

PlantUML Code for Class Diagram:

@startuml

```
abstract class User {  
    - userId: String  
    - name: String  
    - email: String  
    - password: String  
    - phoneNumber: String  
    - role: Role  
    - is2FAEnabled: Boolean  
    + login()  
    + logout()  
    + resetPassword()  
    + enable2FA()  
}
```

```
enum Role {  
    Customer  
    Admin  
    Employee  
}
```

```
class Customer {  
    - address: String  
    + viewAccounts()  
    + raiseSupportTicket()  
    + applyForLoan()  
    + viewLoanStatus()  
}
```

```
class Admin {  
    + approveAccount()  
    + rejectLoan()  
    + monitorUsers()  
    + generateReports()  
    + detectFraud()  
}
```

```
class Employee {  
}
```

```
class Account {  
    - accountNumber: String  
    - accountType: AccountType  
    - balance: Double  
    - status: AccountStatus  
    + deposit()  
    + withdraw()  
    + closeAccount()  
}
```

```
enum AccountType {
    Savings
    Current
    FixedDeposit
}

enum AccountStatus {
    Active
    Closed
    Deactivated
}

class Transaction {
    - transactionId: String
    - date: Date
    - amount: Double
    - type: TransactionType
    - status: String
    + viewMiniStatement()
}

enum TransactionType {
    Deposit
    Withdraw
    Transfer
}

class Loan {
    - loanId: String
    - type: LoanType
    - amount: Double
    - EMI: Double
    - status: String
    + calculateEMI()
    + repayLoan()
}

enum LoanType {
    Home
    Car
    Personal
}

class ATMCARD {
    - cardNumber: String
    - pin: String
    - isBlocked: Boolean
    + verifyPIN()
    + blockCard()
}

class SupportTicket {
```

```
- ticketId: String
- subject: String
- description: String
- status: String
+ updateStatus()
}
```

```
class Notification {
- notificationId: String
- type: NotificationType
- message: String
- date: Date
+ sendNotification()
}
```

```
enum NotificationType {
    Email
    SMS
}
```

```
class Report {
- reportId: String
- dateGenerated: Date
- type: ReportType
+ generateReport()
}
```

```
enum ReportType {
    Daily
    Weekly
    Monthly
}
```

```
User <|-- Customer
User <|-- Admin
User <|-- Employee
```

```
Customer "1" o-- "*" Account
Account "1" o-- "*" Transaction
Customer "1" o-- "*" Loan
Customer "1" o-- "*" SupportTicket
Account "1" o-- "1" ATMCARD
User "1" o-- "*" Notification
Admin "1" o-- "*" Report
```

```
@enduml
```