Class Diagram
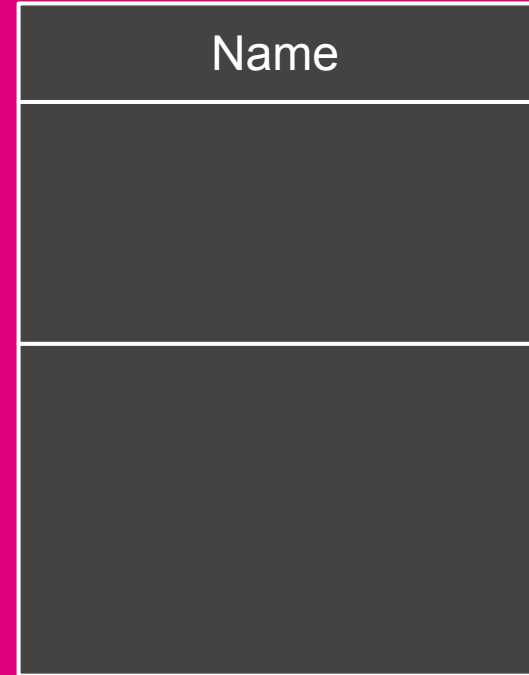
UML Class Syntax

Name:

Noun, singular

Found through the noun list method, and the first one you draw will be like the Domain Model.
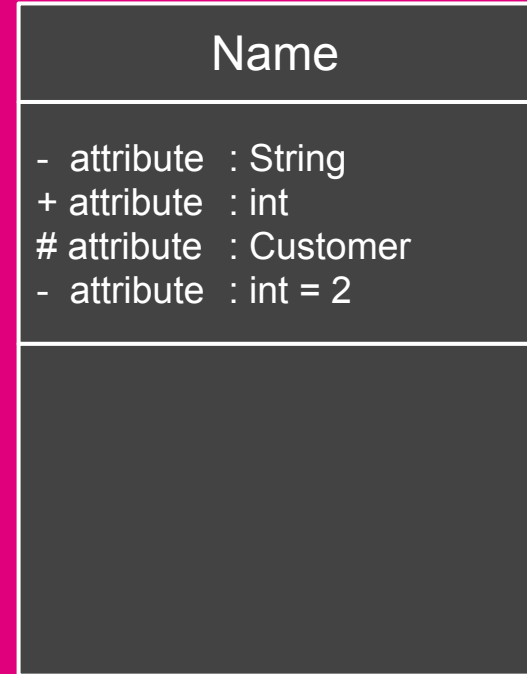
Name

UML Class Syntax

Attributes:

-   private   +   public   #   protected

- Datatype after colon (:)
- Possible to have a default value (=)
- Noun Method
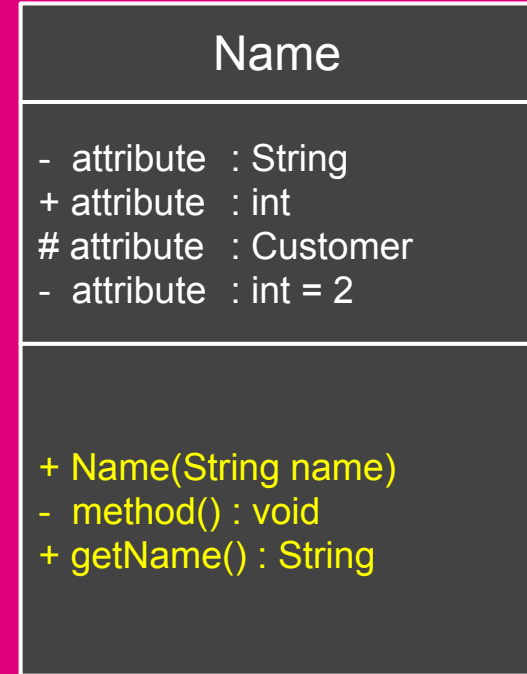
Name
- attribute   : String + attribute   : int # attribute   : Customer - attribute   : int = 2

UML Class Syntax

Methods

- private	+ public	# protected

Name(datatype name) : return type

Constructor
- <<constructor>> Name()
- Name(String name)

Getters & Setters can be left out if they are "pure" getters & setters

Name
- attribute : String + attribute : int # attribute : Customer - attribute   : int = 2
+ Name(String name) - method() : void + getName() : String

Bank Account

A customer opens a bank account in a bank.
After opening the account the customer can withdraw, deposit and check his balance at any time he wants. The bank charges a fee of 10kr. for every withdraw a customer makes. The Customer can not withdraw more money than is on the account including the fee. The bank also has an interest rate of 8.5%, which is used for calculating a certain amount of interest on the amount deposited by the customer.

Use Case

Identify Actors and Use Cases

Use Cases

UC#1: Withdraw Money

Actor: Customer

Customer requests to withdraw money from his account and specifies the amount.
The bank puts on a fee of 10 kr. when a withdrawal is made, so the customer gets the
requested amount, and the fee is subducted on the remaining balance of the account.

Use Cases

UC#2: Deposit Money

Actor: Customer

The Customer requests to deposit money. The bank calculates the interest based on the interest rate and the amount just deposited, the interest and the amount is summed. The sum is then added to the account balance.

Use Cases

UC#3: Check Balance

Actor: Customer

Customer requests to see the balance of his account.
The account number and name of the customer together with the balance is displayed.

Nouns

Customer, Money,
Account, Amount,
Bank, Fee, Balance,
Error message,
interest, interest rate,
Account Number,
Customer Name,

Customer
   name
Account
   balance
   accountNumber
Bank
   fee
   interest rate

Nouns

Customer, ~~Money~~,
Account, ~~Amount~~,
Bank, Fee, Balance,
~~Error message~~,
~~interest~~, interest rate,
Account Number,
Customer Name,

Customer
   name
Account
   balance
   accountNumber
Bank
   fee
   interest rate

Domain Model

Costumer
_____
name

Account
_____
Account Number
Balance

Bank
_____
Fee
Interest Rate

Verbs = Actions = Methods

Withdraw

get fee

Deposit

Calculate interest

Add to balance

Check Balance

Domain Model

Costumer
_____
name

Account
_____
Account Number
Balance

Bank
_____
Fee
Interest Rate
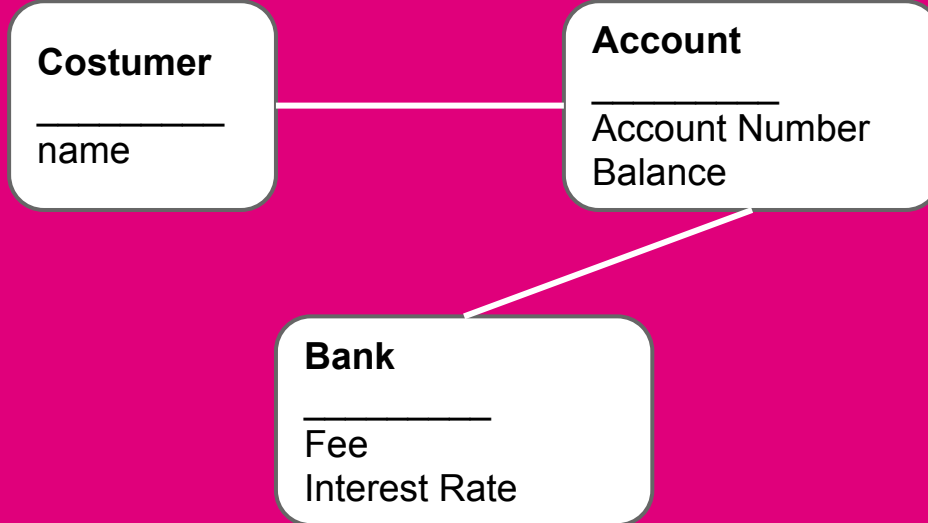
What could the names of the Associations be?

In which class should these Methods belong to?

Account

(5 min in groups)

Customer

withdraw();

deposit()

checkBalance()

Account

withdraw();
deposit()
checkBalance()

Methods should **read** or **change** the object state

State

data = Attributs = Fields

Customer

withdraw();
deposit()
checkBalance()

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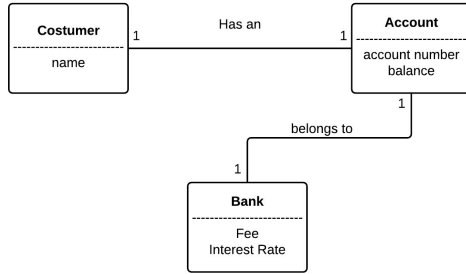# In which class does there belong?

Calculate interest

Add to balance

get fee

Bank, Customer eller Account?

(5 min …..)

Bank Account Example

Class Diagram

Opgave-klasse diagram:

En kunde køber en vare i en online grønthandlerbutik
Når han har lagt den i kurven går han til checkout
og betaler varernes pris.
Efter betalingen modtager han en bekræftelse pr. email.

Lav et klassedigram udfra denne beskrivelse.

Byt med en anden gruppe,
som skal kode jeres
klassediagram og i deres.