



Computer Engineering Department

Object Oriented Programming (10636212)

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Project : Beauty Salon Management System

Your task is to build a full Beauty management system based on the following UML diagram. Please Study the design well and generate a functional GUI. Your design should be close to the suggested design or better.

```

classDiagram
    class BeautySalonGUI {
        -customers: List<Customer>
        -services: List<Service>
        -appointments: List<Appointment>
        -membershipDiscounts: Map<String, Double>
        -appointmentMap: Map<String, List<Appointment>>
        -dateFormat: SimpleDateFormat
        +BeautySalonGUI(): ctor
        +addCustomerDialog(): void
        +selectCustomerDialog(): Customer
        +editCustomerDialog(Customer customer): void
        +deleteCustomerDialog(Customer customer): void
        +addServiceDialog(): void
        +selectServiceDialog(): Service
        +editServiceDialog(Service service): void
        +deleteServiceDialog(Service service): void
        +viewAppointmentsDialog(): void
        +viewCustomersDialog(): void
        +loadAppointments(): void
        +saveAppointments(): void
        +addAppointmentDialog(String date, int hour): void
        +editOrDeleteAppointmentDialog(String date, int hour): void
        +editAppointmentDialog(Appointment appointment): void
        +deleteAppointment(Appointment appointment, String date): void
        +main(String[] args): void
    }

    class Appointment {
        -customer: Customer
        -service: Service
        -date: Date
        -totalPrice: double
        +Appointment(Customer customer, Service service, Date date, double totalPrice): ctor
        +getCustomer(): Customer
        +setCustomer(Customer customer): void
        +getService(): Service
        +setService(Service service): void
        +getDate(): Date
        +setDate(Date date): void
        +getTotalPrice(): double
        +setTotalPrice(double totalPrice): void
        +toString(): String
    }

    class Customer {
        -name: String
        -phoneNumber: String
        -membershipType: String
        +Customer(String name, String phoneNumber, String membershipType): ctor
        +getName(): String
        +setName(String name): void
        +getPhoneNumber(): String
        +setPhoneNumber(String phoneNumber): void
        +getMembershipType(): String
        +setMembershipType(String membershipType): void
        +toString(): String
    }

    class Service {
        -name: String
        -duration: String
        -price: double
        +Service(String name, String duration, double price): ctor
        +setName(String name): void
        +setDuration(String duration): void
        +setPrice(double price): void
        +getPrice(): double
        +getName(): String
        +getDuration(): String
        +toString(): String
    }

    BeautySalonGUI --> Appointment
    BeautySalonGUI --> Customer
    BeautySalonGUI --> Service
    Appointment --> Customer
    Appointment --> Service
    
```

BeautySalonGUI

- customers: new ArrayList(): List<Customer>
- services: new ArrayList(): List<Service>
- appointments: new ArrayList(): List<Appointment>
- membershipDiscounts: new HashMap(): Map<String, Double>
- appointmentMap = new HashMap(): Map<String, List<Appointment>>
- dateFormat = new SimpleDateFormat("yyyy-MM-dd"): SimpleDateFormat
- +BeautySalonGUI(): ctor
- +addCustomerDialog(): void
- +selectCustomerDialog(): Customer
- +editCustomerDialog(Customer customer): void
- +deleteCustomerDialog(Customer customer): void
- +addServiceDialog(): void
- +selectServiceDialog(): Service
- +editServiceDialog(Service service): void
- +deleteServiceDialog(Service service): void
- +viewAppointmentsDialog(): void
- +viewCustomersDialog(): void
- +loadAppointments(): void
- +saveAppointments(): void
- +addAppointmentDialog(String date, int hour): void
- +editOrDeleteAppointmentDialog(String date, int hour): void
- +editAppointmentDialog(Appointment appointment): void
- +deleteAppointment(Appointment appointment, String date): void
- +main(String[] args): void

Appointment

- customer: Customer
- service: Service
- date: Date
- totalPrice: double
- +Appointment(Customer customer, Service service, Date date, double totalPrice): ctor
- +getCustomer(): Customer
- +setCustomer(Customer customer): void
- +getService(): Service
- +setService(Service service): void
- +getDate(): Date
- +setDate(Date date): void
- +getTotalPrice(): double
- +setTotalPrice(double totalPrice): void
- +toString(): String

Customer

- name: String
- phoneNumber: String
- membershipType: String
- +Customer(String name, String phoneNumber, String membershipType): ctor
- +getName(): String
- +setName(String name): void
- +getPhoneNumber(): String
- +setPhoneNumber(String phoneNumber): void
- +getMembershipType(): String
- +setMembershipType(String membershipType): void
- +toString(): String

Service

- name: String
- duration: String
- price: double
- +Service(String name, String duration, double price): ctor
- +setName(String name): void
- +setDuration(String duration): void
- +setPrice(double price): void
- +getPrice(): double
- +getName(): String
- +getDuration(): String
- +toString(): String

Membership Type:

- Silver
- Gold
- Platenium

Add Customer

Beauty Salon Management System

Add Customer

Edit Customer

Delete Customer

Add Service

Edit Service

Delete Service

View Appointments

View Customers

Time	2024-05-27	2024-05-28	2024-05-29	2024-05-30	2024-05-31	2024-06-01	2024-06-02
9:00	9:00	9:00	9:00	9:00	9:00	9:00	10:00
10:00	10:00	10:00	10:00	10:00	10:00	11:00	11:00
11:00	11:00	11:00	11:00	11:00	12:00	12:00	12:00
12:00	12:00	12:00	12:00	13:00	13:00	13:00	13:00
13:00	13:00	13:00	14:00	14:00	14:00	14:00	14:00
14:00	14:00	14:00	15:00	15:00	15:00	15:00	15:00
15:00	15:00	15:00	16:00	16:00	16:00	16:00	16:00
16:00	16:00	16:00	17:00	17:00	17:00	17:00	
17:00	17:00	17:00					

Add Customer

?

Name:

Phone Number:

Membership Type: Silver

OK

Cancel

Edit Customer

Beauty Salon Management System

Add Customer

Edit Customer

Delete Customer

Add Service

10:00	10:00	10:00	10:00	10:00	10:00	11:00	11:00
11:00	11:00	11:00	11:00	11:00	11:00	12:00	12:00

Select Customer

?

Select Customer:

Name: Samia Ali, Phone: 05998373, Membership: Platinum

OK

Cancel

Edit Customer

?

Name: Samia Ali

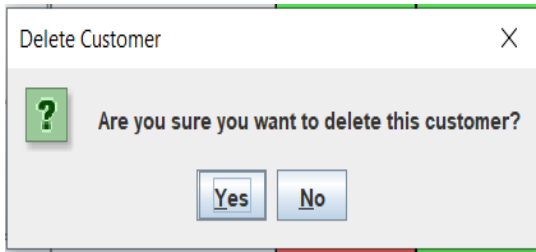
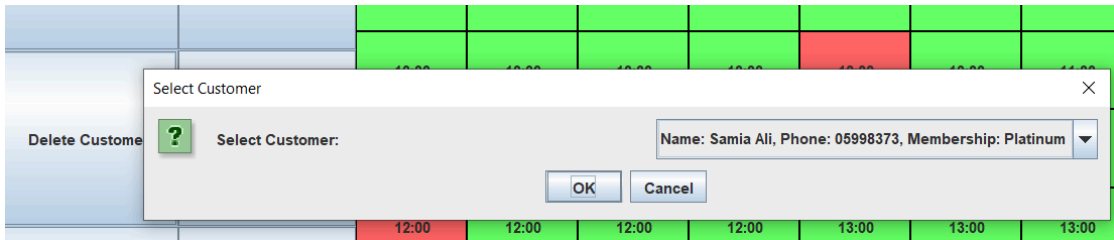
Phone Number: 05998373

Membership Type: Platinum

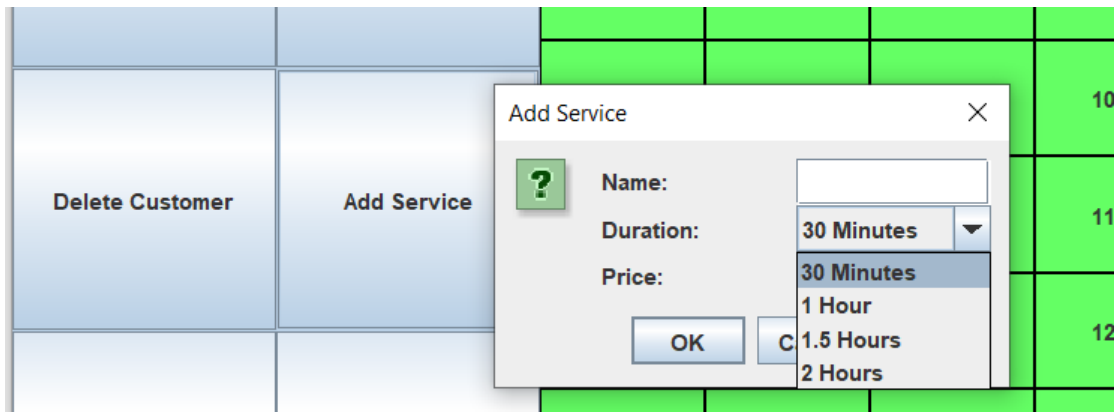
OK

Cancel

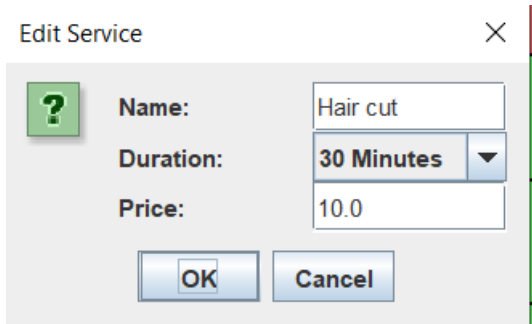
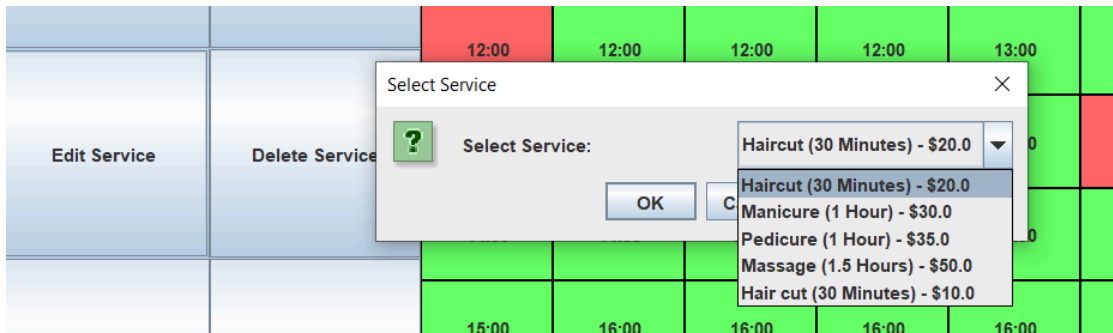
Delete Customer



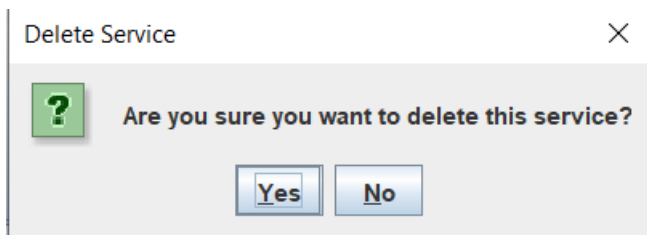
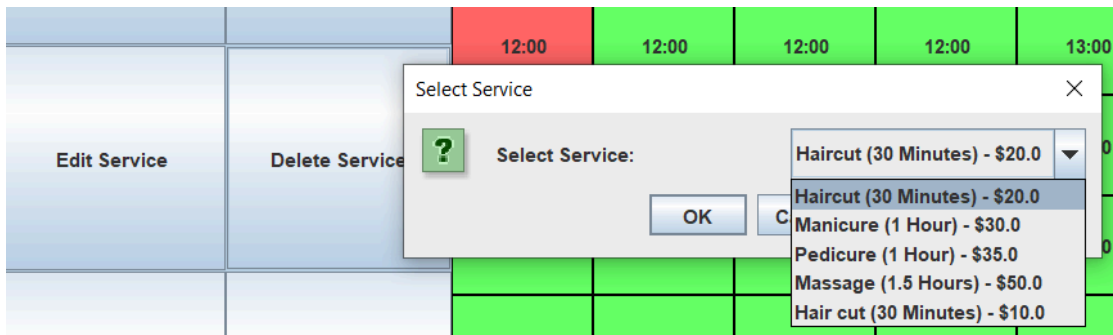
Add service:



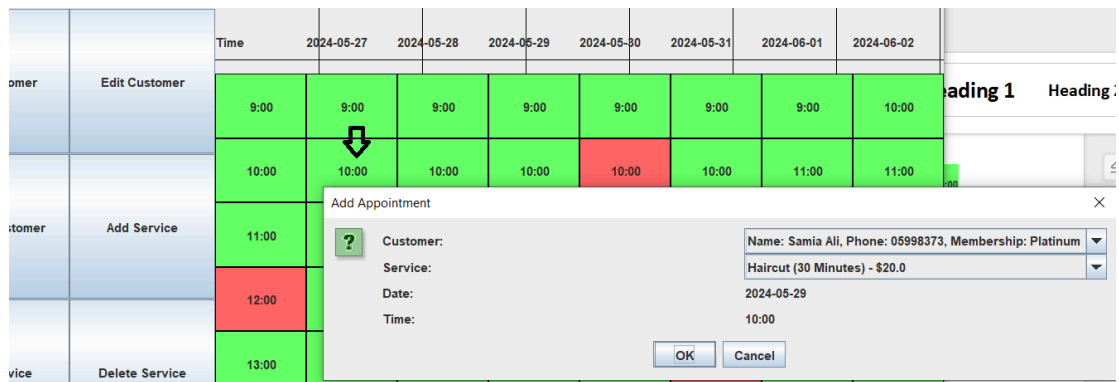
Edit Service:



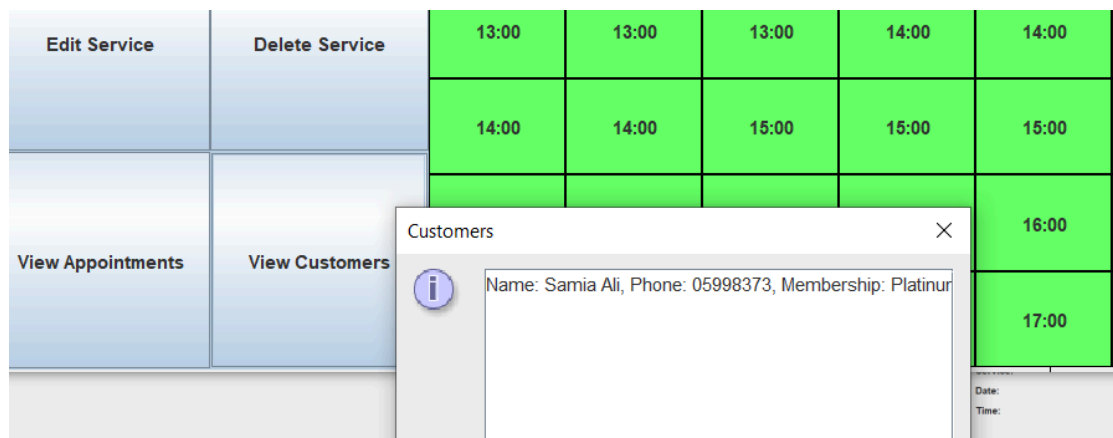
Delete service:



Add appointment



View Appointment and View Customer : Same view for both



Required JComponents:

1. **JButton**
2. **JLabel**
3. **TextField**
4. **JPanel**
5. **ComboBox**
6. **TextArea**
7. **ScrollPane**

You should save all appointments and Customers to File.

EXTRA CREDIT

When you open the system, you should read the saved files and all appointments should appear in red color on the grid schedule.

Good Luck