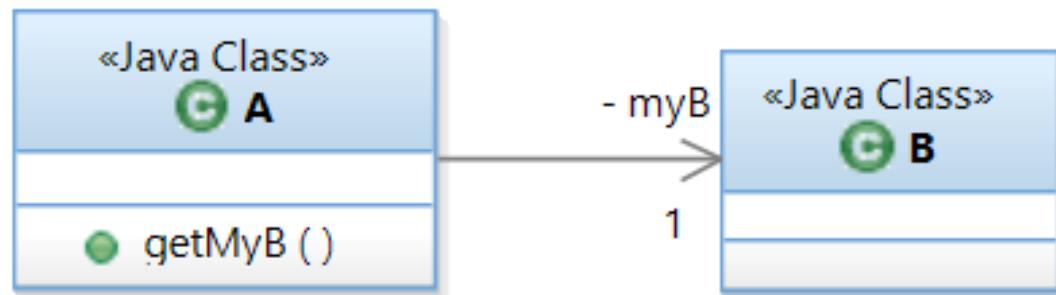
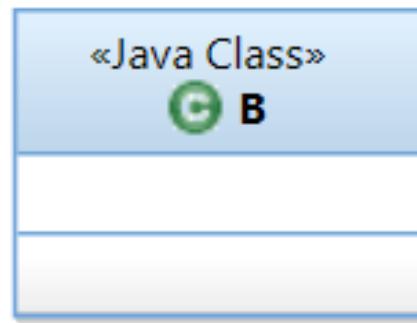
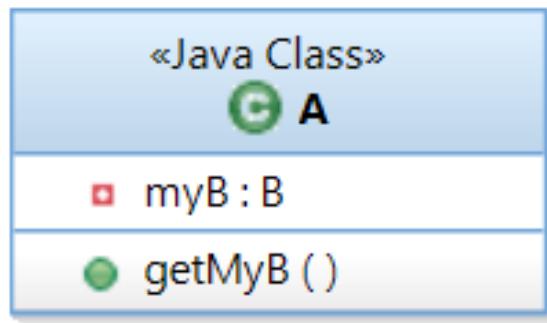


UML PARA PROGRAMADORES DE JAVA

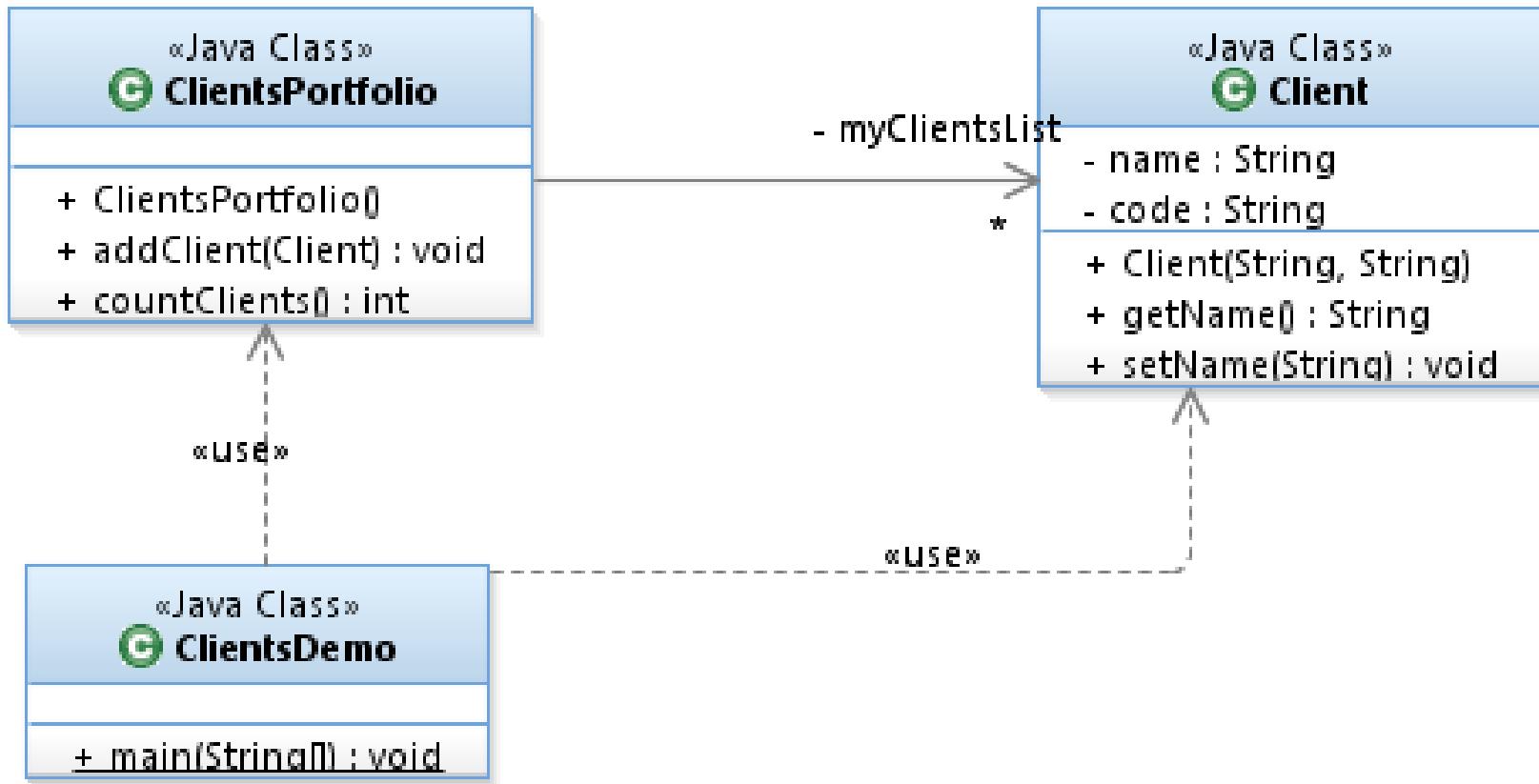
MODELAÇÃO E ANÁLISE DE SISTEMAS

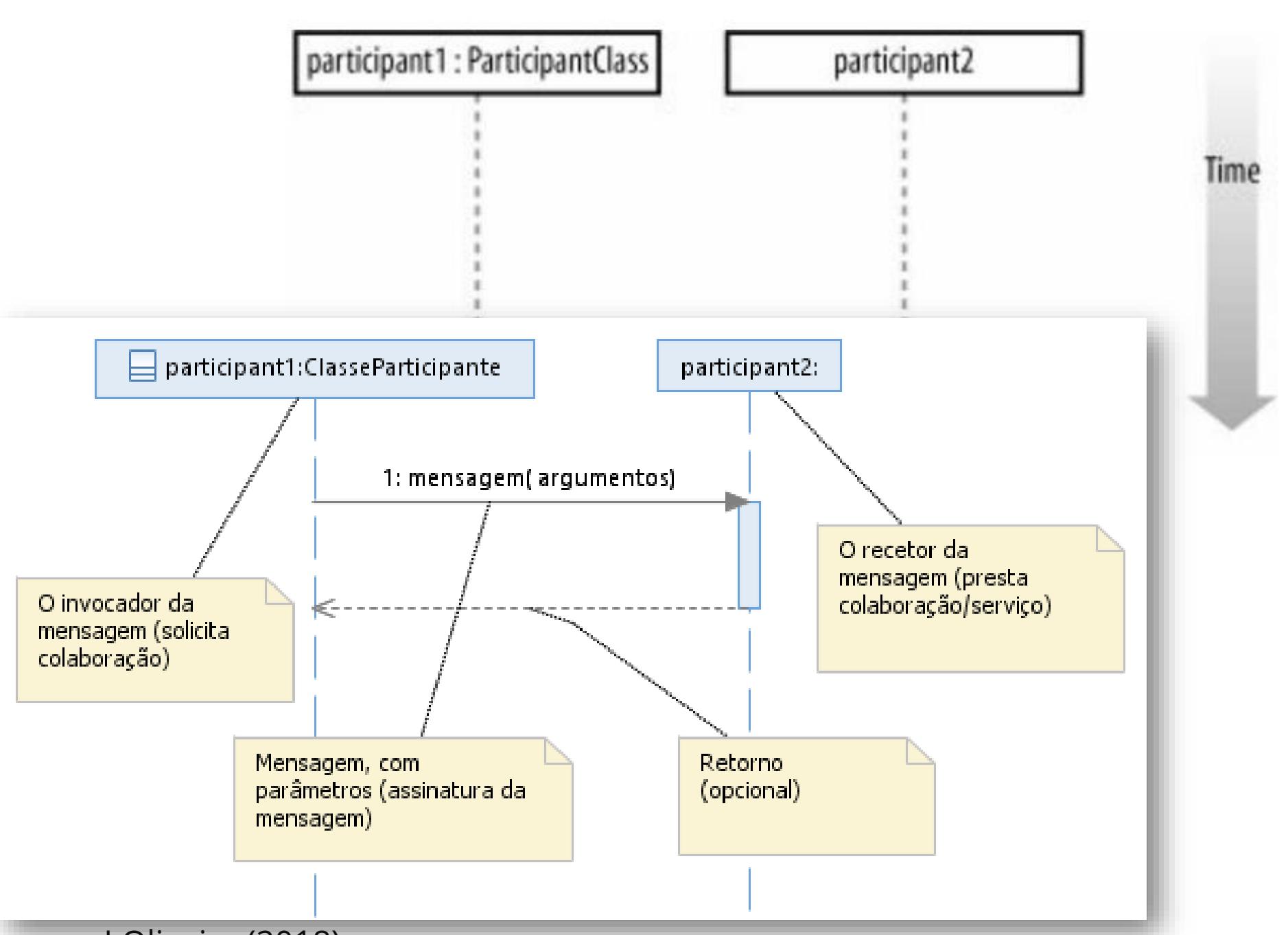
ILÍDIO OLIVEIRA ico@ua.pt
v2018-04-19

Visualização do código Java com classes

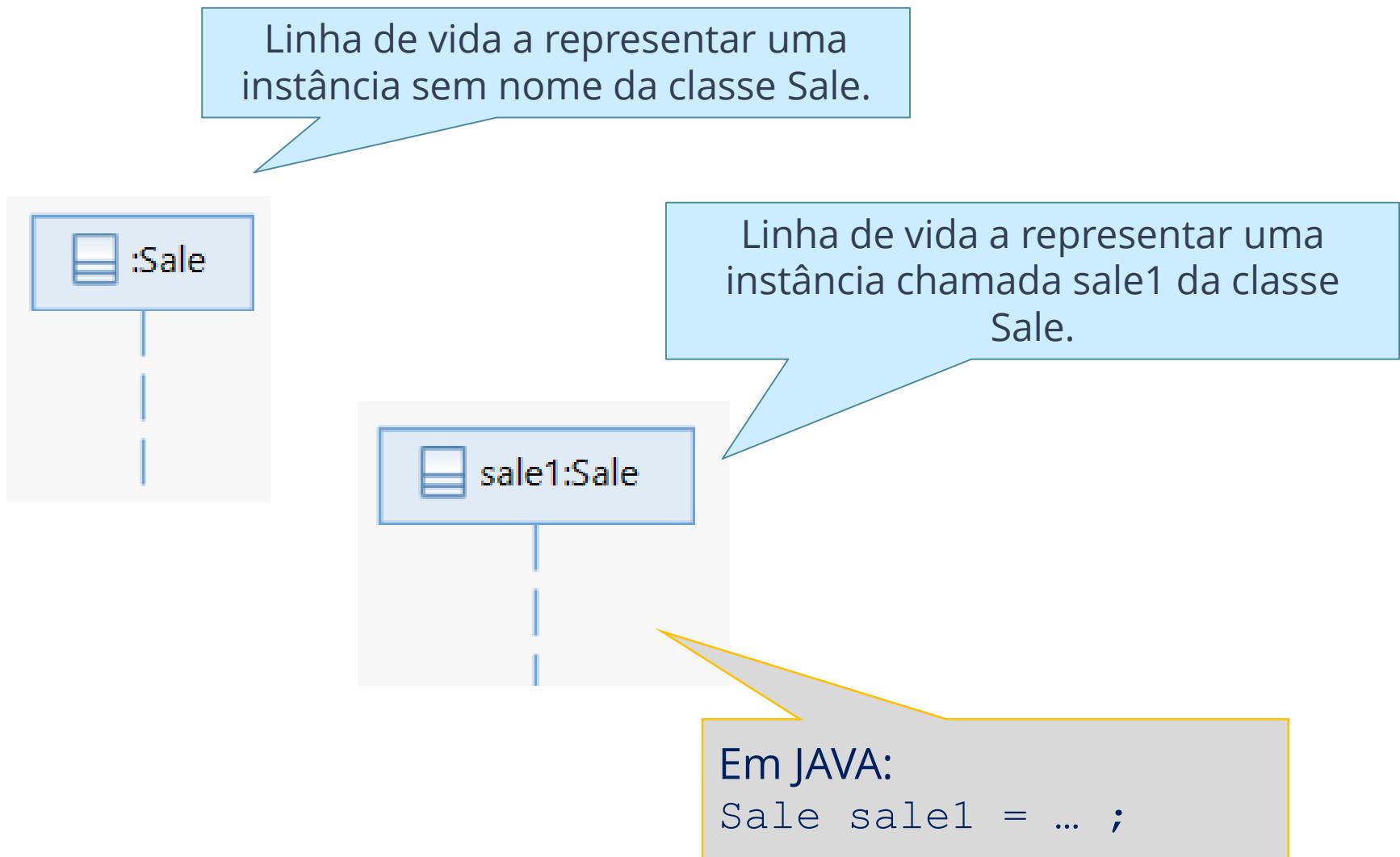


```
public class ClientsPortfolio {  
    private ArrayList<Client> myClientsList;  
  
    public ClientsPortfolio() {  
        myClientsList = new ArrayList<>();  
    }  
    public void addClient(Client newClient) {  
        this.myClientsList.add(newClient);  
    }  
    public int countClients() {  
        return this.myClientsList.size();  
    }  
}
```

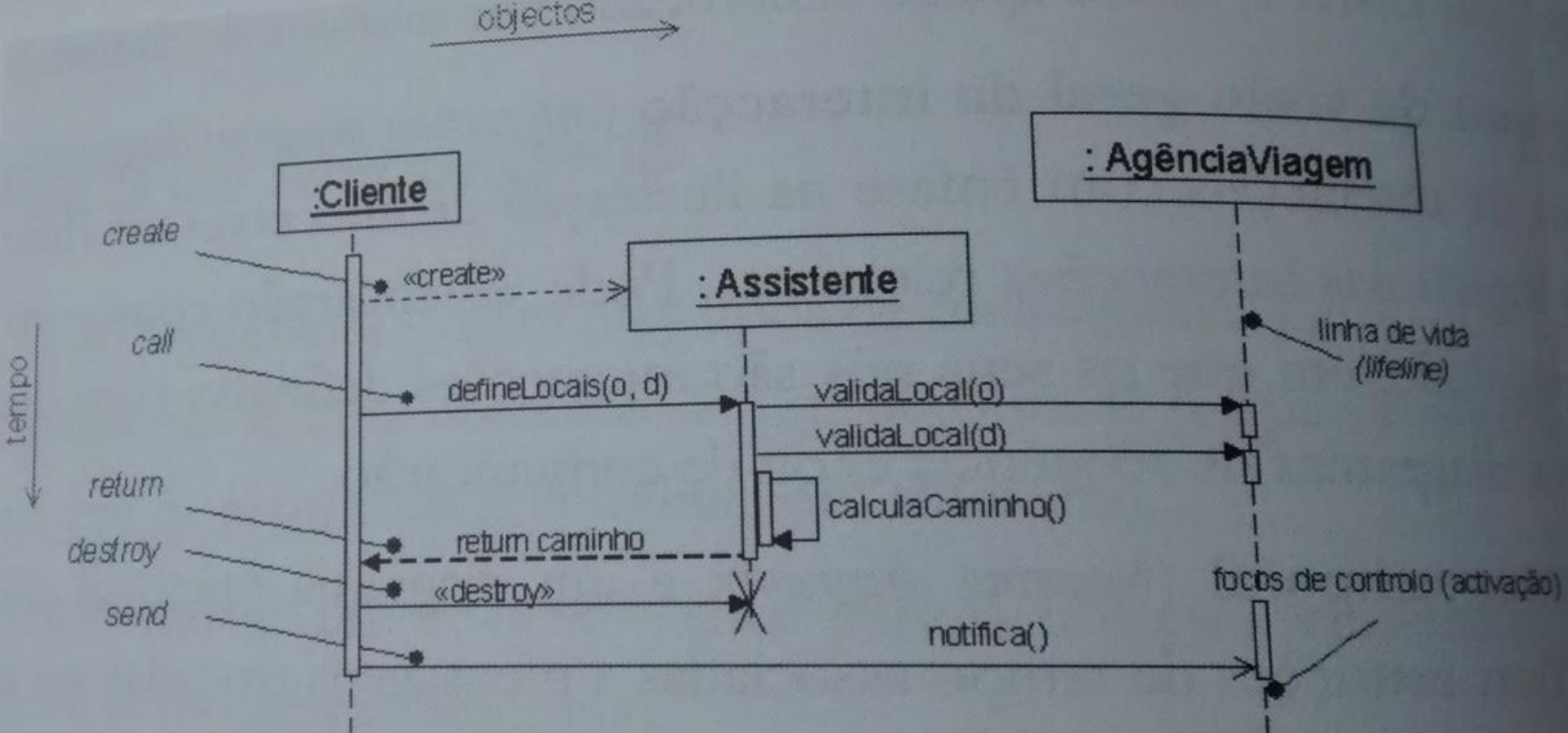




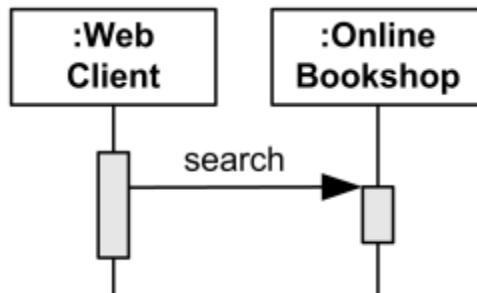
Aspectos notacionais dos DS



Colaboração entre objetos por mensagens (síncronas)

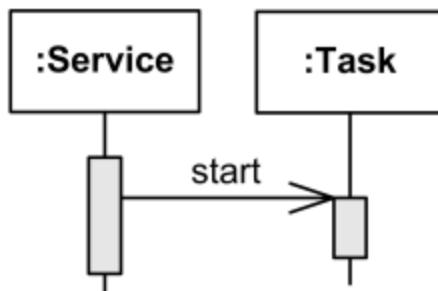


Semântica da invocação

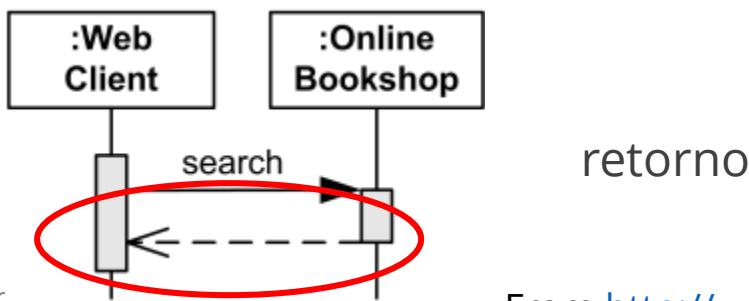


síncrona

...
Result=B.search();
...

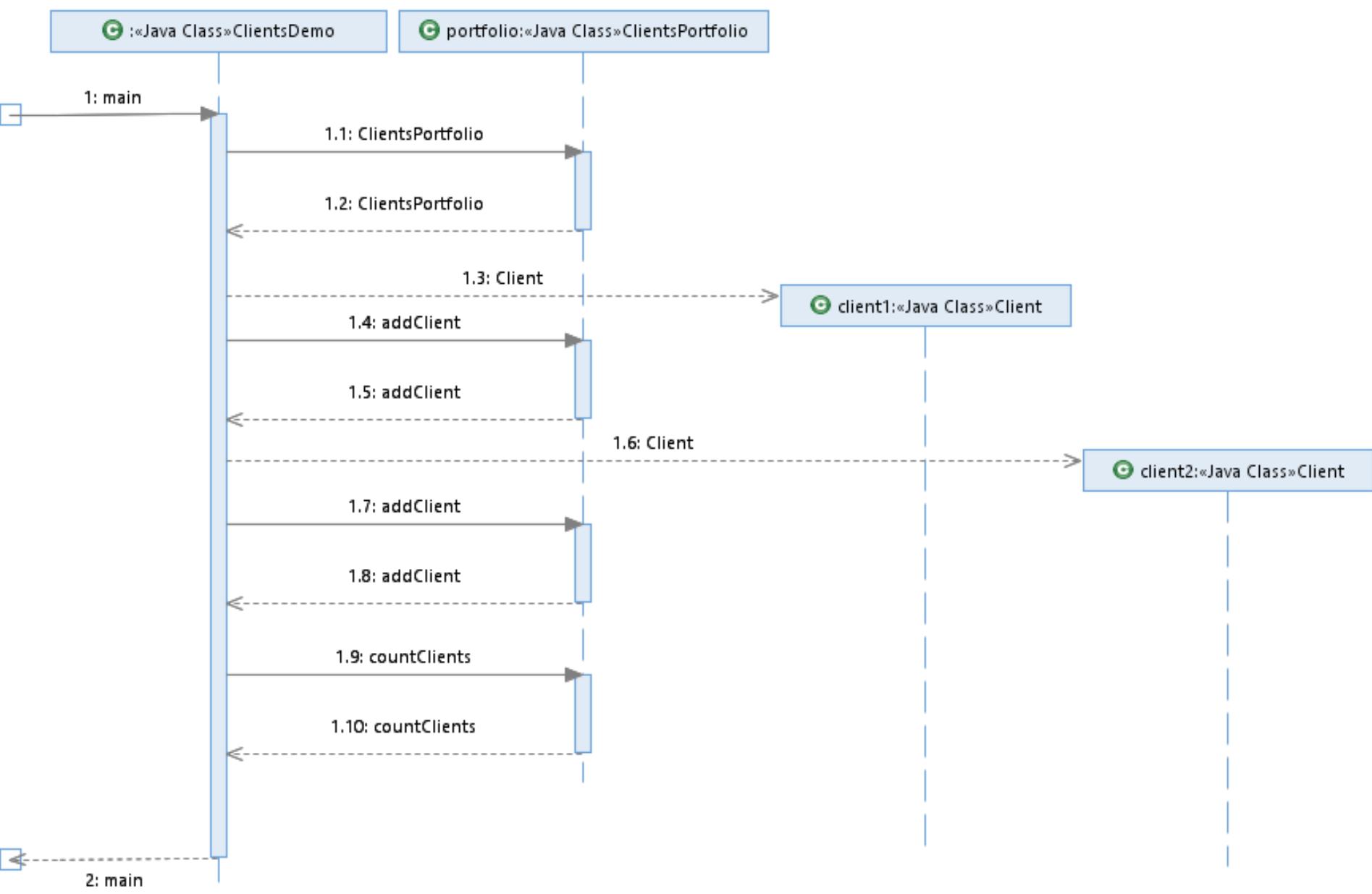


assíncrona



retorno

```
public class ClientsDemo {  
    public static void main(String[] args) {  
        ClientsPortfolio portfolio = new ClientsPortfolio();  
  
        Client client1= new Client( "C101", "Logistica  
Tartaruga");  
        portfolio.addClient( client1 );  
  
        Client client2 = new Client( "C104", "Jose, Maria &  
Jesus Lda");  
        portfolio.addClient( client2 );  
  
        System.out.println( "Clients count: " +  
portfolio.countClients() );  
    }  
}
```



O objetos Java colaboram para realizar objetivos

```
public class Encomenda {  
    private Cliente cliente;  
    private ArrayList<ItemDaEncomenda> listaItens;  
  
    private double getTotal() {  
        double total = 0.0;  
        Produto produto;  
        for (ItemDaEncomenda item : this.listaItens) {  
            produto = item.getProduto();  
            total += produto.getPrecoUnit() * item.getQuantidade()  
        }  
        total = total * (1 - this.cliente.getDesconto());  
        return total;  
    }  
}
```

Referências

[LAR'12] Larman, C. (2012). *Applying UML and Patterns: An Introduction to Object Oriented Analysis and Design and Iterative Development*. Pearson Education.

→ chap. 10, chap. 15.