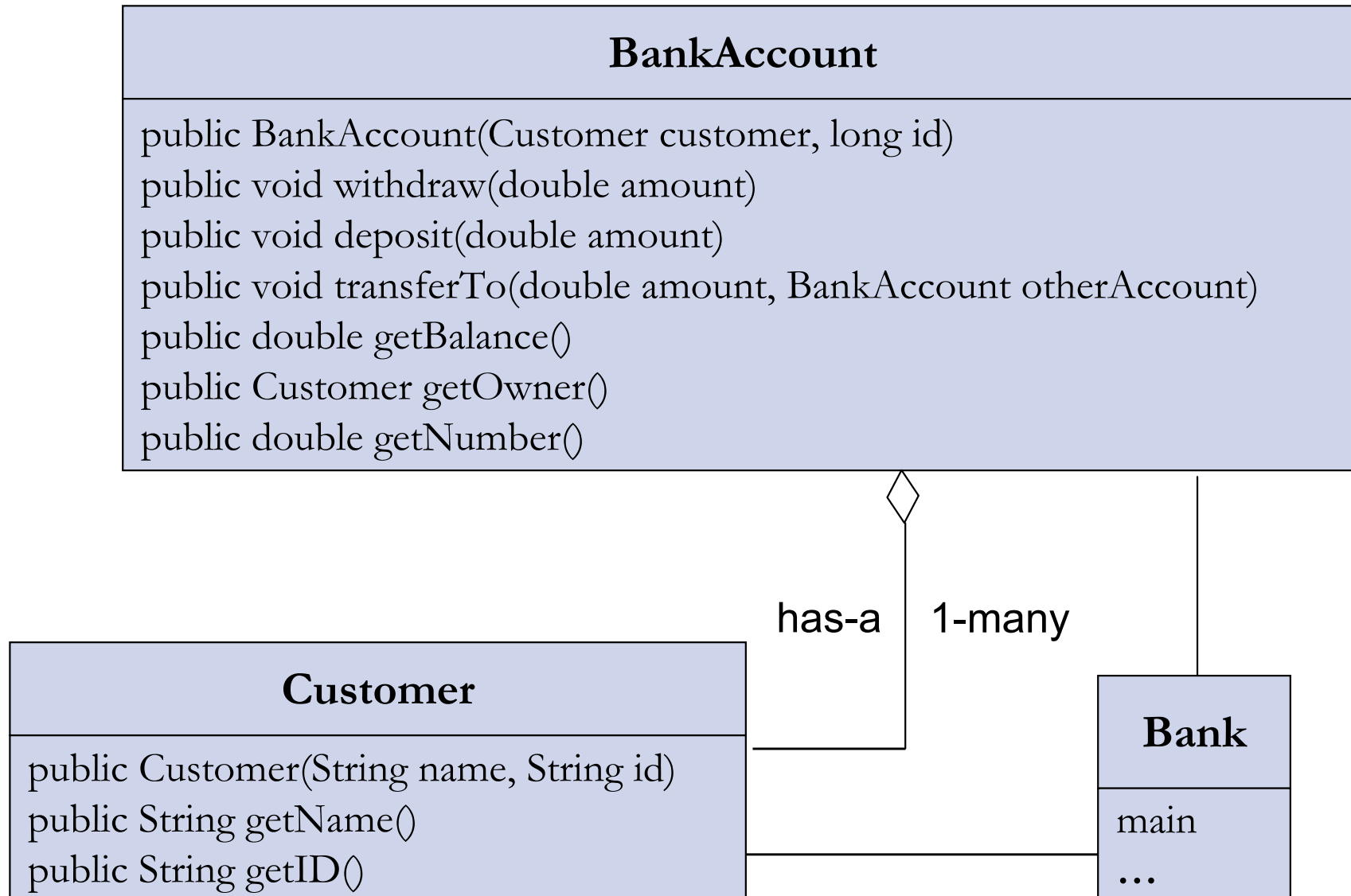


תוכנה 1

תרגול 5: מחלקות ועצמים (חלק ב')
ליאור שפירא ואוהד ברזילי

Class Diagram



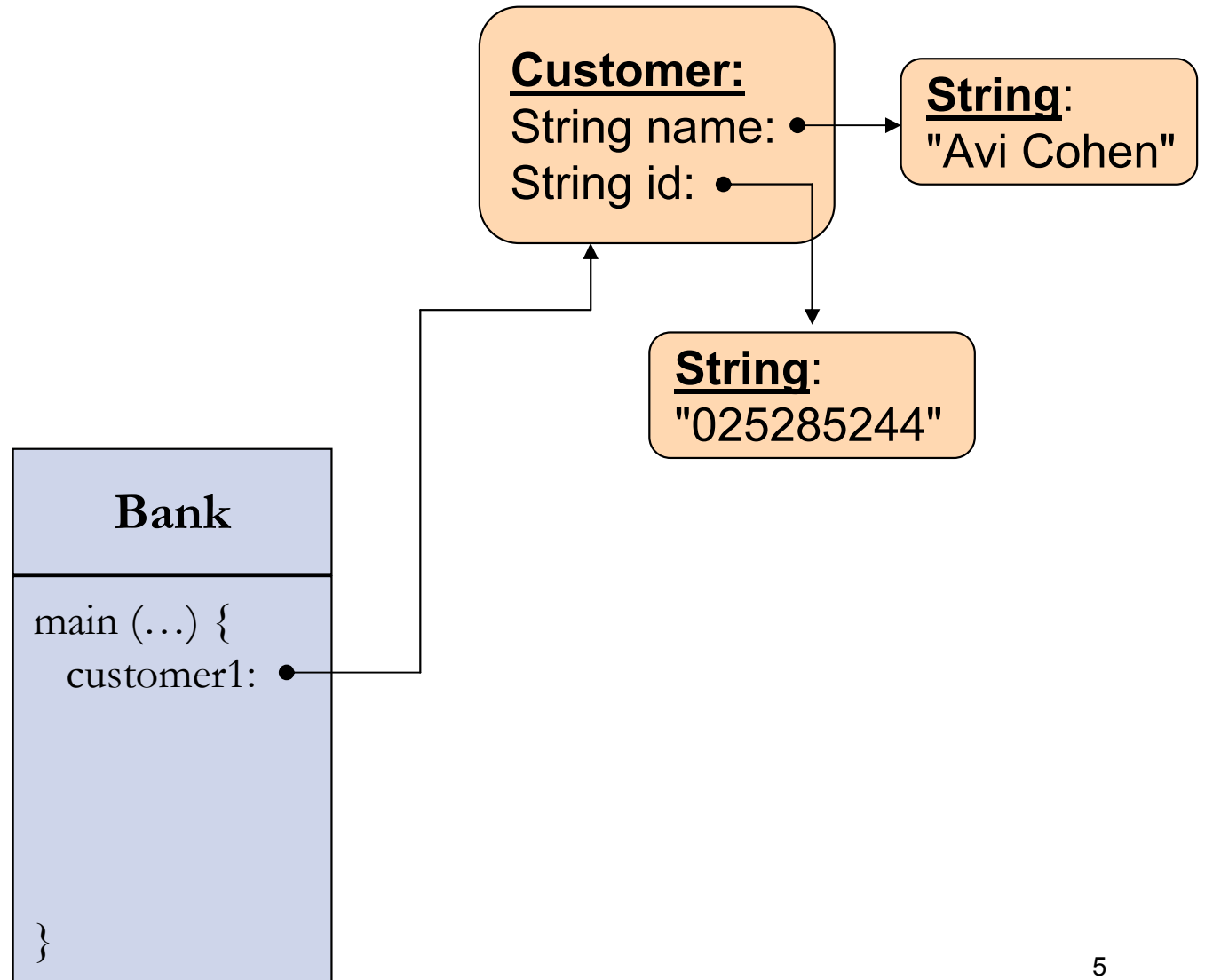
The Customer Class

```
public class Customer {  
    public Customer(String name, String id) {  
        this.name = name;  
        this.id = id;  
    }  
  
    public String getName() {  
        return name;  
    }  
  
    public String getID() {  
        return id;  
    }  
  
    private String name;  
    private String id;  
}
```

Toy Bank Program

```
public class Bank {  
    public static void main(String[] args) {  
        → Customer customer1 = new Customer("Avi Cohen", "025285244");  
        Customer customer2 = new Customer("Rita Stein", "024847638");  
  
        BankAccount account1 = new BankAccount(customer1, 1234);  
        BankAccount account2 = new BankAccount(customer2, 5678);  
        BankAccount account3 = new BankAccount(customer2, 2984);  
  
        account1.deposit(1000);  
        account2.deposit(500);  
        account1.transferTo(100, account3);  
        account2.withdraw(300);  
  
        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```

Object Diagram



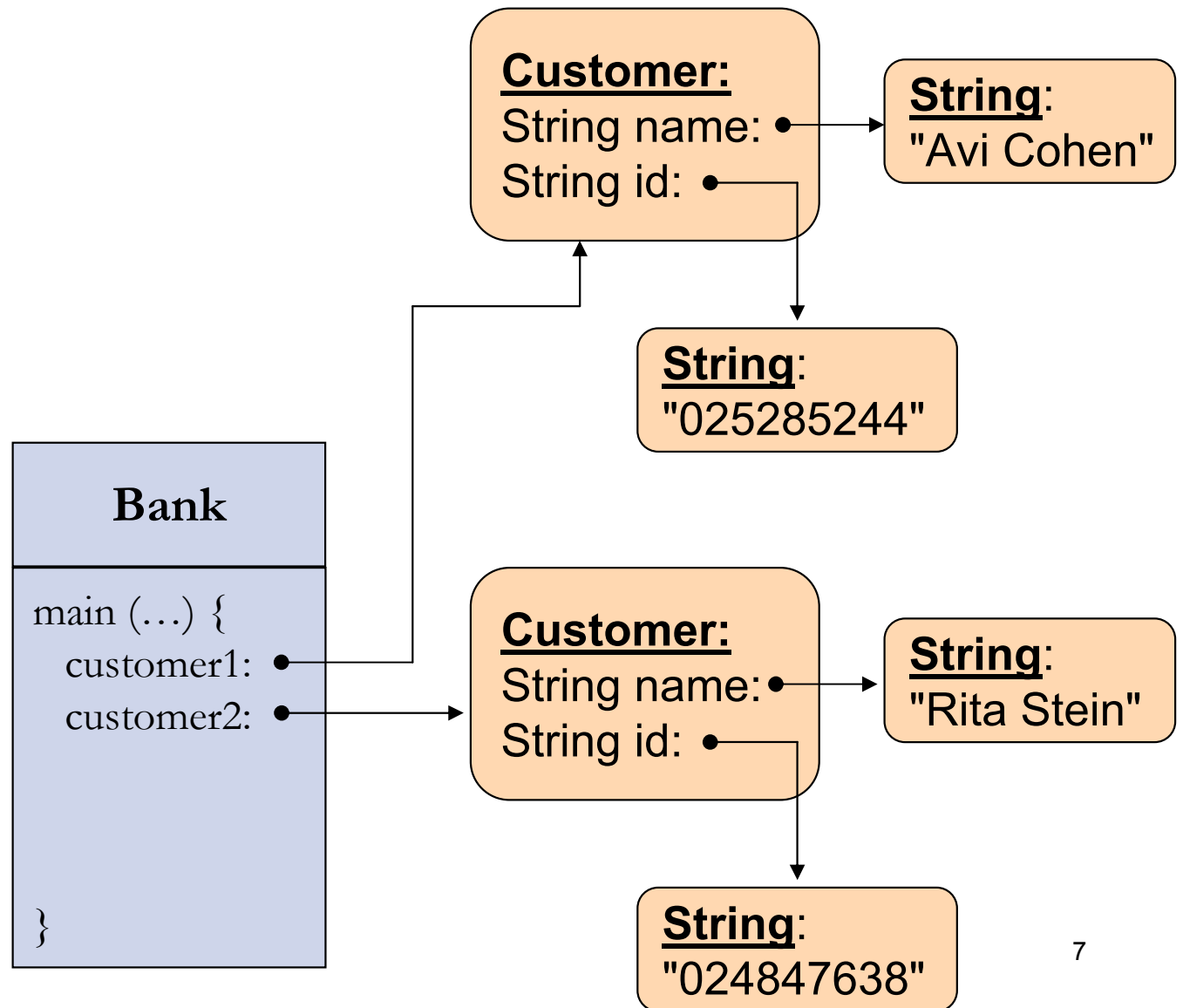
Toy Bank Program

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public class Bank {
    public static void main(String[] args) {
        Customer customer1 = new Customer("Avi Cohen", "025285244");
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        account2.deposit(500);
        account1.transferTo(100, account3);
        account2.withdraw(300);

        System.out.println("account1 has " + account1.getBalance());
        System.out.println("account2 has " + account2.getBalance());
    }
}
```

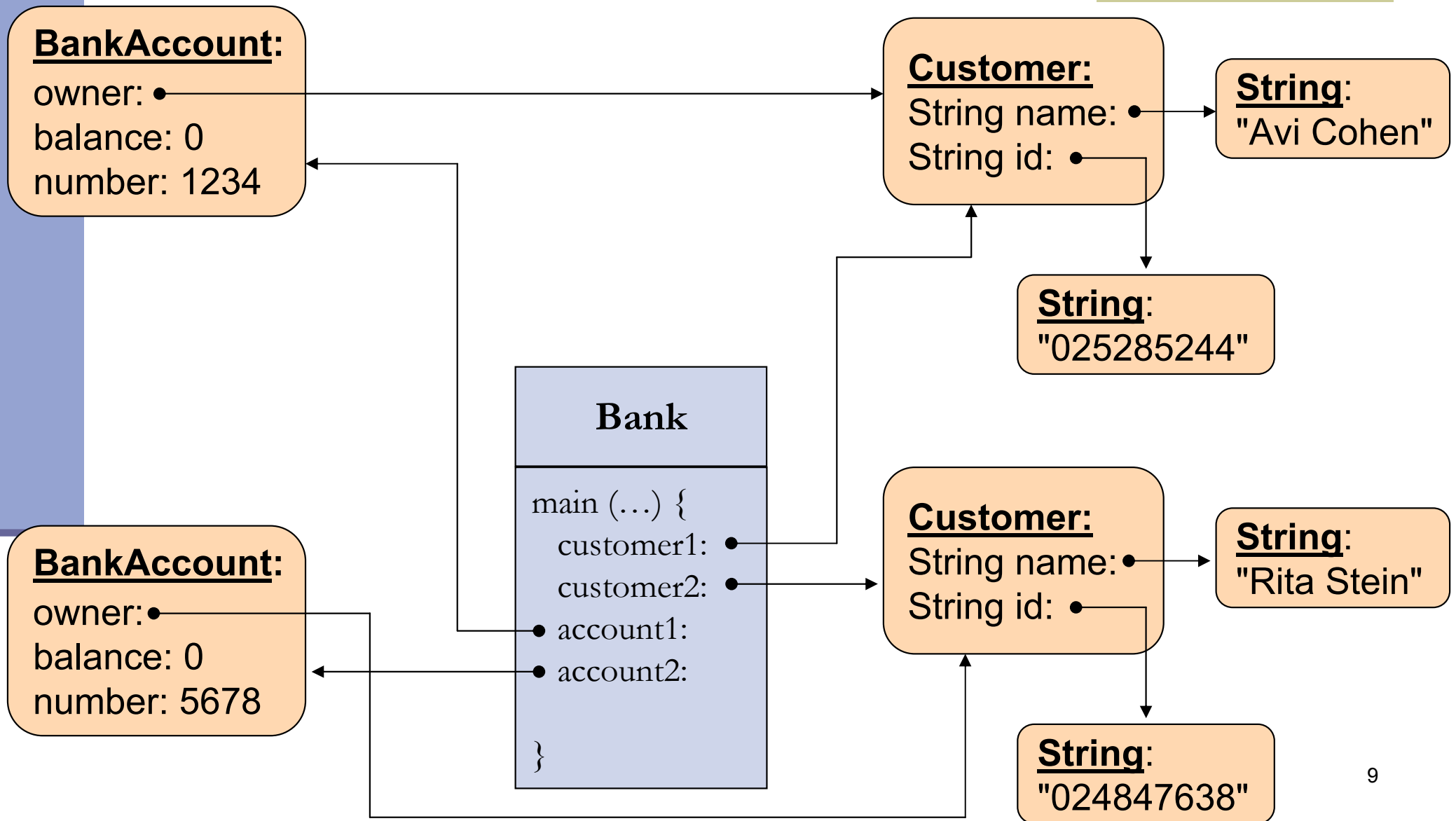
Object Diagram



Toy Bank Program

```
public class Bank {  
    public static void main(String[] args) {  
        Customer customer1 = new Customer("Avi Cohen", "025285244");  
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        account2.withdraw(300);  
  
        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```

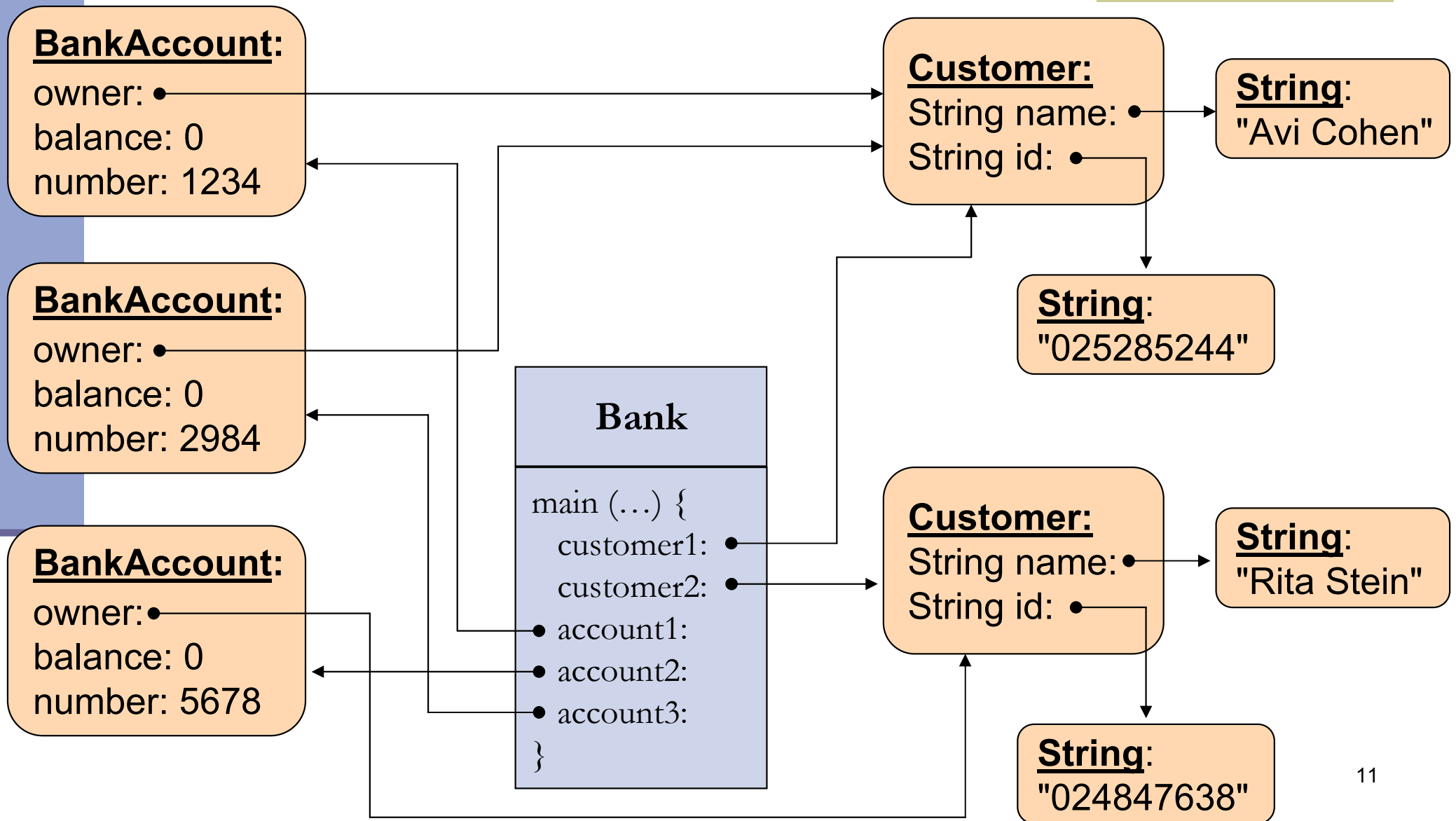

Object Diagram



Toy Bank Program

```
public class Bank {  
    public static void main(String[] args) {  
        Customer customer1 = new Customer("Avi Cohen", "025285244");  
        Customer customer2 = new Customer("Rita Stein", "024847638");  
  
        BankAccount account1 = new BankAccount(customer1, 1234);  
        BankAccount account2 = new BankAccount(customer2, 5678);  
        → BankAccount account3 = new BankAccount(customer1, 2984);  
  
        account1.deposit(1000);  
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        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```

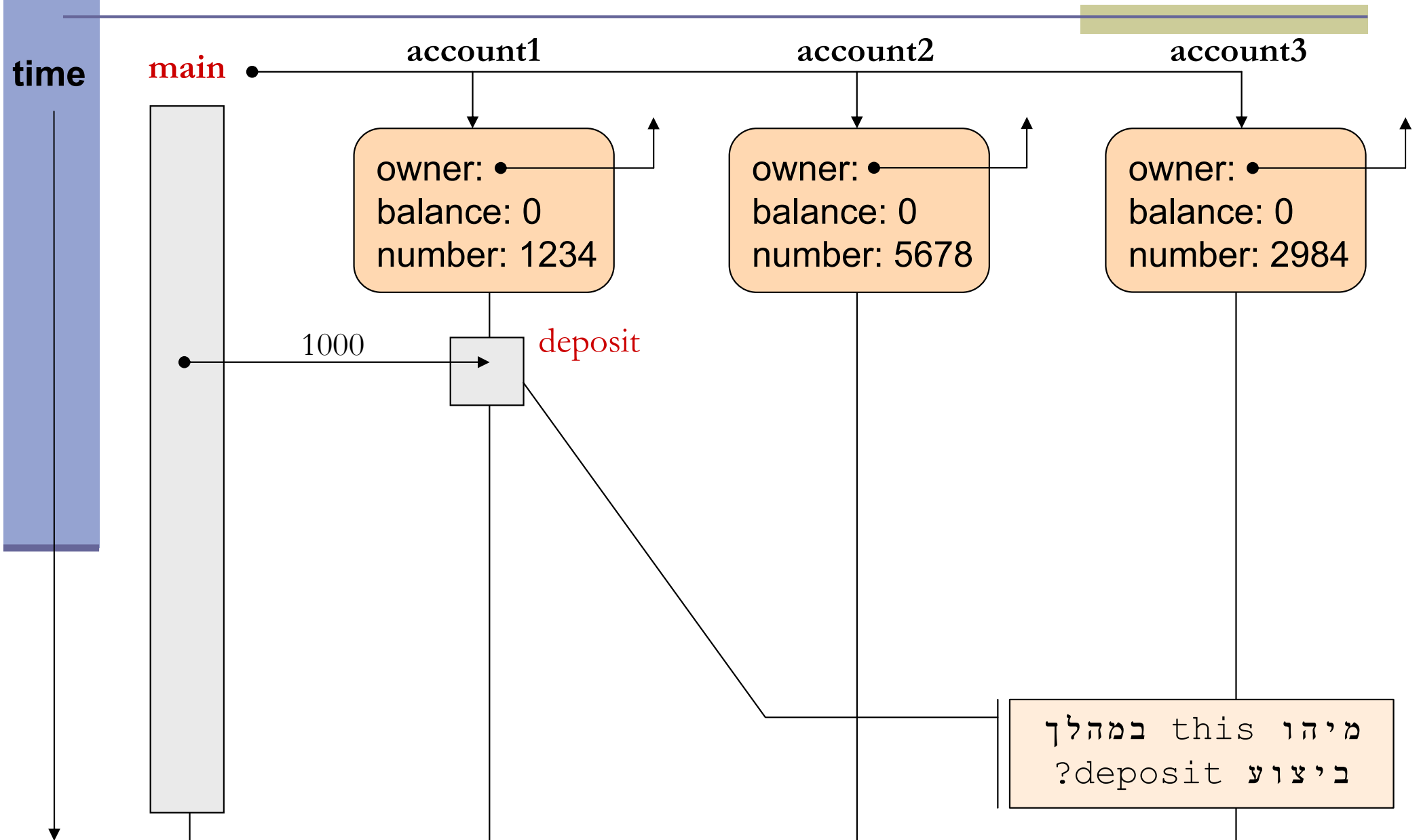
Object Diagram



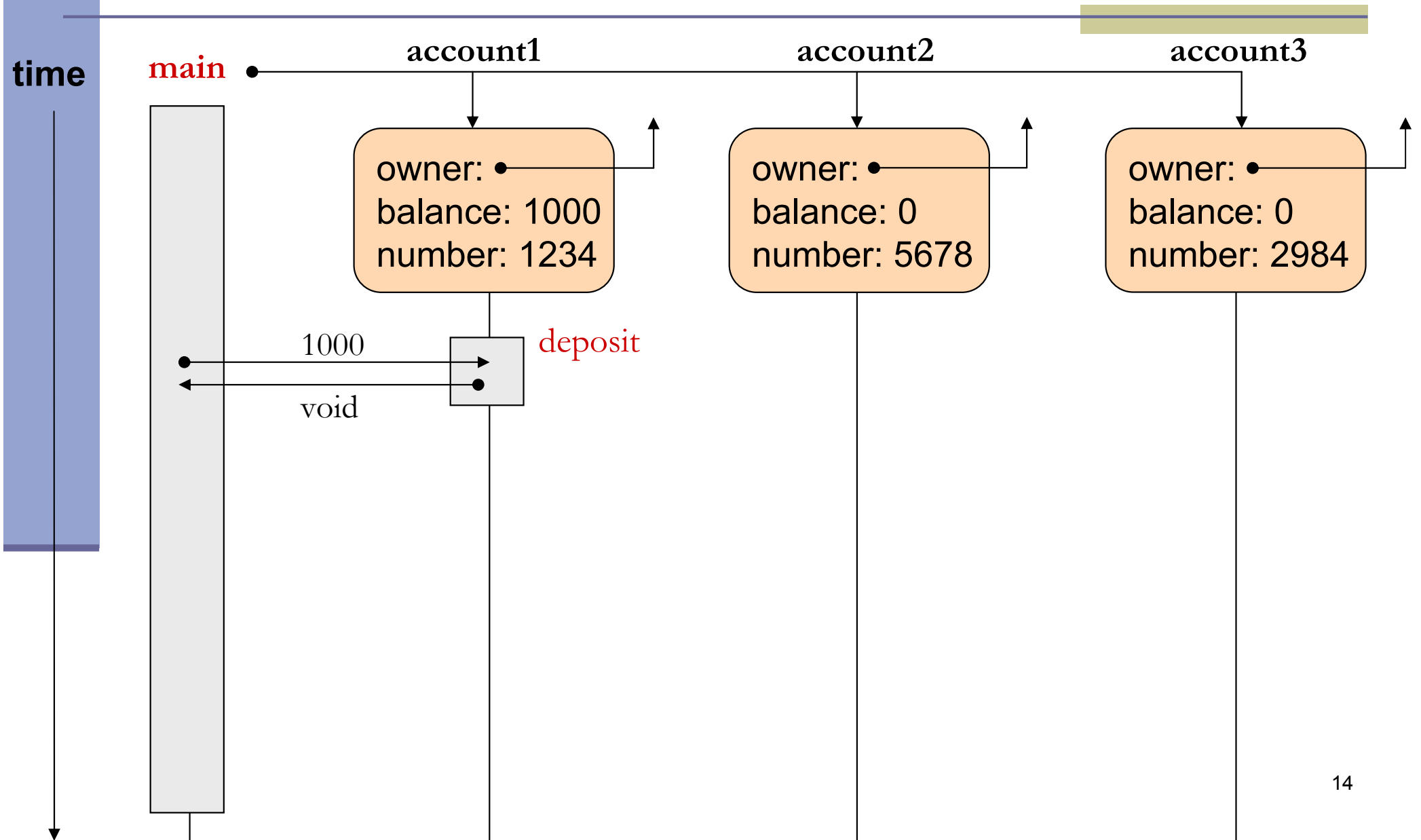
Message Sequence Chart

```
public class Bank {  
    public static void main(String[] args) {  
        Customer customer1 = new Customer("Avi Cohen", "025285244");  
        Customer customer2 = new Customer("Rita Stein", "024847638");  
  
        BankAccount account1 = new BankAccount(customer1, 1234);  
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        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```

Message Sequence Chart



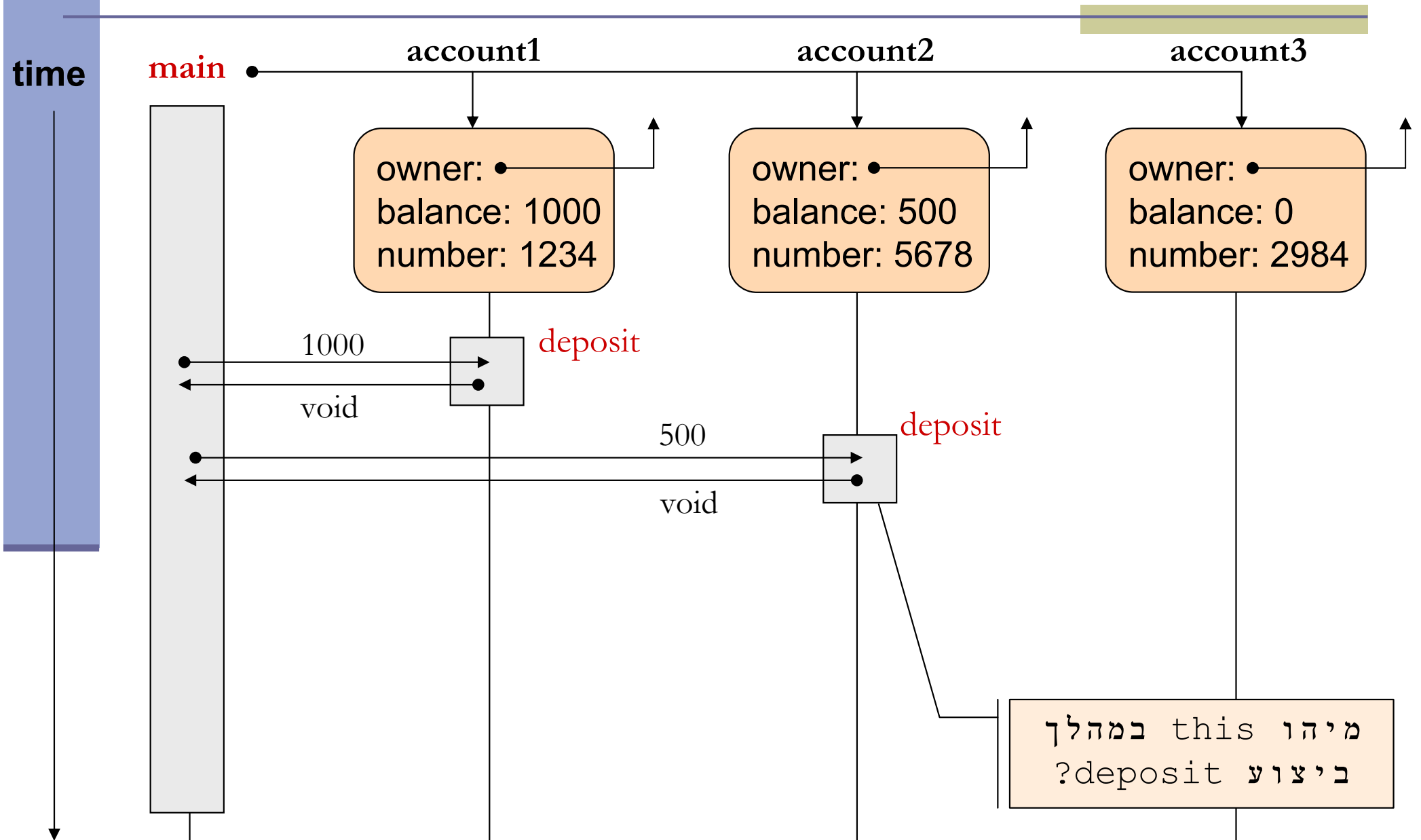
Message Sequence Chart



Message Sequence Chart

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    public static void main(String[] args) {  
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        account1.deposit(1000);  
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        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```

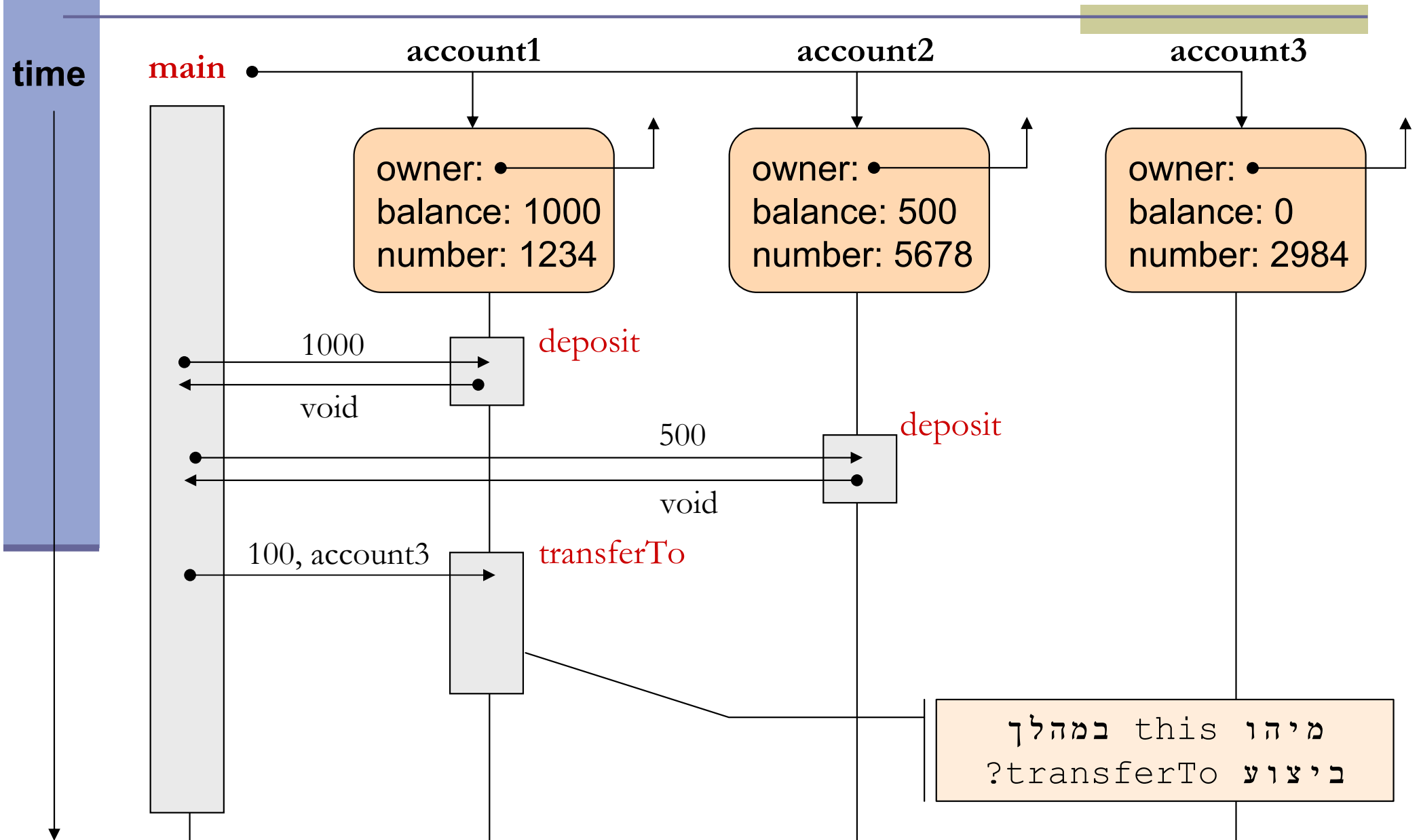
Message Sequence Chart



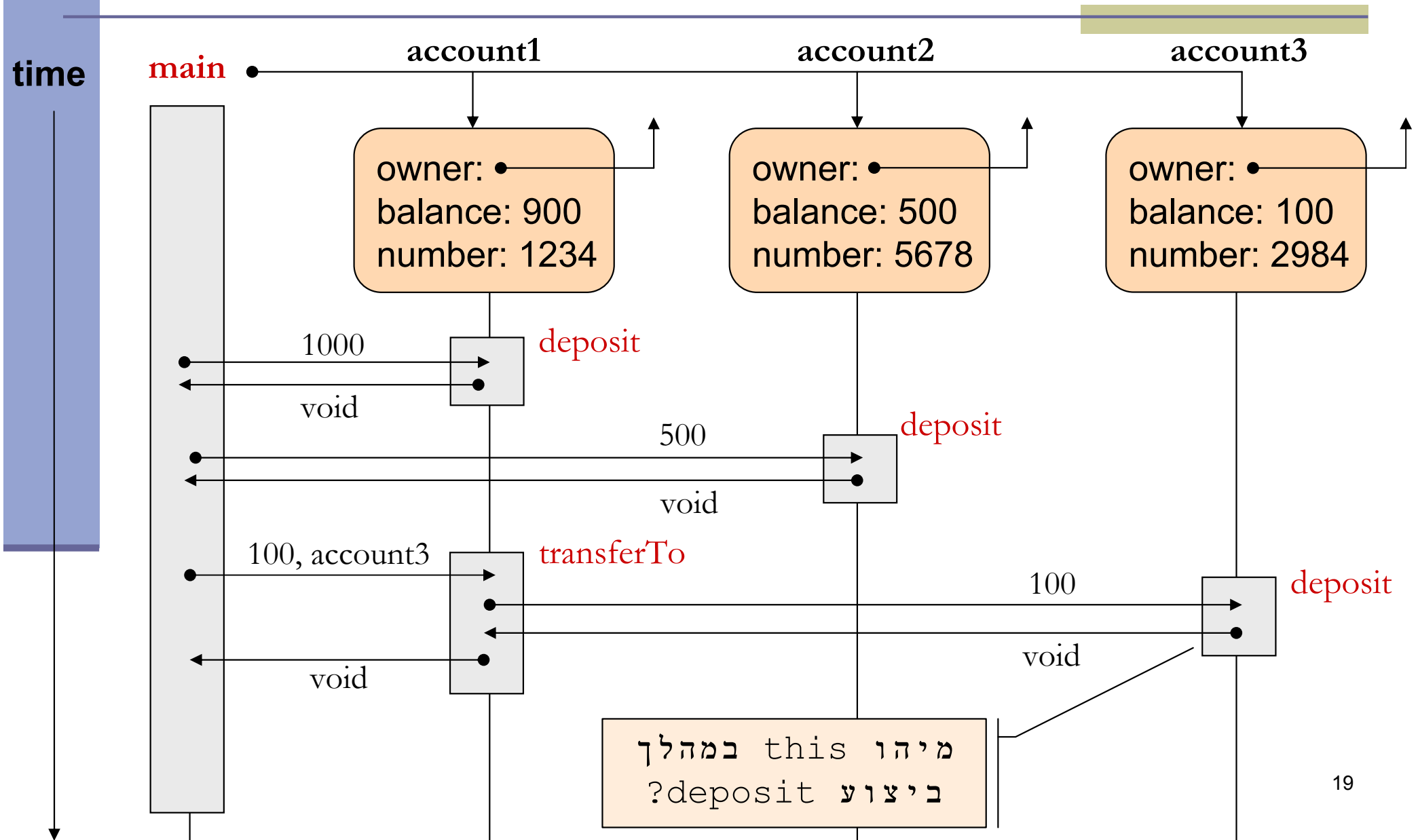
Message Sequence Chart

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public class Bank {  
    public static void main(String[] args) {  
        Customer customer1 = new Customer("Avi Cohen", "025285244");  
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        BankAccount account1 = new BankAccount(customer1, 1234);  
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        account1.deposit(1000);  
        account2.deposit(500);  
        → account1.transferTo(100, account3);  
        account2.withdraw(300);  
  
        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```

Message Sequence Chart



Message Sequence Chart

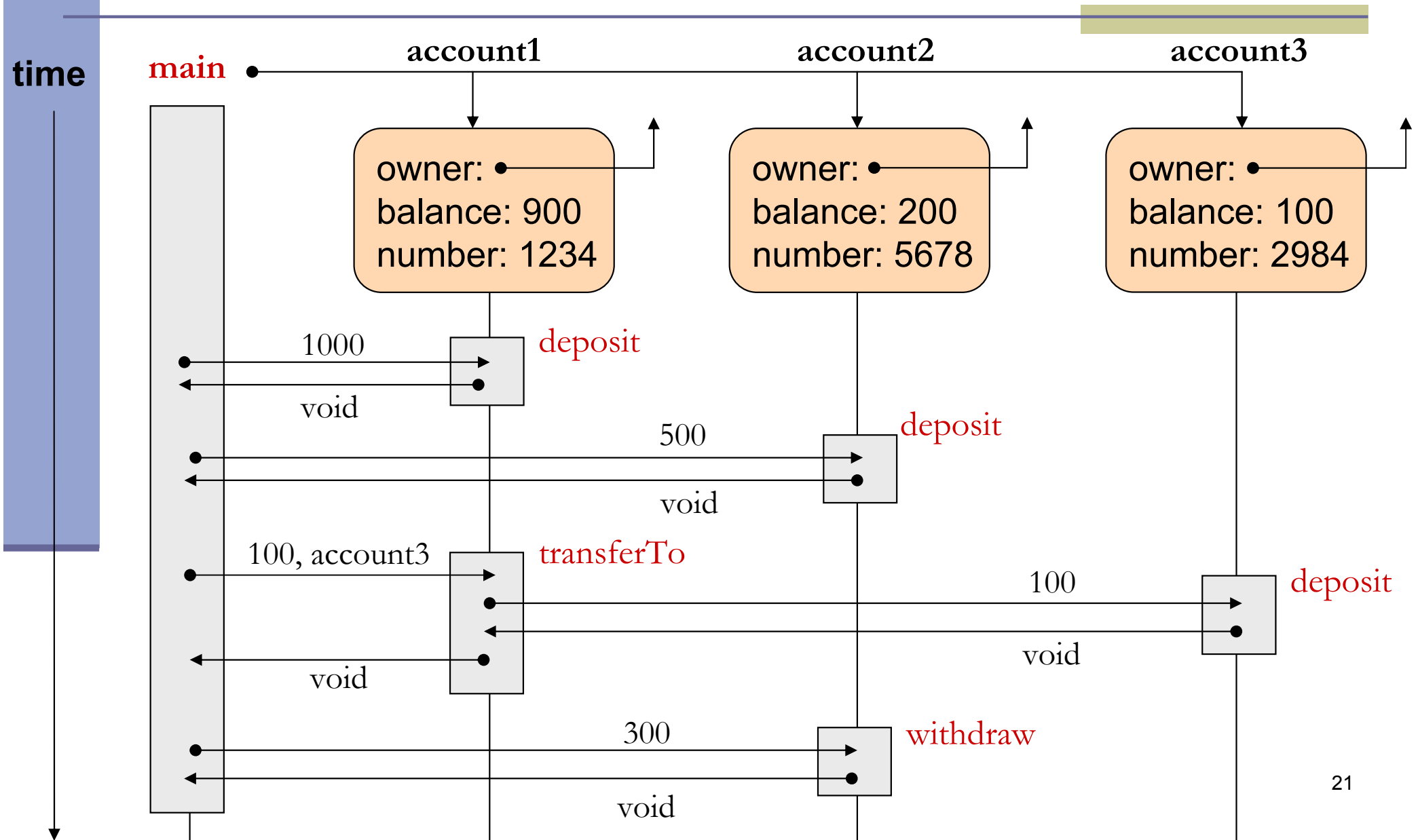


Message Sequence Chart

```
public class Bank {  
    public static void main(String[] args) {  
        Customer customer1 = new Customer("Avi Cohen", "025285244");  
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        BankAccount account1 = new BankAccount(customer1, 1234);  
        BankAccount account2 = new BankAccount(customer2, 5678);  
        BankAccount account3 = new BankAccount(customer2, 2984);  
  
        account1.deposit(1000);  
        account2.deposit(500);  
        account1.transferTo(100, account3);  
        account2.withdraw(300);  
  
        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```



Message Sequence Chart



Output

```
public class Bank {  
    public static void main(String[] args) {  
        Customer customer1 = new Customer("Avi Cohen", "025285244");  
        Customer customer2 = new Customer("Rita Stein", "024847638");  
  
        BankAccount account1 = new BankAccount(customer1, 1234);  
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        BankAccount account3 = new BankAccount(customer2, 2984);  
  
        account1.deposit(1000);  
        account2.deposit(500);  
        account1.transferTo(100, account3);  
        account2.withdraw(300);  
  
        System.out.println("account1 has " + account1.getBalance());  
        System.out.println("account2 has " + account2.getBalance());  
    }  
}
```

output: account1 has 900.0
account2 has 200.0