter name to search]
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 27:

E-Learning System

Assume you're asked to create a database for to E-Learning System, in your program there is

- ✓ Structure Courses{ String Name, Float Registerd_Students}
- ✓ Structure Professors{Long ID, String Name, String Department, String Email}
- ✓ Structure Students{Long ID, String name}
- ✓ Structure Schedule {Courses Course , Professors Doctor , Students student[10]}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Schedule structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about professor by his Email[User will enter Email to search]
 - Press 4 to search about Professor by his ID. [User will enter ID to search]
 - Press 5 to search about Professor by his name [User will enter name to search]
 - Press 6 to search about "Programming with Java" Course
 - Press 7 to search about course which more than 30 student registered in
 - Press 8 to search about Student by his ID[User will enter ID to search]
 - Press 9 to search about Student by his name[User will enter name to search]
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 28:

Dessert Shop

Assume you're asked to create a database for Dessert Shop System, which contains

- ✓ Structure Desserts{ String Name, Float Price, Float Quantity}
- ✓ Structure Salesassistants{String Name, String division}
- ✓ Structure New_Order {Desserts dessert , Salesassistants assistant, Float reset}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Salesassistant by his Name[User will enter name to search]
 - Press 4 to search about Who work in "Easter Dessert" division
 - Press 5 to search about Desserts by its name [User will enter name to search]
 - Press 6 to search about Desserts by its quantity [User will enter quatity to search]
 - Press 7 to search about Desserts which price more than 100 L.E.
 - Press 8 to search about Desserts which quantity more than 10 kg.
 - Press 9 to search about Order has 700 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 29:

Sea Port

Assume you're asked to create a database for Sea Port System, which contains

- ✓ Structure Ships{ Long ID, String Departure_Date, String Arrival_City, Float Arrival_Date, float tonnage}
- ✓ Structure Workers{Long ID, String Name, Long Ship_ID}
- ✓ Structure Ships_ Schedule {Ships ship , Workers worker[10] , Float SideWalk_number}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Ships_Schedule structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search of "Khalid Hassan" as a worker
 - Press 4 to search about worker by his ID. [User will enter ID to search]
 - Press 5 to search about Ships which arrive "Italy" at Sunday 10 May
 - Press 6 to search about ships which leave the port at 10:00 p.m.
 - Press 7 to search about ships which tonnage more than 1000 ton.
 - Press 8 to search about ships by its ID[User will enter ID to search]
 - Press 9 to search about Ship will leave from sidewalk number 12
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 30:

Electrical Tools Store

Assume you're asked to create a database for Electrical Tools Store

System, which contains

- ✓ Structure Tools{ Long ID, String Name, float Quantity, Float Price}
- ✓ Structure Salesassistants{ String Name, String Division}
- ✓ Structure new_ Order{Tools tool , Salesassistants assistant, Float reset}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Salesassistant by his Name[User will enter name to search]
 - Press 4 to search about Salesassistant by his division[User will enter division to search]
 - Press 5 to search about Tools by its name [User will enter name to search]
 - Press 6 to search about Tools by its ID [User will enter ID to search]
 - Press 7 to search about Tools which price more than 100 L.E.
 - Press 8 to search about Tools which quantity more than 500 piece.
 - Press 9 to search about Order has 700 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 31:

Courses Center

Assume you're asked to create a database for Courses Centre System, which contains

- ✓ Structure Courses{ Long Course_ID, String Name, Float Hours }
- ✓ Structure Instructors{Long ID, String Name, String Email, String Courses}
- ✓ Structure Students{Long ID, String name}
- ✓ Structure Schedule {Courses Course , Instructors instructor , Students student[10], String Hall_NO, Integer time}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Schedule structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Instructor by his Email[User will enter Email to search]
 - Press 4 to search about Instructor by his Courses. [User will enter courses name to search]
 - Press 5 to search about Instructor by his name [User will enter name to search]
 - Press 6 to search about "Programming with Java" Course
 - Press 7 to search about course which hours are 50 hour
 - Press 8 to search about all information of the Course in Hall_No 6 starts at 10:00 a.m
 - Press 9 to search about Student by his name[User will enter name to search]
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 32:

Otlob

Assume you're asked to create a database for Otlob Application, which contains

- ✓ Structure shops{ String Name, String Product, String Location}
- ✓ Structure Delivery_Persons{String Name, String region}
- ✓ Structure Customers{String Name, Integer phone, String Address}
- ✓ Structure New_Order {Shops product , Delivery_Persons deliveryman , Customers customer , Float reset}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Shops by its Location[User will enter location to search]
 - Press 4 to search about Delivery_Persons Who work in MoQatam
 - Press 5 to search about Shops by its product [User will enter product type to search]
 - Press 6 to search about Delivery_Persons By name [User will enter name]
 - Press 7 to search about Customers By name[User will enter name]
 - Press 8 to search Customers by Phone[User will enter phone]
 - Press 9 to search about Order has 200 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 33:

Toy Store

Assume you're asked to create a database for Toy Store System, which contains

- ✓ Structure Toys{ Long ID, float Quantity, Float Price, String Supplier}
- ✓ Structure Salesassistants{ String Name, String Division}
- ✓ Structure new_ Order{Toys toy , Salesassistants assistant, Float reset}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Salesassistant by his Name[User will enter name to search]
 - Press 4 to search about Salesassistant by his division[User will enter division to search]
 - Press 5 to search about Toys Which supplied by ElNagar factory
 - Press 6 to search about Toys by its ID [User will enter ID to search]
 - Press 7 to search about Toys which price more than 50 L.E.
 - Press 8 to search about Toys which quantity more than 500 piece.
 - Press 9 to search about Order has 100 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 34:

Park System

Assume you're asked to create a database for Parking System, which contains

- ✓ Structure Cars{ Long ID, String Color }
- ✓ Structure Lanes{String Number, Integer FloorNumber, Integer EmptyPlaces, Boolean Full, float price_per_hour}
- ✓ Structure Parking {Cars car , Lanes LocationNumber }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from Parking structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search About Lanes by FloorNumber
 - Press 4 to search about cars by its ID. [User will enter ID to search]
 - Press 5 to search about Cars by its color[User will enter Color]
 - Press 6 to search Lanes by its Number
 - Press 7 to search about Lane has empty places over 5
 - Press 8 to search about Lanes which are full
 - Press 9 to exit
- ✓ Use Do ... While to restart menu.

Question 35:

Car Parts Store

Assume you're asked to create a database for Car Parts Store System, which contains

- ✓ Structure Parts{ Long ID, float Quantity, Float Price, String CarModel}
- ✓ Structure Salesassistants{ String Name, String Division}
- ✓ Structure New_ Order{Parts part , Salesassistants assistant, Float reset}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Salesassistant by his Name[User will enter name to search]
 - Press 4 to search about Salesassistant by his division[User will enter division to search]
 - Press 5 to search about Parts Which supplied by Sweedy factory
 - Press 6 to search about Parts by its ID [User will enter ID to search]
 - Press 7 to search about Parts which price more than 1000 L.E.
 - Press 8 to search about Parts For car Mercedes 2016 .
 - Press 9 to search about Order has 5000 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 36:

Online Store System

Assume you're asked to create a database for Online Store System, which contains

- ✓ Structure Sections{ String Section_Name, String Products_Type, Integer NumberOfItems}
- ✓ Structure Products{ Long ID, Float Price, String Brand}
- ✓ Structure DeliveryPersons{ String Name, String Division}
- ✓ Structure new_ Order{Sections Section, Products product, DeliveryPersons man, String PaymentType, Float reset }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about DeliveryPersons by his Name[User will enter name to search]
 - Press 4 to search about Orders will be cashed
 - Press 5 to search about Shoes Section
 - Press 6 to search about Products by its ID [User will enter ID to search]
 - Press 7 to search about Products which price more than 1000 L.E.
 - Press 8 to search about Products For Zara Brand.
 - Press 9 to search about Order has 5000 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 37:

Tourism Company

Assume you're asked to create a database for Tourism Company, which contains

- ✓ Structure Tourists{ Long ID, String Name, String Country}
- ✓ Structure TourGuides{Long ID, String Name, String Languages}
- ✓ Structure New_Trip {Tourists group[20], TourGuides guide, String Itinerary }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Trip structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Tourist by his ID [User will enter ID to search]
 - Press 4 to search about Tourist by his country
 - Press 5 to search about TourGuide by his ID [User will enter ID to search]
 - Press 6 to search about TourGuide who can speak Italy
 - Press 7 to search about TourGuide By name [User will enter name]
 - Press 8 to search Tourist by name [User will enter name]
 - Press 9 to search about trip of Aswan
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 38:

Real Estate Company

Assume you're asked to create a database for Real State Company, which contains

- ✓ Structure Compounds{ Long ID, String Location, Integer Number_Of_units}
- ✓ Structure Employees{Long ID, String Name, String Projects}
- ✓ Structure Customers{ Long ID, String Name, String status, Integer UnitID}
- ✓ Structure New_Sale {Compounds compound, Employees employee, Customers customer}

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Sale structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about Compounds by its ID[User will enter ID to search]
 - Press 4 to search about Compounds Which have more than 50 unit
 - Press 5 to search about Employee by his ID [User will enter ID to search]
 - Press 6 to search about Employee by his project work
 - Press 7 to search about Customer pay the installments
 - Press 8 to search Customer by UnitID[User will enter ID]
 - Press 9 to search about compound in Ring Road
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 39:

Makeup Store System

Assume you're asked to create a database for Makeup Store System, which contains

- ✓ Structure Sections{ String Section_Name, Integer NumberOfItems}
- ✓ Structure Products{ Long ID, Float Price, String Brand}
- ✓ Structure Salesassistants{ String Name, String Section}
- ✓ Structure New_ Order{Sections Section, Products product, salesassistants man, Float reset }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about salesassistants by his Name[User will enter name to search]
 - Press 4 to search about Perfume Section
 - Press 5 to search about salesassistants work in skin care section
 - Press 6 to search about Products by its ID [User will enter ID to search]
 - Press 7 to search about Products which price more than 1000 L.E.
 - Press 8 to search about Products For Zara Brand.
 - Press 9 to search about Order has 5000 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.

Question 40:

Handmade Store

Assume you're asked to create a database for Handmade Store System, which contains

- ✓ Structure Sections{ String Section_Name, Integer NumberOfItems}
- ✓ Structure Products{ Long ID, Float Price, String Supllier}
- ✓ Structure Salesassistants{ String Name, String Section}
- ✓ Structure new_ Order{Sections Section, Products product, salesassistants man, Float reset }

Draw a complete flowchart and Write a complete C++ program to do the following:

- ✓ Takes an array of size 10 from New_Order structure.
- ✓ Write a menu for user that contains:
 - Press 1 to fill data of database.
 - Press 2 to output data in the data base
 - Press 3 to search about salesassistants by his Name[User will enter name to search]
 - Press 4 to search about Carpet Section
 - Press 5 to search about salesassistants work in bags section
 - Press 6 to search about Products by its ID [User will enter ID to search]
 - Press 7 to search about Products which price more than 100 L.E.
 - Press 8 to search about Products From Sinai suppliers.
 - Press 9 to search about Order has 500 L.E as reset
 - Press 10 to exit
- ✓ Use Do ... While to restart menu.