

ENGENHARIA DE SOFTWARE

AGENDA

- UML
 - Diagrama de Caso de Uso
 - Diagrama de Classes
 - Diagrama de Sequência
 - Diagrama de Atividades

DIAGRAMA DE CASO DE USO

- Descreve cenários com funcionalidades do sistema
- Ponto de vista do usuário (Atores)
- Permite comunicação com o cliente
- <http://www.dsc.ufcg.edu.br/~sampaio/cursos/2007.I/Graduacao/SI-II/Uml/diagramas/usecases/usecases.htm>)

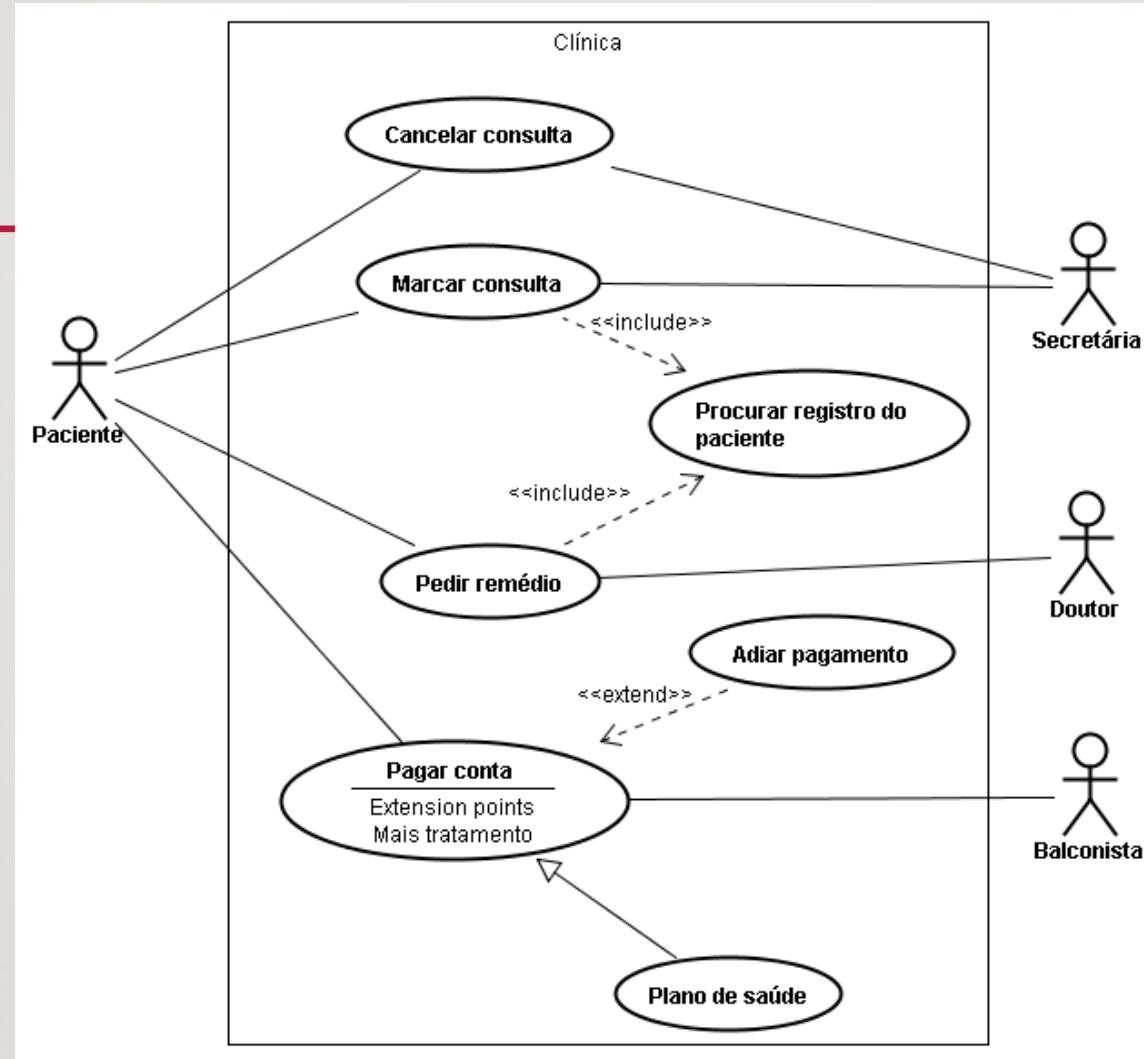
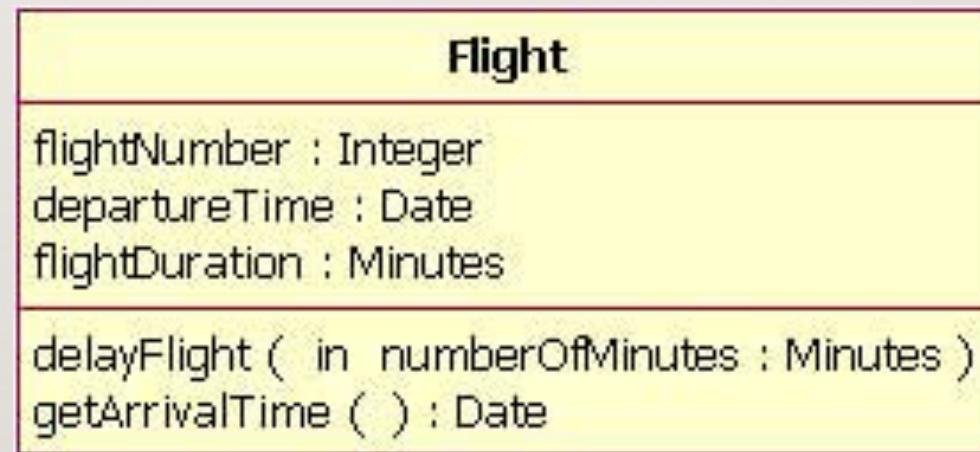


DIAGRAMA DE CLASSES

- Permite modelar as classes e seus relacionamentos
- Visão estática
- Se relaciona com a modelagem de banco de dados

CLASSES

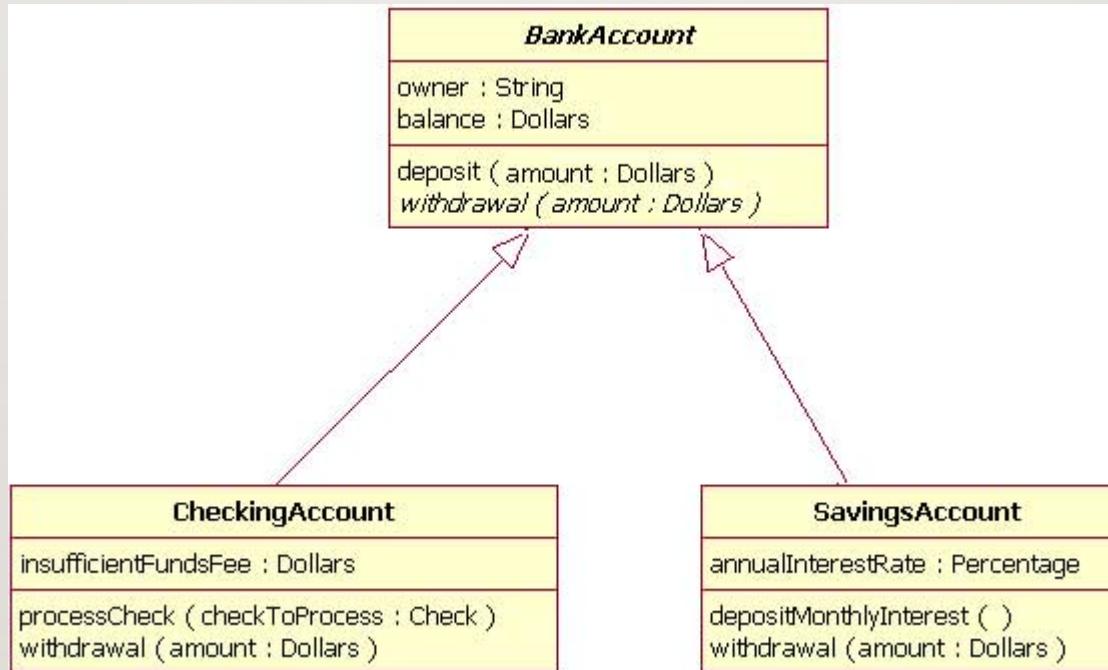
- nome : tipo de atributo = valor padrão
- nome(lista de parâmetros) : tipo de valor retornado
- + -> público
- # -> protegido
- - -> privado
- ~ -> Pacote



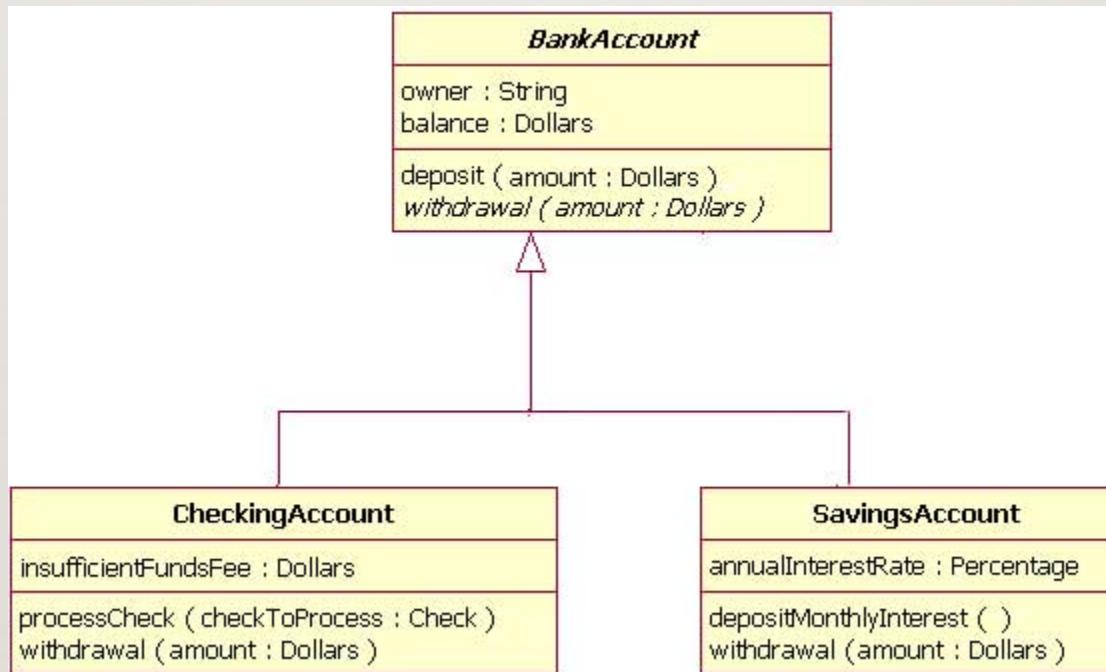
ESTEREÓTIPOS

- Utiliza a notação << Estereótipo >>
- Permite classificar elementos
- Pode-se criar seus próprios esteriotípos
- Ex: <<entity>>, <<interface>>

HERANÇA



HERANÇA



ASSOCIAÇÃO

- Ligação entre duas classes
- Por padrão são bidirecionais (as classes tem ciência da outra)
- Multiplicidades
 - 0..1, 1, 7, 0..*, *, 1..*, 0..10, 2..10

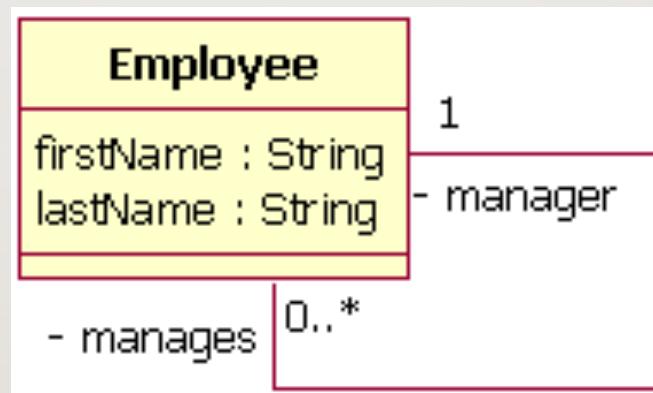
ASSOCIAÇÃO BIDIRECIONAL



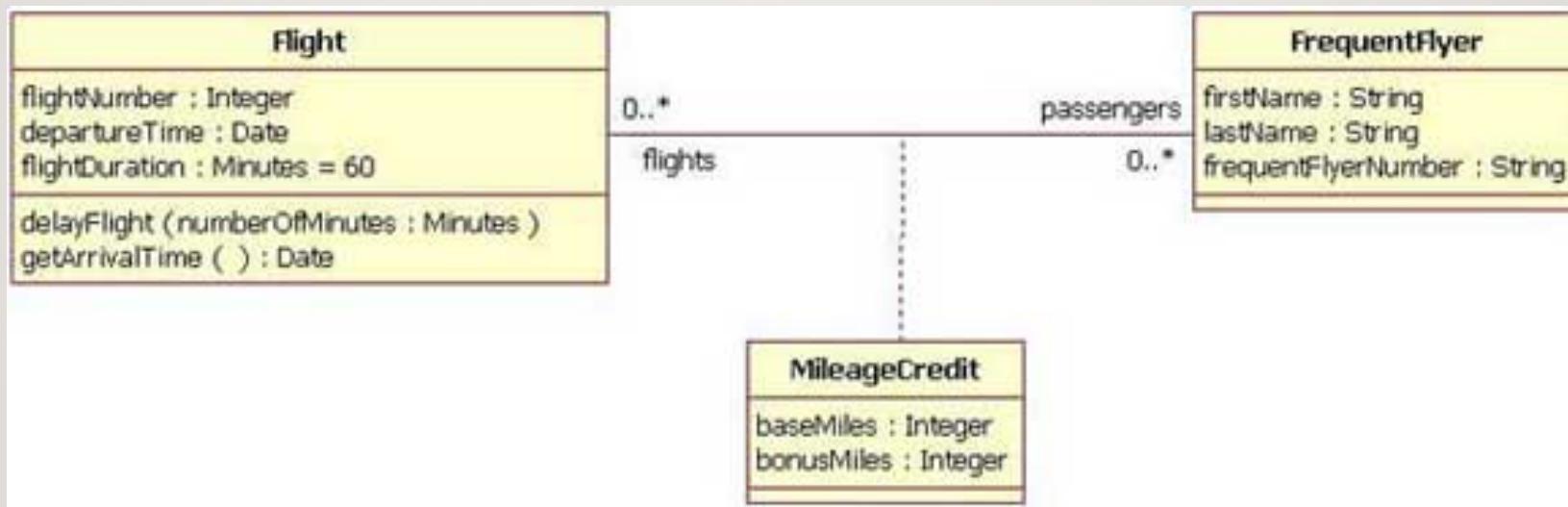
ASSOCIAÇÃO UNIDIRECIONAL



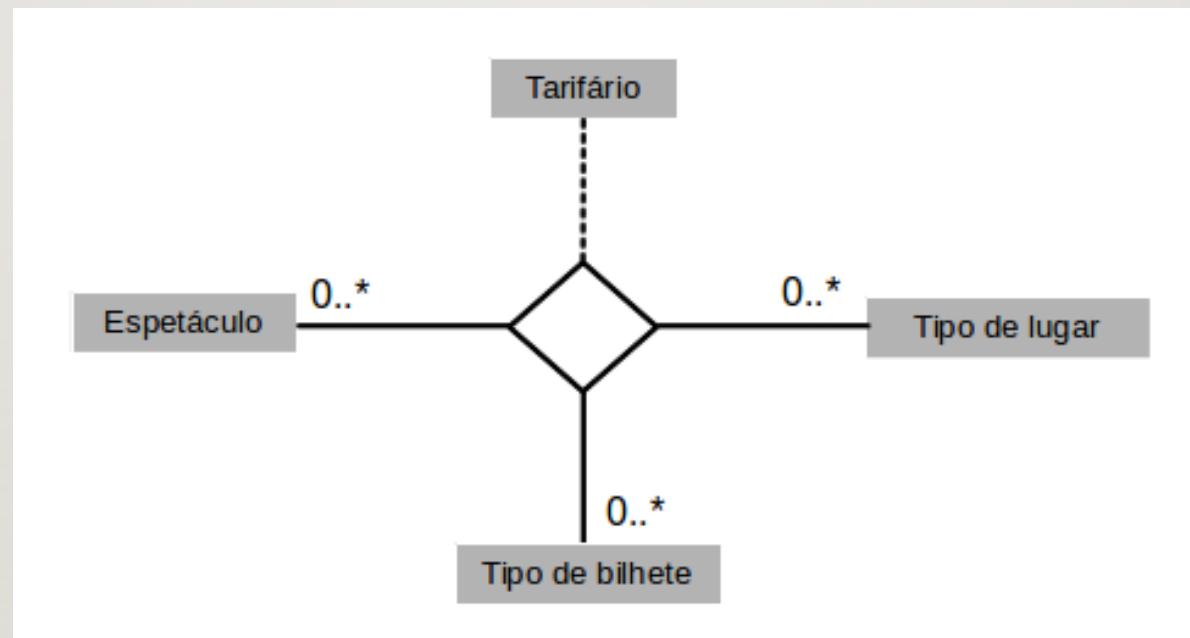
ASSOCIAÇÃO REFLEXIVA



CLASSE DE ASSOCIAÇÃO



ASSOCIAÇÃO N-ÁRIA



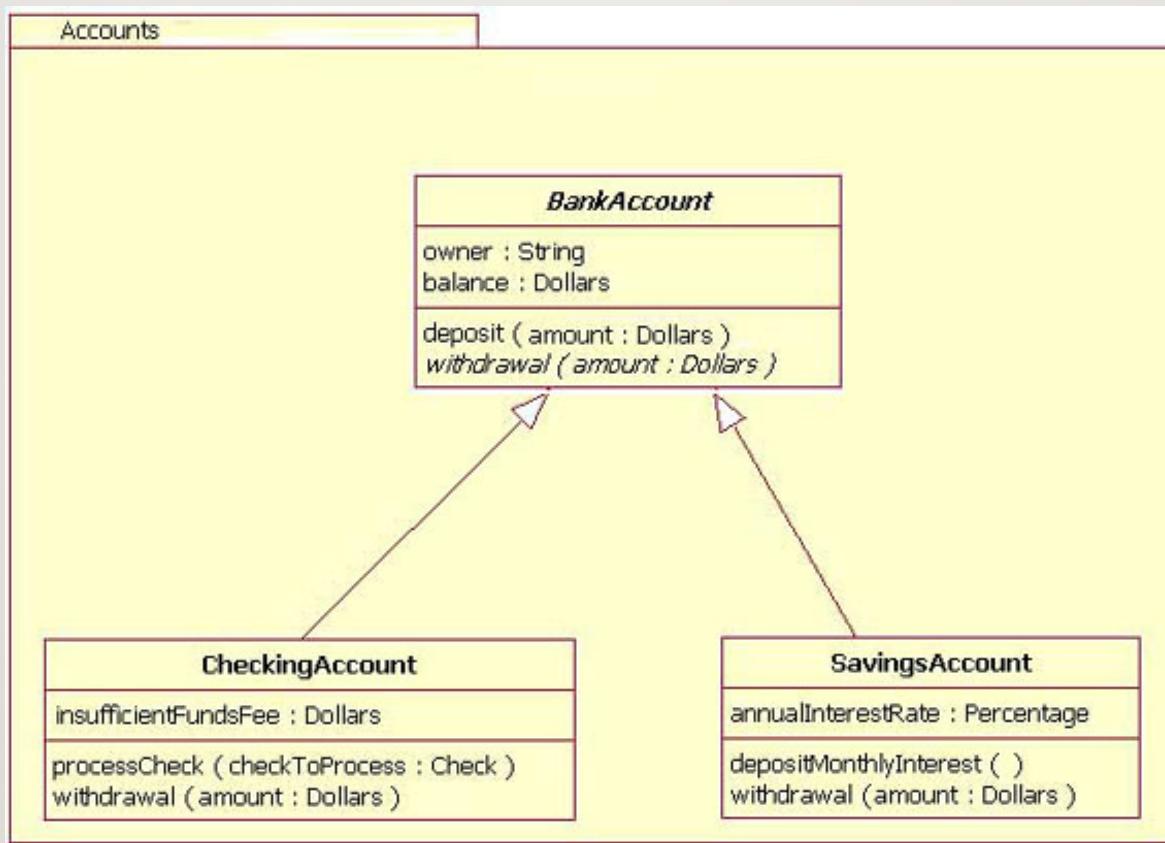
AGREGAÇÃO

- Associação característica de todo com parte
- Básica (Simplesmente agregação)
- Composição (Agregação mais forte)

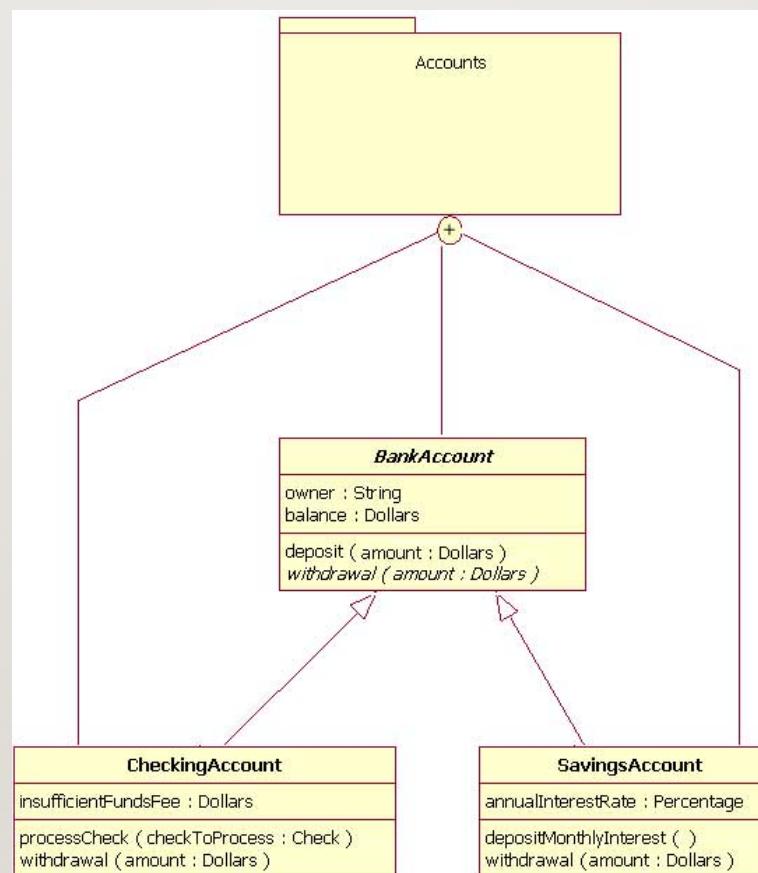
AGREGAÇÃO



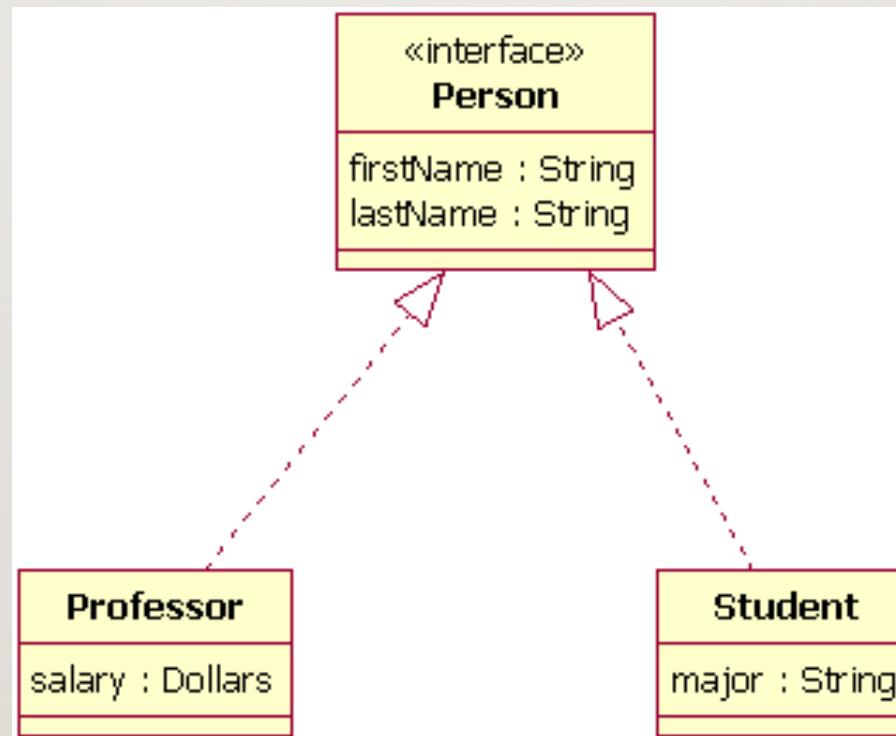
PACOTES



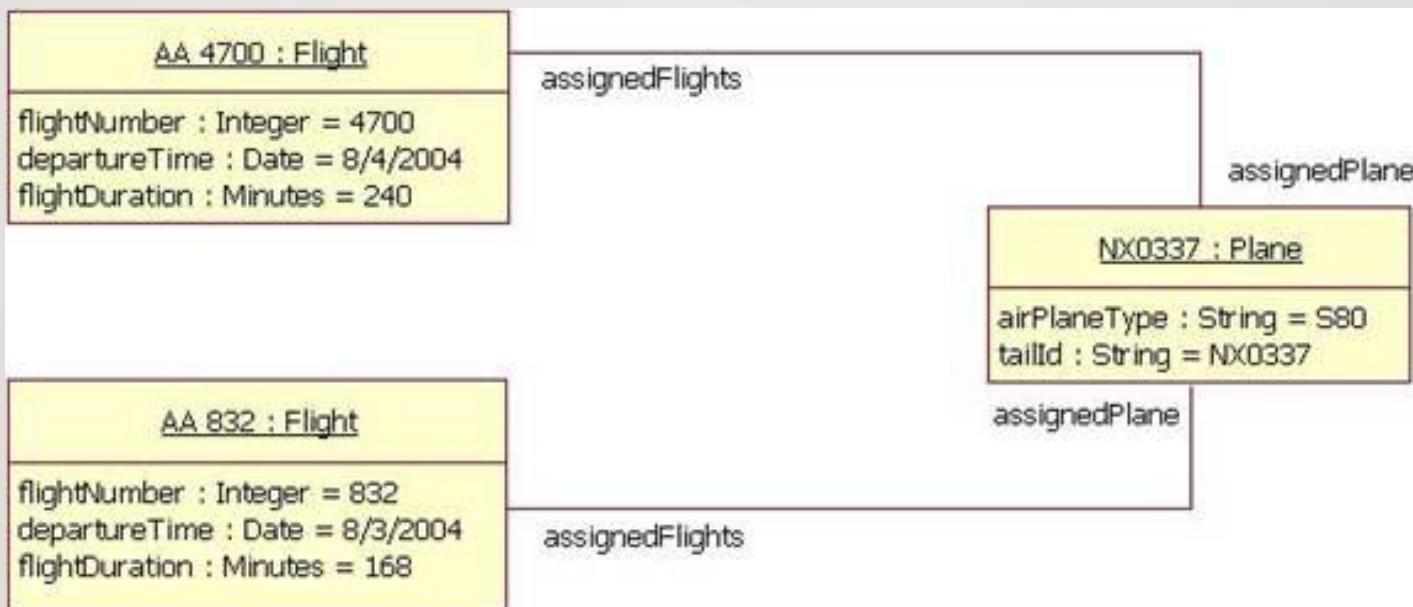
PACOTES



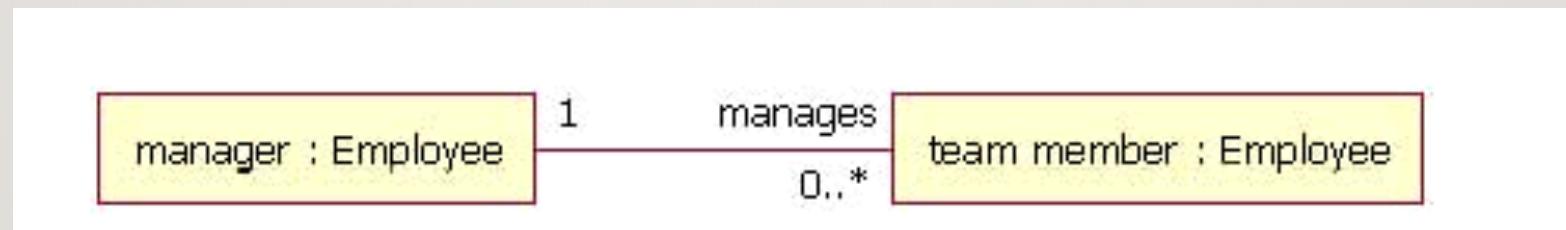
INTERFACE



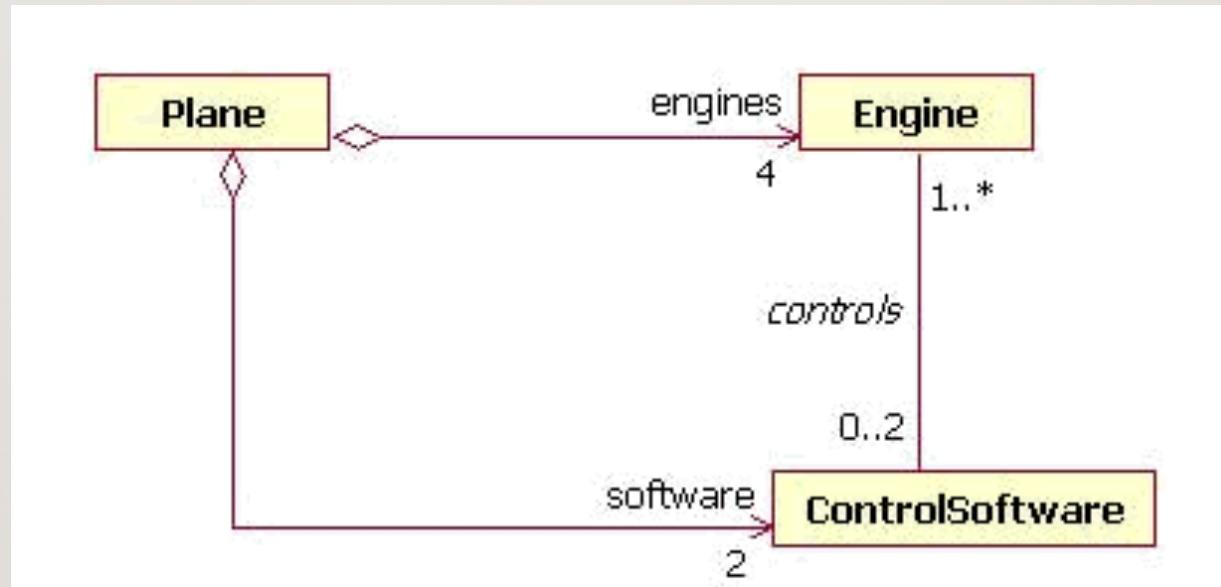
INSTÂNCIA



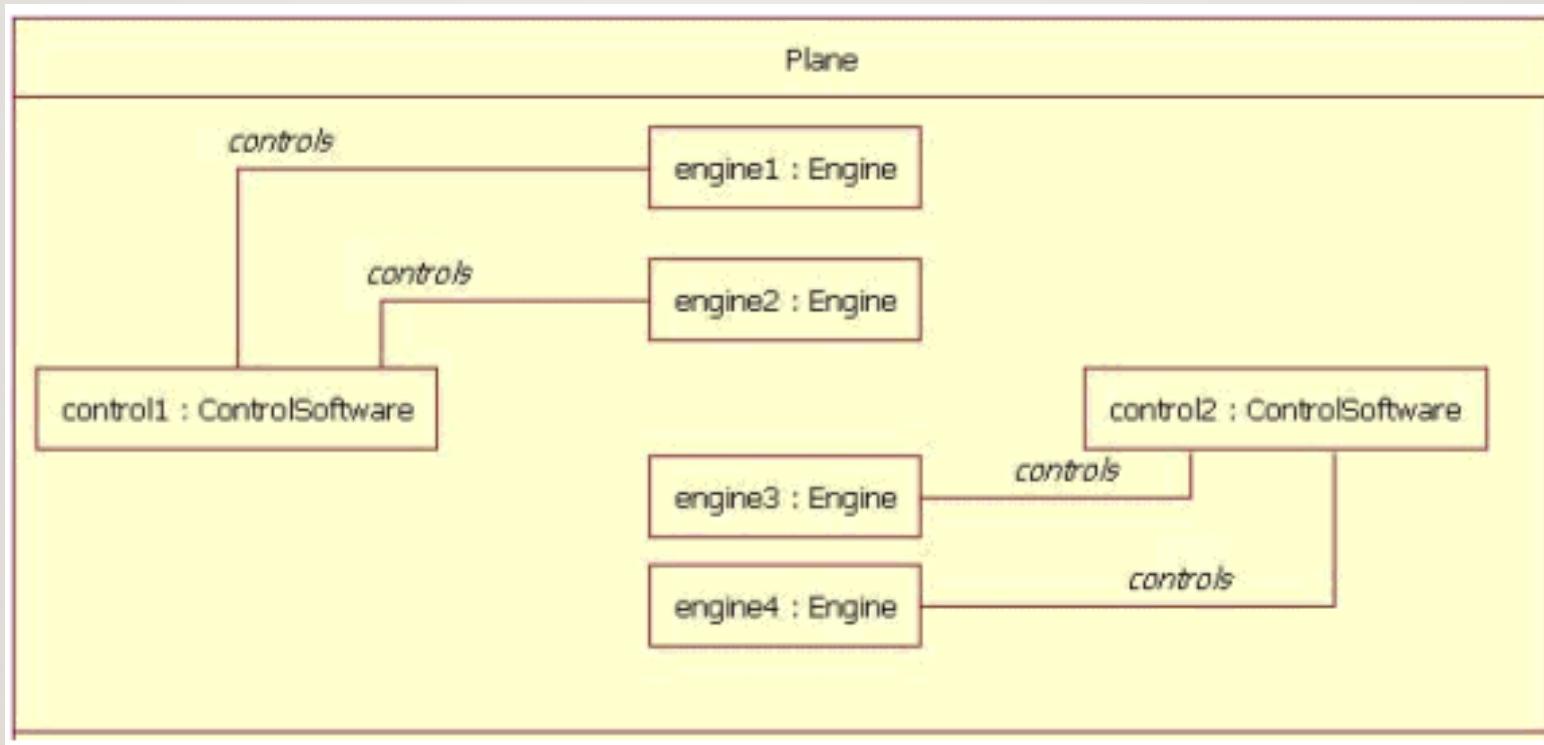
FUNÇÃO



ESTRUTURA INTERNA



ESTRUTURA INTERNA

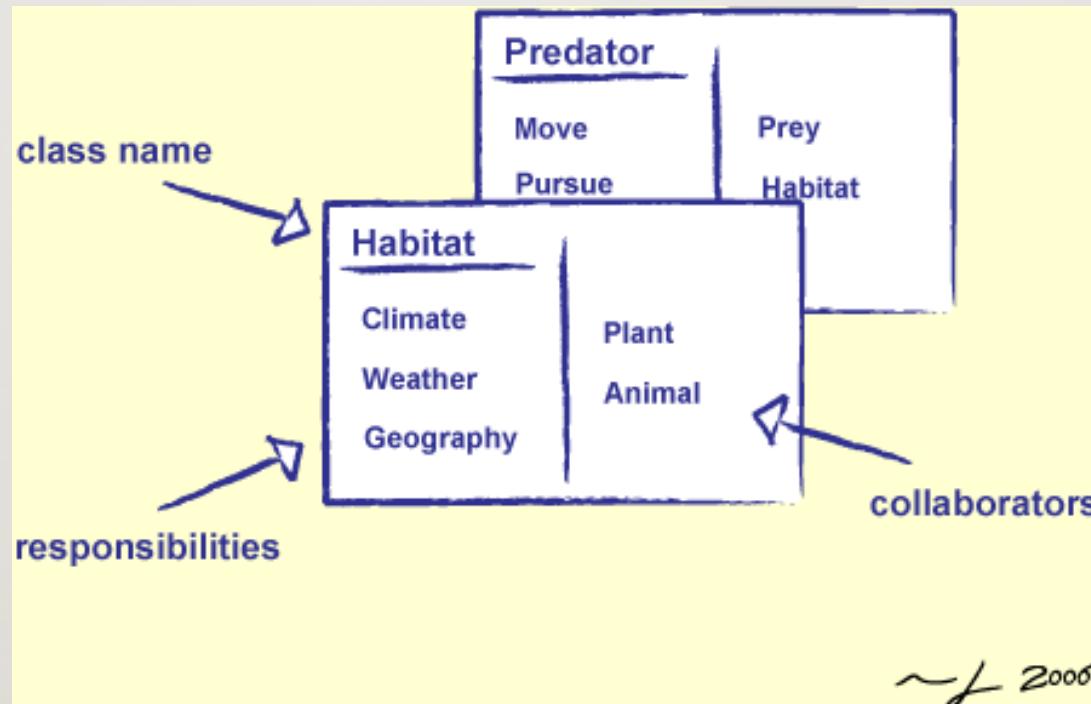


<http://www.ibm.com/developerworks/br/rational/library/content/RationalEdge/sep04/bell/index.html>

CLASSE RESPONSABILIDADE COLABORAÇÃO (CRC)

- Utilizado para descrever classes de forma rápida
- Comum no XP
- Estabelece as responsabilidades da classe
- Estabelece quem são os colaboradores (outras classes)

CRC



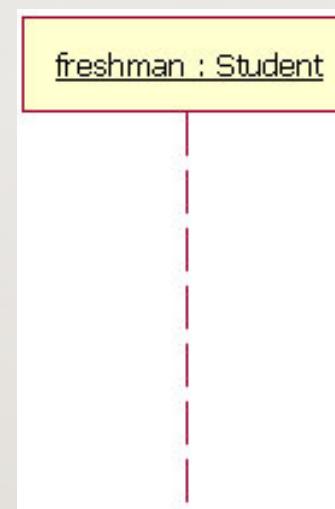
CRC

Class Name: Person	
Superclasses:	
Subclasses:	
Responsibilities	Collaborators
Sex Age Calculate age at a given year Cook	cuisine, Recipe

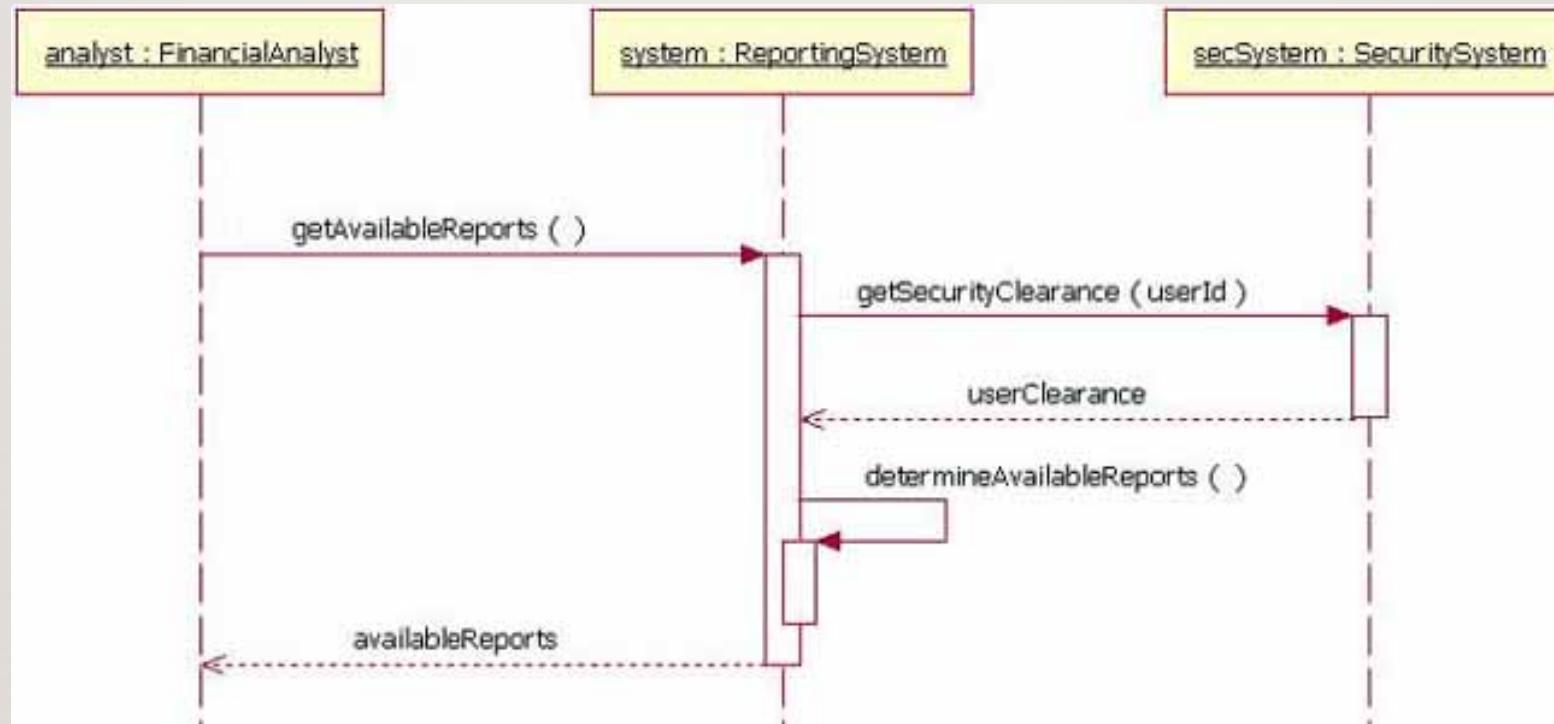
DIAGRAMA DE SEQUÊNCIA

- Posiciona participantes (classes, componentes, atores) em linhas verticais de “vida”
- Descreve interações internas entre elementos do sistema
- Foco na comunicação

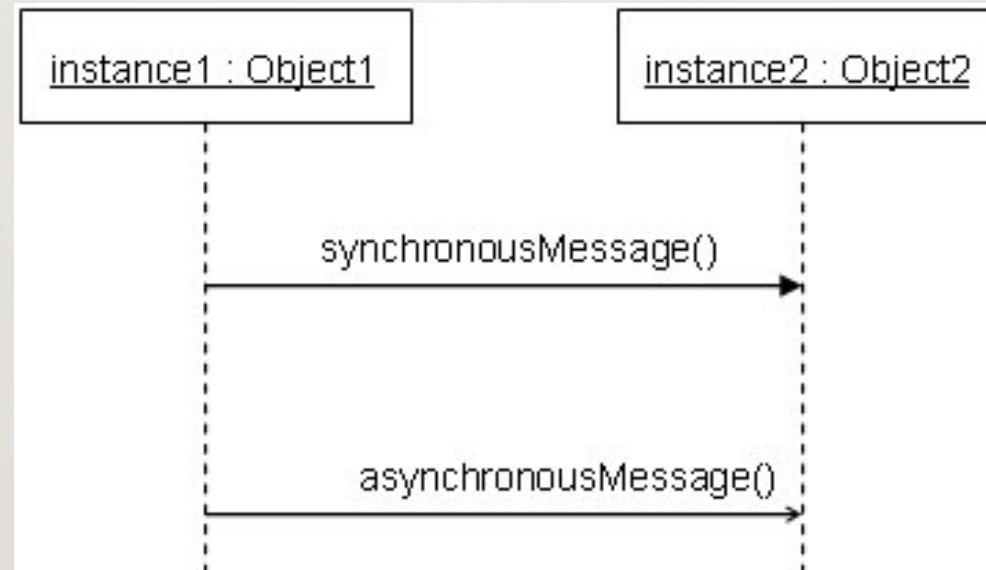
LINHA DE VIDA



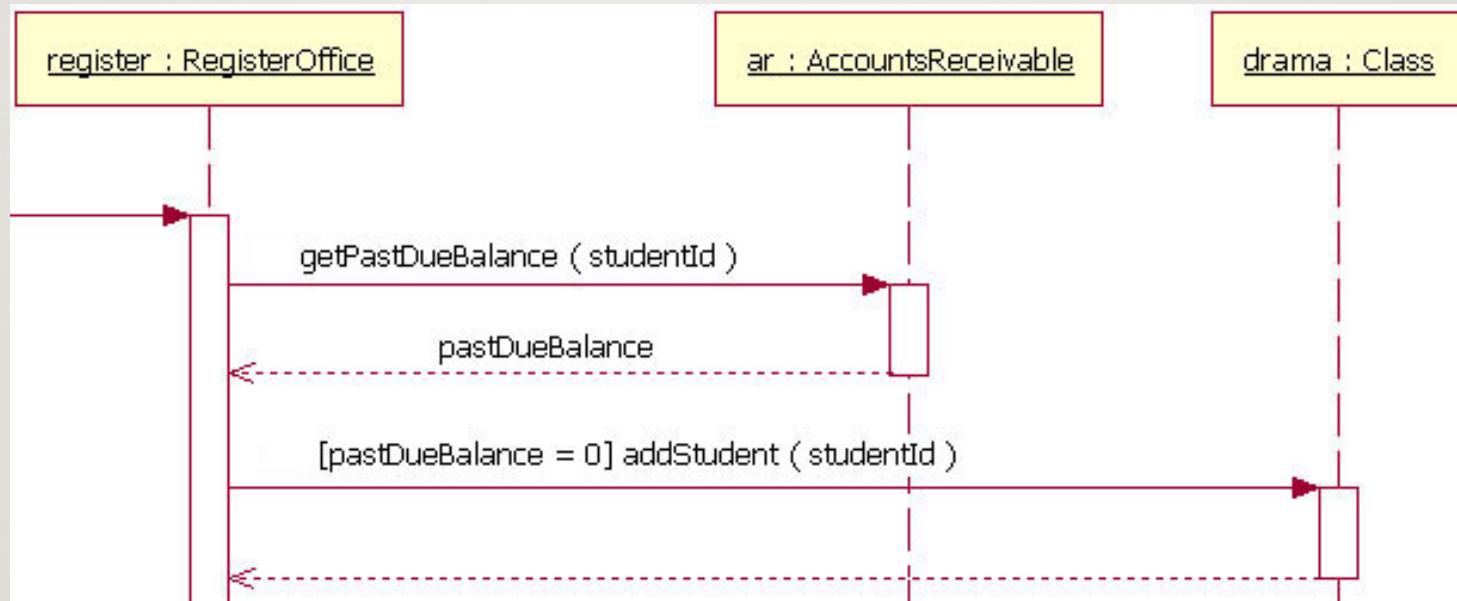
MENSAGENS



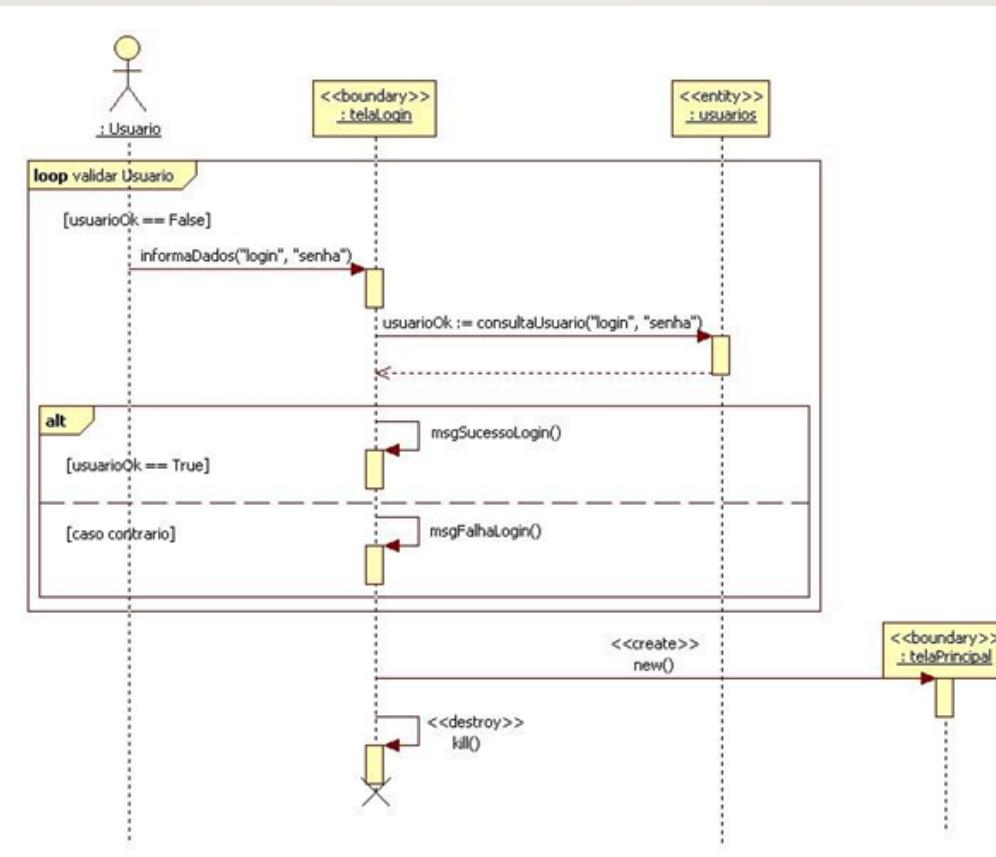
MENSAGENS



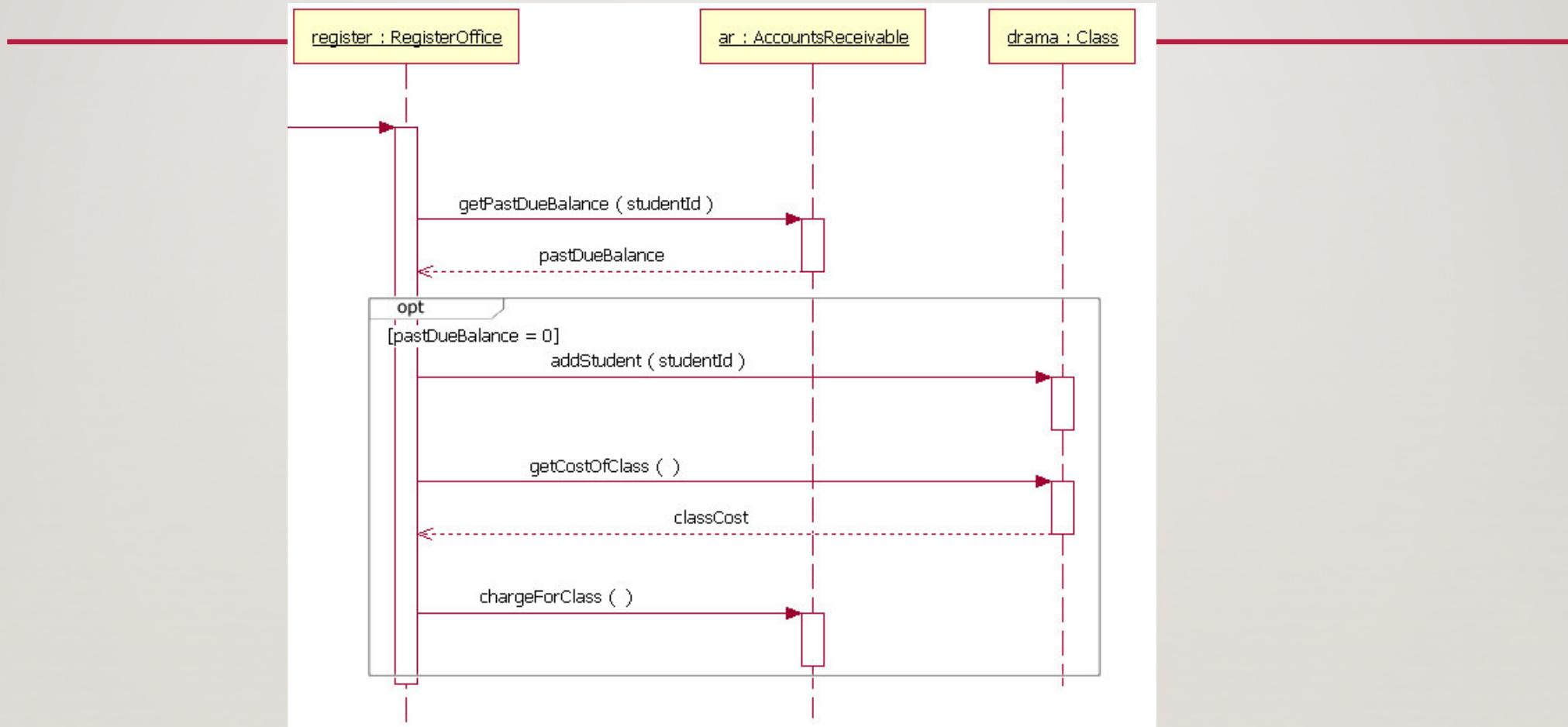
GUARDA (GUARD)



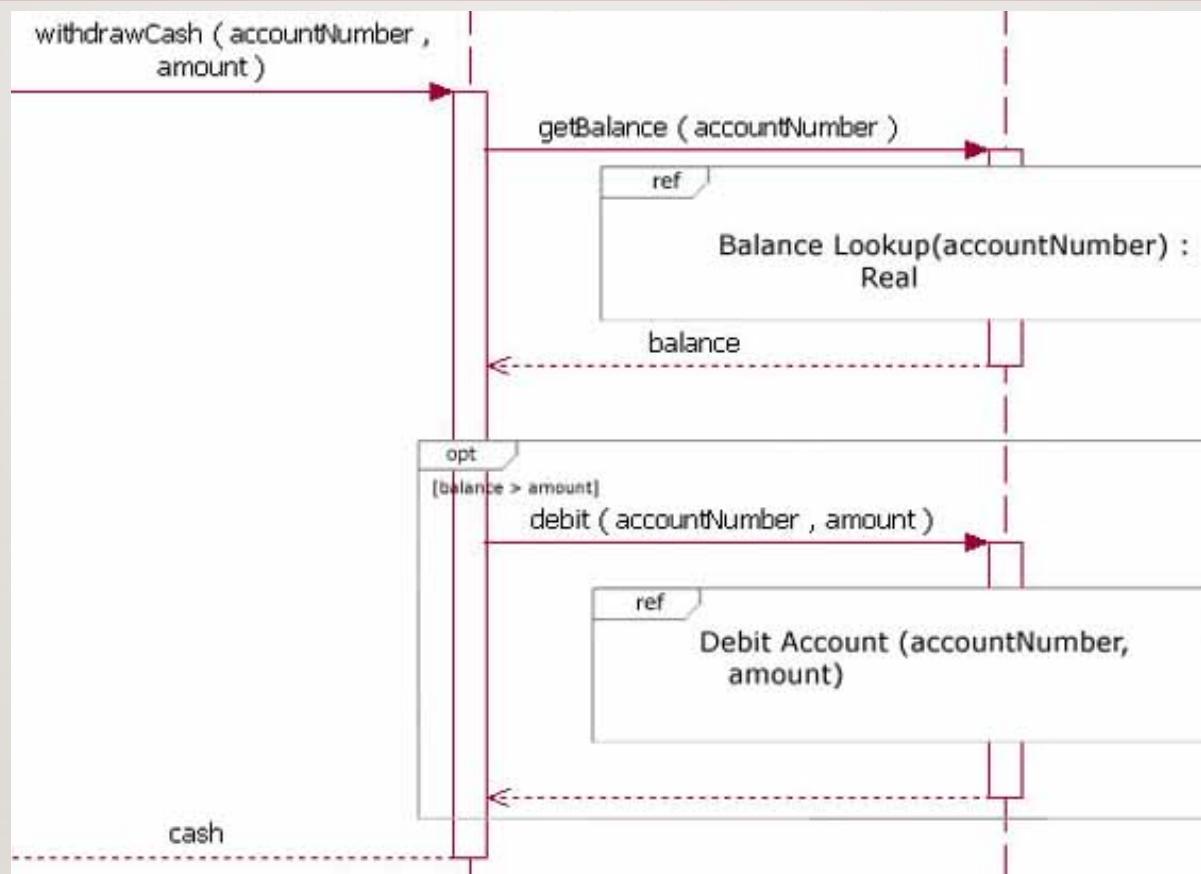
ALTERNATIVAS E LOOP



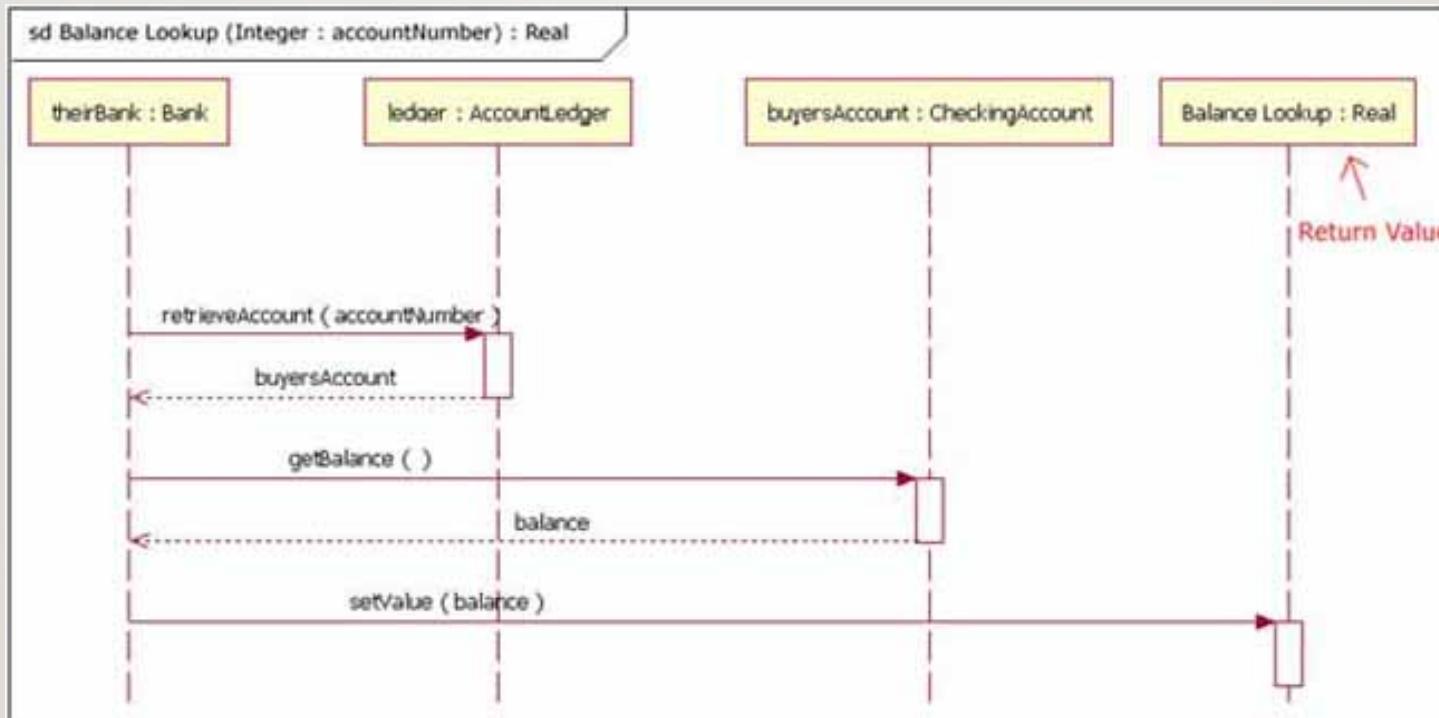
OPÇÃO



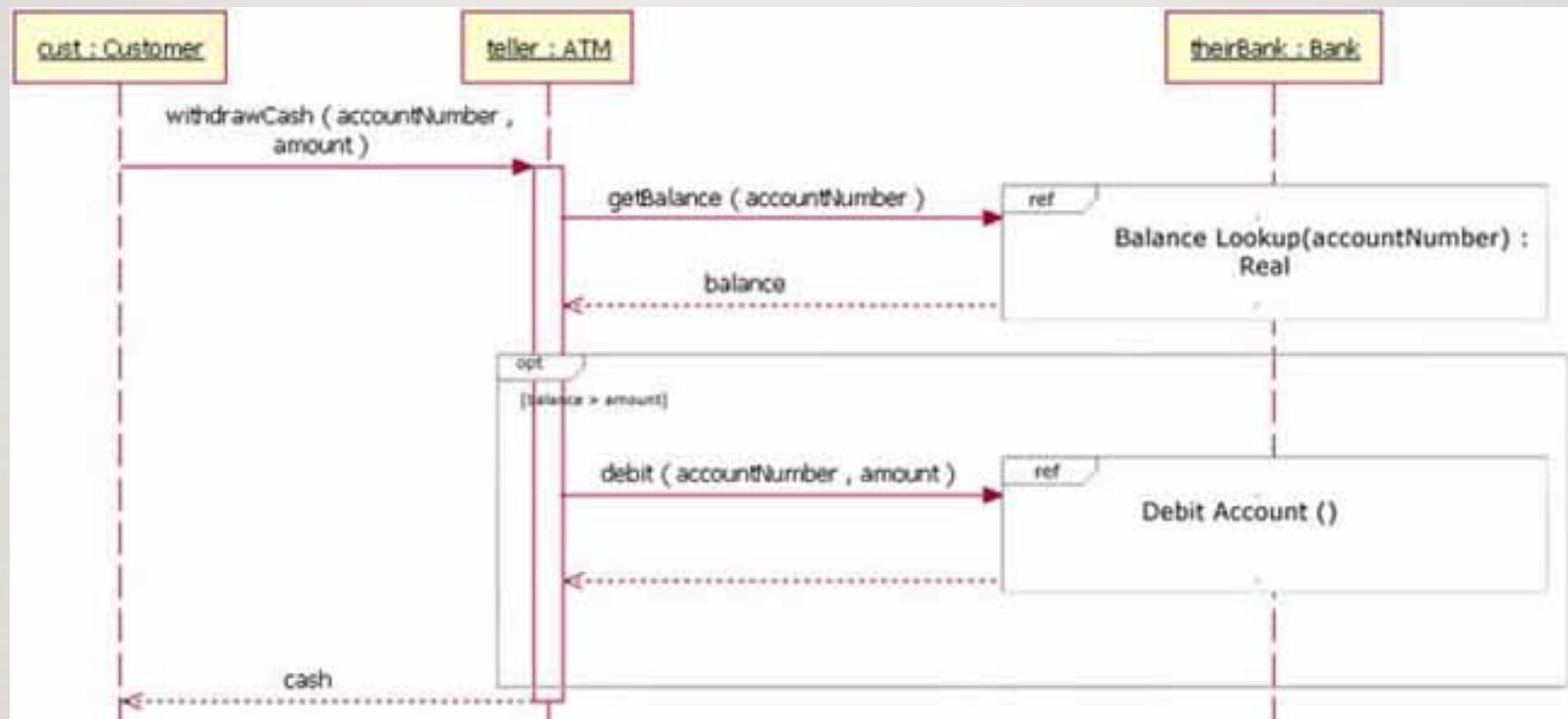
REFERÊNCIA



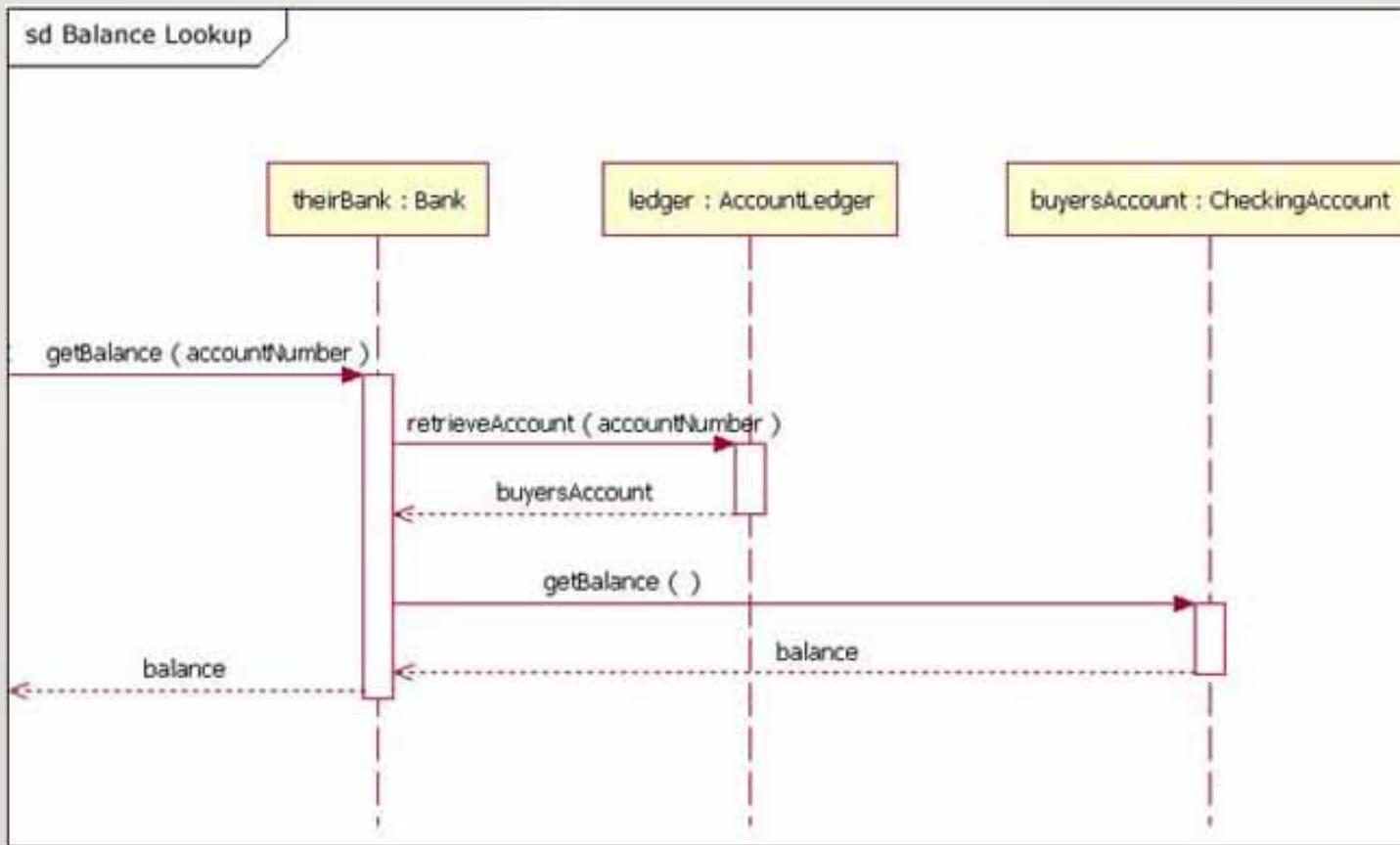
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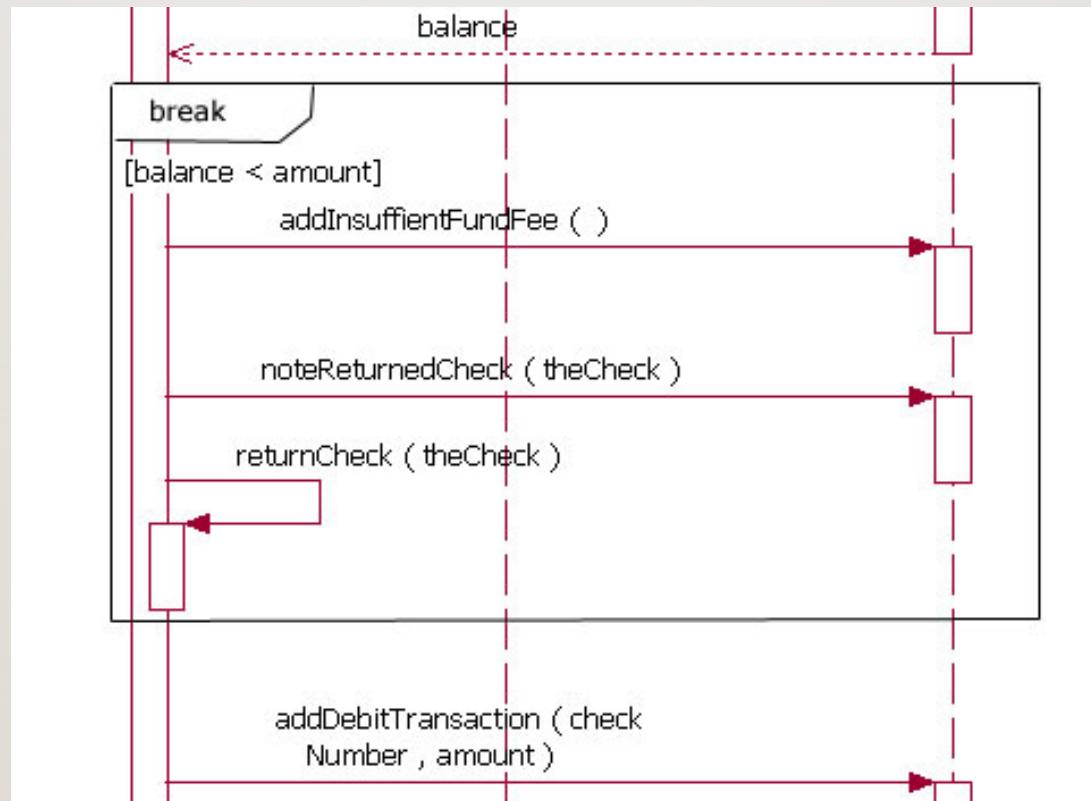
PORTAS (GATES)



PORTAS (GATES)



PARADA (BREAK)



PARALELO (PARALLEL)

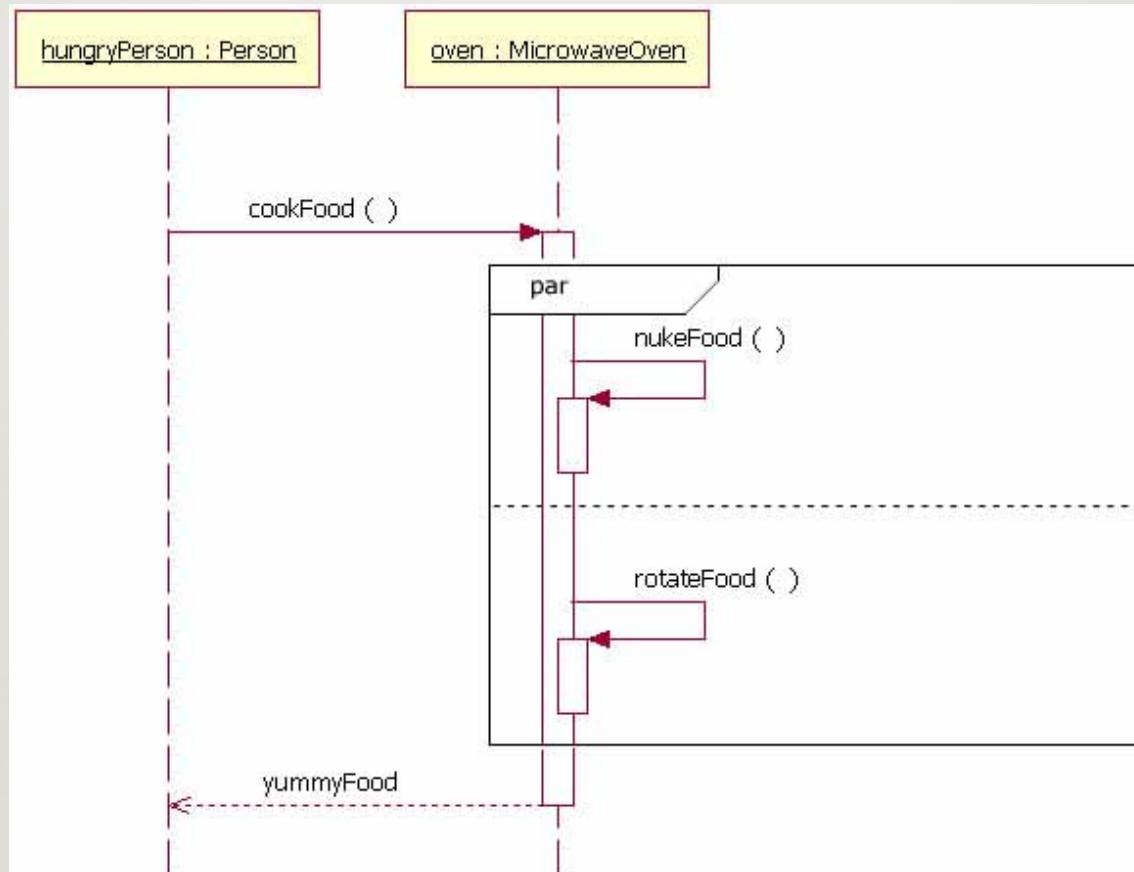
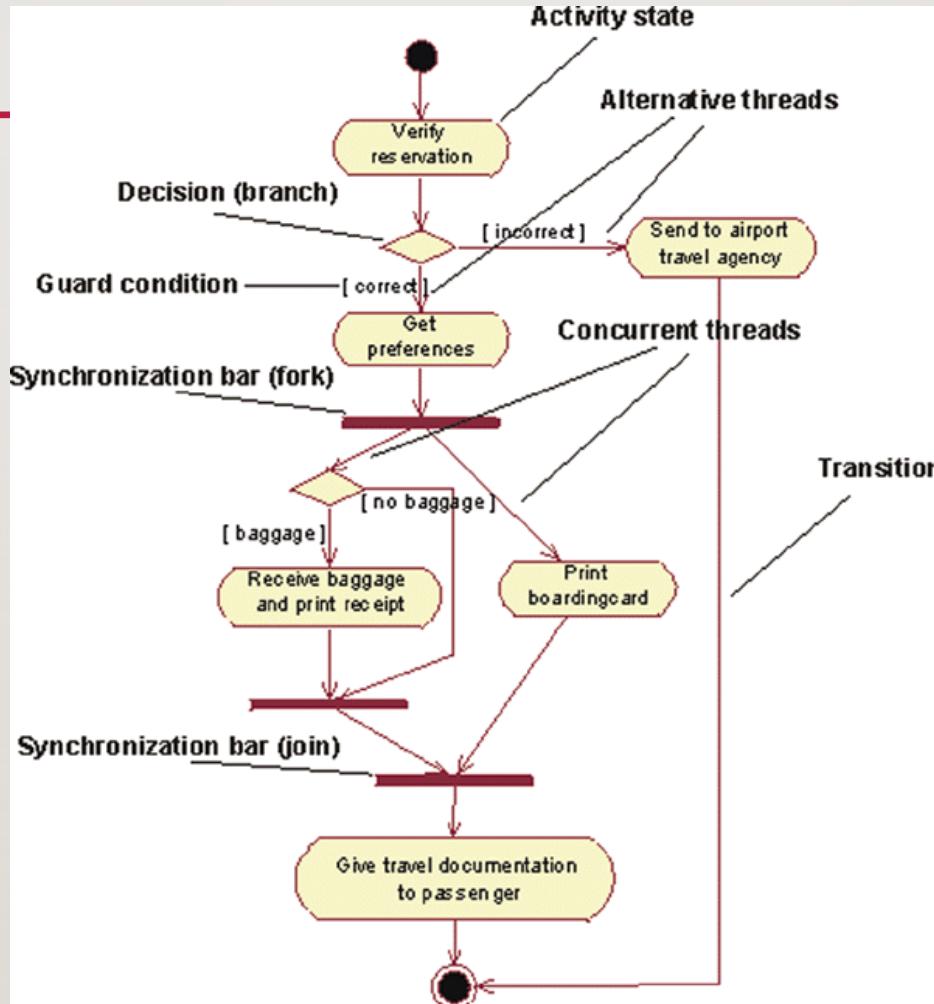


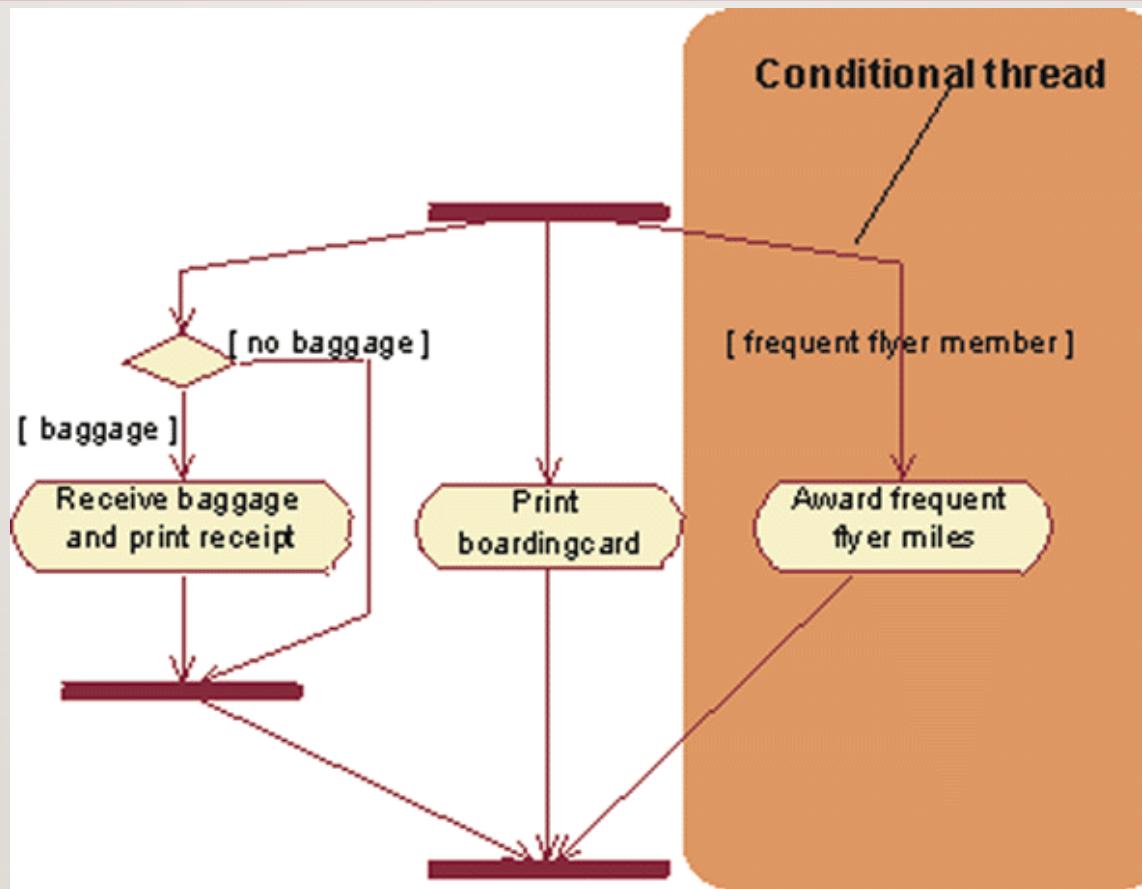
DIAGRAMA DE ATIVIDADES

- Fluxos de trabalho (workflow)
- Descrever um comportamento de caso de uso

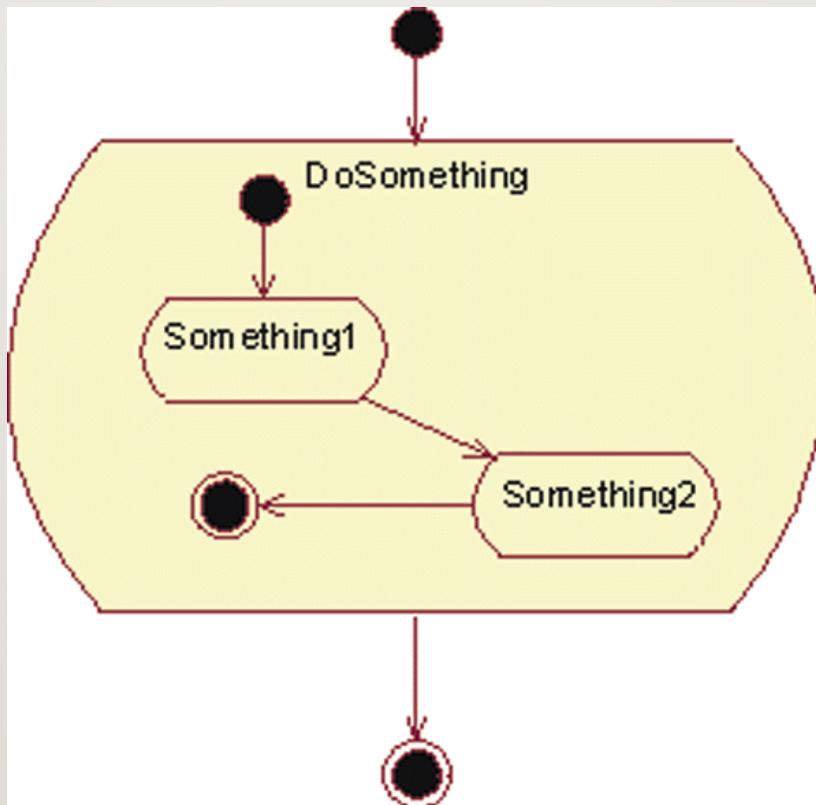
VISÃO GERAL



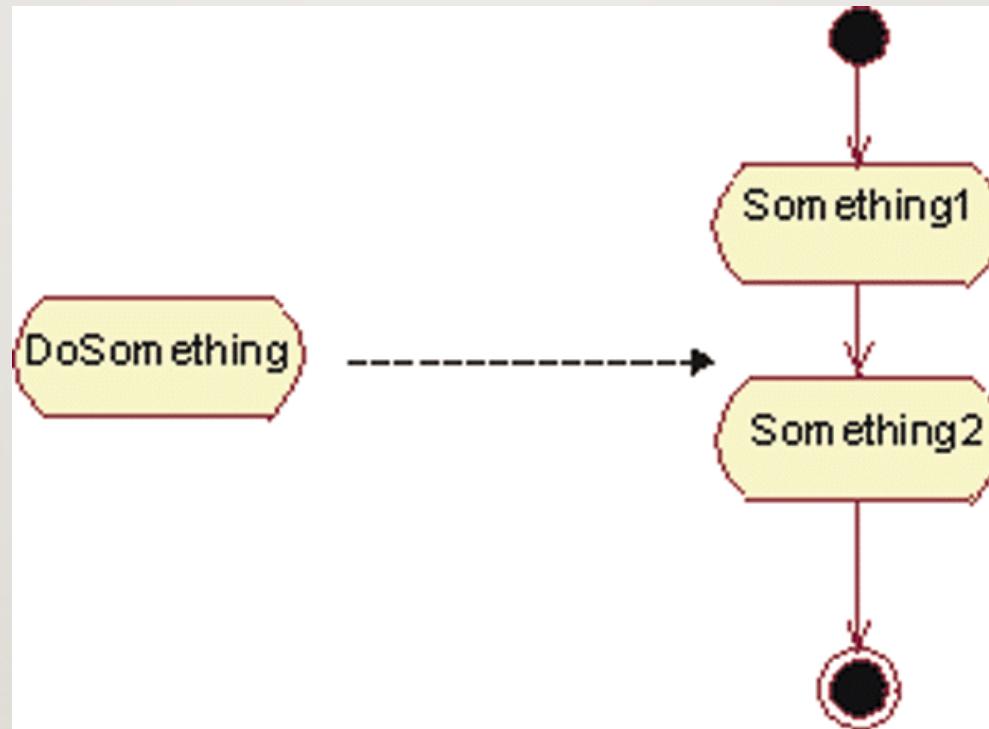
LINHA CONDICIONAL



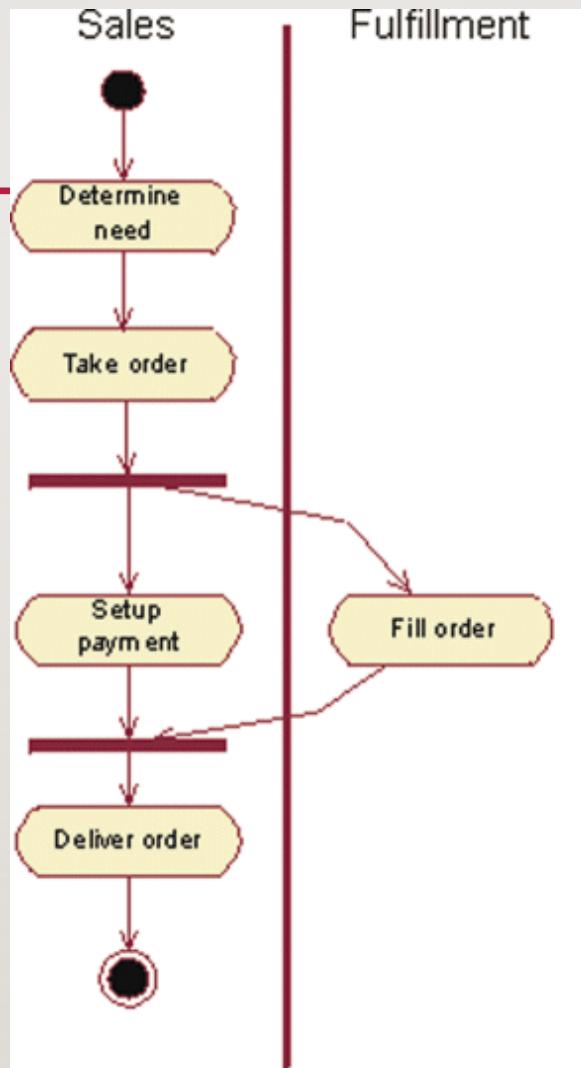
ATIVIDADE ANINHADA



ATIVIDADE ANINHADA



PARTIÇÕES



POSSÍVEL ORDEM DE DIAGRAMAÇÃO

- Caso de uso
- Atividades
- Classes
- Sequência