UML Diagram of Classes for Bank System

Bank
+ bank_id: str
+ bank_name: str

+ get_bank_id(): str
+ get_bank_name(): str

Branch
+ location_id: str
+ branch_name: str

+ get_location_id(): str
+ get_branch_name(): str

Employee
+ employee_id: str
+ location_id: str
+ emp_first_name: str
+ emp_last_name: str
+ salary: float
+ start_date: date
+ termination_date: date

+ set_location_id(loc_id: str)
+ set_emp_first_name(first: str)
+ set_emp_last_name(last: str)
+ set_salary(sal: float)
+ set_start_date(start_dt: str)
+ set_termination_date(term_dt: str)
+ get_employee_id(): str
+ get_location_id(): str
+ get_emp_first_name(): str
+ get_emp_last_name(): str
+ get_salary(): float
+ get_start_date(): date
+ get_termination_date(): date
/ get_tenure_years(): int

Has — 1..1 — 1..*
Has — 1..1
Has — 1..*
Has — 1..*
1..1

BankAccount
+ customer_id: str
+ account_num: str
+ balance: float

+ get_customer_id: str
+ get_account_number: str
+ get_balance: float
+ deposit(amt: float)
+ withdraw(amt: float)

Opens up — 1..* — 1..1

Customer
+ customer_id: str
+ membership_date: date
+ first_name: str
+ last_name: str
+ birth_date: str
+ street_address: str
+ city: str
+ state: str
+ zip_code: str
+ phone_number: str

+ set_membership_date(mem_dt: str)
+ set_first_name(first: str)
+ set_last_name(last: str)
+ set_birth_date(dob: str)
+ set_street_address(addr: str)
+ set_city(cty: str)
+ set_state(st: str)
+ set_zip_code(zipc: str)
+ set_phone_number(phone: str)
+ get_customer_id(): str
+ get_membership_date(): date
+ get_first_name(): str
+ get_last_name(): str
+ get_get_birth_date(): date
+ get_street_address(): str
+ get_city(): str
+ get_state(): str
+ get_zip_code(): str
/ get_full_name()
/ get_address()

Service
+ customer_id: str
+ annual_interest_rate: float
+ balance: float

+ set_annual_interest_rate(ann_int_rate: float)
+ get_balance(): float
+ get_annual_interest_rate(): float
+ get_customer_id(): str
+ make_payment(amount: float)

Uses — 1..1 — 0..*

CheckingAccount
- min_balance: float
- withdrawal_fee: float
- overdraft_fee: float

1..1   1..1
1..*   1..*

SavingsAccount
+ annual_interest_rate: float

+ get_annual_interest_rate(): float
/ get_balance_next_month(): float
/ get_compounded_balance(months: int): float

CreditCard
- CASH_ADVANCE_FEE: float
- CREDIT_LINE: float
+ available_credit: float
+ credit_card_number: str

+ make_purchase(amount: float)
+ withdraw_cash(amount: float)
+ apply_interest()
+ get_available_credit(): float

1..* — 1..1

LoanAccount
+ loan_amount: float
+ loan_account_number: str
+ number_of_years: int

+ get_loan_amount(): float
+ get_loan_account_number(): str
+ get_number_of_years(): int
/ get_monthly_payment(): float

1..* — 1..1