```
model::Clinic
 -providers = new ArrayList(): List<Provider>
-patients = new ArrayList(): List<Patient>
-payments = new ArrayList(): List<Payment>
 -cardPayments = new ArrayList(): List<PaymentCard>
 -appointments = new ArrayList(): List<FutureAppointment>
 -procedures = new ArrayList(): List<Procedure>
 -users = new ArrayList(): List<User>
 -insurances = new ArrayList(): List<Insurance>
 +receivePayment(Payment payment): void
+getAccountBalance(int patientId): double
 +getFutureAppointment(): List<Appointment>
+getPastAppointment(): List<Appointment>
+getProviders(): List<Provider>
+setProviders(List<Provider> providers): void
+getPatients(): List<Patient>
+setPatients(List<Patient> patients): void
+getPayments(): List<Payment>
+setPayments(List<Payment> payments): void
 +getCardPayments(): List<PaymentCard>
+setCardPayments(List<PaymentCard> cardPayments): void
 +getAppointments(): List<FutureAppointment>
 +setAppointments(List<FutureAppointment> appointments): void
+getProcedures(): List<Procedure>
 +setProcedures(List<Procedure> procedures): void
+getUsers(): List<User>
+setUsers(List<User> users): void
 +getInsurances(): List<Insurance>
 +setInsurances(List<Insurance> insurances): void
```

```
-number: String
-expMonth: int
-expYear: int
-cardName: String
-cvv: int
-zipCode: int

+PaymentCard(String number, int expMonth, int expYear, String cardName, int cvv, int zipCode): ctor
+getNumber(): String
+setNumber(String number): void
+getExpMonth(): int
+setExpMonth(): int
+setExpMonth(int expMonth): void
+getExpYear(): int
+setExpYear(int expYear): void
+getCardName(): String
+setCardName(String cardName): void
+getCvv(): int
+setCvv(int cvv): void
+getZipCode(): int
+setZipCode(): int
+setZipCode(int zipCode): void
+toString(): String
```

```
controller::ClinicController
 -directory = "savables": String
-clinic = new Clinic(): Clinic
  -currentUser: User
  -userInteraction: DentistOfficeUserInteraction
  -loginCredentials = new HashMap(): HashMap<String, String>
 +ClinicController(DentistOfficeUserInteraction ui): ctor
  -addAdmin(): void
  -mainMenuHandler(int selection): boolean
  -viewMenuHandler(int selection): void
  -createAdminMenuHandler(int choice): void
  -checkUniqueUsername(): String
  -createStandardMenuHandler(int choice): void
  -addProvider(): void
  -addPatient(): void
  -getInsuranceInfo(): Insurance
  -addAppointment(): void
  -getProcedureByProvider(): HashMap<Provider, Procedure>
  -addProcedure(): void
-editAdminMenuHandler(int choice): void
  -editUserMenu_adminView(): void
  -editStandardMenuHandler(int choice): void
  -editUserMenu_standardView(): void
  -editUsername(User user): void
  -editPassword(User user): void
  -editProviderMenu(): void
  -editPatientMenu(): void
  -editName(Object object): void
-editLastName(Object object): void
  -editPhoneNumber(Object object): void
  -editEmail(Object object): void
  -editAppointmentsMenu(): void
  -editProcedure(): void
-deleteAdminMenuHandler(int choice): void
  -deleteStandardMenuHandler(int choice): void
  -searchMenuHandler(int choice): void
-passwordVerified(boolean isFirstTime): String
  |-loginScreen(): void
-autoSaveLoad(): void
-save(): void
-load(): void
  -makeDirectory(): boolean
```

```
model::Appointment

-patient: Patient
-dateTime: LocalDateTime

+Appointment(Patient patient, LocalDateTime dateTime): ctor
+getPatient(): Patient
+setPatient(Patient patient): void
+getDateTime(): LocalDateTime
+setDateTime(LocalDateTime dateTime): void
```

model::AppointmentRecord

-procedures: List<ProcedureRecord>

+AppointmentRecord(Patient patient, LocalDateTime dateTime, List<ProcedureRecord> procedures): ctor +getProcedures(): List<ProcedureRecord>

+setProcedures(List<ProcedureRecord> procedures): void

model::FutureAppointment

-procedureByProvider = new HashMap(): HashMap<Provider, Procedure>

+FutureAppointment(Patient patient, LocalDateTime dateTime, HashMap<Provider, Procedure> procedureByProvider(): Map<Provider, Procedure>
+setProcedureByProvider(HashMap<Provider, Procedure> procedureByProvider): void

```
~editAdminMenu(): int
                                                                                                                                                                                                                                                                                     ~deleteAdminMenu(): int
                                                                                                                                                                                                                                                                                  ~changeProviderInformationMenu(): int
~changePatientInformationMenu(): int
~changeFutureAppointmentMenu(): int
~changeTimeMenu(): int
~changeProcedureInformation(): int
~changeUserInformationMenu(): int
~changeUserOwnInformation(): int
                                                                                                                                                                                                                                                                                    ~selectUser(List<User> users, String message): User
                                                                                                                                                                                                                                                                                    ~selectProvider(List<Provider> providers, String message): Provider
                                                                                                                                                                                                                                                                                     ~selectPatient(List<Patient> patients, String message): Patient
                                                                                                                                                                                                                                                                                    ~selectFutureAppointment(List<FutureAppointment> appointments, String message): FutureAppointment
                                                                                                                                                                                                                                                                                    ~selectProcedure(List<Procedure> procedures, String message): Procedure
                                                                                                                                                                                                                                                                                    ~selectInsurance(List<Insurance> insurances, String message): Insurance
               model::NotFoundException
                                                                                                                                                                                                                                                                                    ~changePassword(): String ~changePasswordSameLine(): String
       +NotFoundException(String object): ctor
                                                                                                                                                                                                                                                                                     ~verifyPassword(): String
        +getObject(): String
                                                                                                                                                                                                                                                                                     ~getLoginUsername(): String ~getLoginPassword(): String
                                                                                                                                                                                                                                                                                     ~println(String message): void
                                                                                                                                                                                                                                                                                    ~print(String message): void ~getName(boolean allowEmpty): String
                                                                                                                                                                                                                                                                                    ~getLastName(boolean allowEmpty): String
                                                                                                                                                                                                                                                                                     ~getUsername(): String
                                                                                                                                                                                                                                                                                    ~getUserType(): UserRole
                                                                    model::Payment
                                                                                                                                                                                                                                                                                   ~getProviderType(): ProviderType
~getProviderTypeWithEmptyEntry(): ProviderType
                                                                  -amount: double
                                                                                                                                                                                                                                                                                   ~getSource(): Source
~getUniqueID(): int
~getEmail(): String
~getPhoneNumber(): String
~getCode(): String
                                                                 -source: Source
                                                                                                                                                                                                                                                                                    ~getDescription(): String ~getCost(): double
                                                                                                                                                                                                                                                                                   ~getInsuranceName(): String
~getGroupId(): String
~getMemberId(): String
~getCardNumber(): String
                                                                                                                                                                                     model::ProcedureRecord
                                             model::Procedure
                                                                                                                       -provider: Provider
                                                                                                                                                                                                                                                                                     ~getExpMonth(): int
~getExpYear(): int
~getCardName(): String
-code = "D": String
                                                                                                                        -futureAppointment: FutureAppointment
 -description: String
                                                                                                                       -procedure: Procedure
  -provider: Provider
                                                                                                                         +ProcedureRecord(Patient patient, Provider provider, FutureAppointment futureAppointment, Procedure procedure, double cost): ctor
  +Procedure(Patient patient, String code, String description, double cost, Provider provider): ctor
                                                                                                                        +getPatient(): Patient
                                                                                                                                                                                                                                                                                    ~getFutureDate(): LocalDateTime
   +getPatient(): Patient
                                                                                                                       +setPatient(Patient patient): void
                                                                                                                                                                                                                                                                                   ~getYear(): int
~getMonth(): int
~getDay(): int
~getHour(): int
~getMinute(): int
 +setPatient(Patient patient): void
                                                                                                                       +getProvider(): Provider
 +getProvider(): Provider
                                                                                                                       +setProvider(Provider provider): void
+setProvider(Provider provider): void
                                                                                                                        +getFutureAppointment(): FutureAppointment
 +getCode(): String
                                                                                                                        +setFutureAppointment(FutureAppointment futureAppointment): void
 +setCode(String code): void
                                                                                                                         +getProcedure(): Procedure
                                                                                                                                                                                                                                                                                   ~getInput(String msg, boolean allowEmpty): String ~removeCharacters(String content): String
  +getDescription(): String
                                                                                                                        +setProcedure(Procedure procedure): void
  +setDescription(String description): void
                                                                                                                        +getCost(): double
 +getCost(): double
                                                                                                                         +setCost(double cost): void
  +setCost(double cost): void
```

view::DentistOfficeUserInteraction

~welcome(): void ~mainMenu(): int ~viewMenu(): int

~createAdminMenu(): int

~createStandardMenu(): int

```
-name, lastName: String
-uniqueld: int
-email: String
-phoneNumber: String
+Person(): ctor
+Person(String name, String lastName, int uniqueld, String email, String phoneNumber): ctor
+getName(): String
+setName(String name): void
+getLastName(String lastName): void
+getUniqueld(): int
+getEmail(): String
+setEmail(String email): void
+getPhoneNumber(): String
+setPhoneNumber(): String
+setPhoneNumber(String phoneNumber): void
+toString(): String
```

```
model::Patient
                                                                                                                                                                                                                                                                              model::Provider
    -paymentCard: PaymentCard
                                                                                                                                                                                                                  +Provider(String name, String lastName, int uniqueld, String email, String phoneNumber, ProviderType title): ctor
  -appointmentRecords: AppointmentRecord
                                                                                                                                                                                                               +getTitle(): ProviderType
  +Patient(String name, String lastName, int uniqueld, String email, String phoneNumber, Insurance insurance, PaymentCard paymentCard): ctor +getInsurance(): Insurance
                                                                                                                                                                                                                  +setTitle(ProviderType title): void
                                                                                                                                                                                                                +toString(): String
  +setInsurance(Insurance insurance): void
+getPaymentCard(): PaymentCard
+setPaymentCard(PaymentCard paymentCard): void
    +toString(): String
                                                                                                                                                                                                                                                                     model::User
                                                                                                                                                                                                              -name, lastName: String
                                                                                                                                                                                                              -username: String
                                                                                                                                                                                                              -password: String
                                model::Insurance
                                                                                                                                                                                                               +User(String name, String lastName, String username, String password, UserRole userRole): ctor
                                                                                                                                                                                                            +getName(): String
+setName(String name): void
+getLastName(): String
+setLastName(String lastName): void
+Insurance(String name, String groupId, String memberId): ctor
+getName(): String
+setName(String name): void
+getGroupId(): String
+setGroupId(String groupId): void
+getMemberId(): String
+setMemberId(String memberId): void
                                                                                                                                                                                                            +getUsername(): String
                                                                                                                                                                                                            +setUsername(String username): void
+getPassword(): String
+setPassword(String password): void
+getUserRole(): UserRole
                                                                                                                                                                                                              +setUserRole(UserRole userRole): void
                                                                                                                                                                                                             +changePassword(String password): void
```

```
EmptyPackage
                                                                      view::UserInteraction
                          -defaultQuestion = "\nWhat would you like to do?": String
                         -editQuestion = "\nWhat would you like to change?": String
                           +mainMenu(): int
                                                                                                                                                               +main(String[] args): void
                           -fillMainMenu(): String[]
                           +viewMenu(): int
                         -fillViewMenu(): String[]
                           +createAdminMenu(): int
                           -fillCreateAdminMenu(): String[]
                           +createStandardMenu(): int
                          -fillCreateStandardMenu(): String
                           +editStandardMenu(): int
                           -fillStandardEditMenu(): String
                           +editAdminMenu(): int
                           -fillAdminEditMenu(): String[]
                           +deleteAdminMenu(): int
                           -fillDeleteAdminMenu(): String
                           +deleteStandardMenu(): int
                           -fillDeleteStandardMenu(): Strin
                          +searchMenu(): int
                          -fillSearchMenu(): String[]
                         +changeProviderInformationMenu(): i
                          -fillChangeProviderInformation(): String[]
                          +changePatientInformationMenu(): int
                         -fillChangePatientInformation(): String[]
                          +changeFutureAppointmentMenu(): ir
                         -fillChangeFutureAppointment(): String[]
                         +changeTimeMenu(): int
                         -fillChangeTimeMenu(): String[]
                          +changeProcedureInformation(): int
                         -fillChangeProcedureInformation(): String
                          +changeUserInformationMenu(): int
                          -fillChangeUserInformationMenu(): String[]
                          +changeUserOwnInformation(): int
                          |-fillChangeOwnInformation(): String[]
                         +selectUser(List<User> users, String message): User
                         +selectProvider(List<Provider> providers, String message): Provider
                         +selectPatient(List<Patient> patients, String message): Patient
                        +selectFutureAppointment(List<FutureAppointment> appointments, String message): FutureAppointment
                        +selectProcedure(List<Procedure> procedures, String message): Procedure
                          +selectInsurance(List<Insurance> insurances, String message): Insurance
                           +selectRole(): UserRole
                           +welcome(): void
                         +changePassword(): String
                          +changePasswordSameLine(): String
                          +verifyPassword(): String
                          +getLoginUsername(): String
                           +println(String message): voice
                         +print(String message): void
                          +getName(boolean allowEmpty): String
                          +getLastName(boolean allowEmpty): String
                          +getUsername(): String
                         +getUserType(): UserRole
                         +getProviderType(): ProviderType
                          +getProviderTypeWithEmptyEntry(): ProviderType
                          -fillProviderType(): String[]
                          +getSource(): Source
                          +getUniqueID(): int
                         +getEmail(): String
                          +getPhoneNumber(): String
                          +getCode(): String
                           +getDescription(): String
                          +getCost(): double
                          | +getInsuranceName(): String
                           +getGroupId(): String
                           +getMemberId(): String
                         +getCardNumber(): String
                          +getExpMonth(): int
                           +getExpYear(): int
                         +getCardName(): String
                           +getCvv(): int
                           +getZipCode(): int
                          +getFutureDate(): LocalDateTime
                           +getYear(): int
                          +getMonth(): int
                         +getDay(): int
                          +getHour(): int
                          +getMinute(): int
                         +getInput(String msg, boolean allowEmpty): String
                           +removeCharacters(String content): String
```