Alternatively, we could do this by using a constructor, which is an operation that creates a new object of a class.

4 The system is required to record what the customer has paid, both in hire charges and as a deposit. The system must also print out a receipt, sometimes for more than one bike. These are both the responsibility of the Payment class. We need an operation on Payment, calcTotalPayment(), which will add up all the hire fees and put them in the Payment attribute totalAmountPaid, and add up all the deposits due and put them all in totalDepositPaid. We also need an operation issueReceipt() that will print out a receipt in the required format. If we want to print the customer's name and address on the receipt, we need to retrieve these from the relevant Customer object.

5 Requirement R4 (see Figure 5.2) states that we must record the details of a hire transaction including the start date and estimated duration. This is not part of the user's view of the system, so is not mentioned in the use case description. However, it should be done at an appropriate point in the proceedings. It is the responsibility of the Hire class to record these details; we need an operation to create a new Hire object and record the details. This could be done by a constructor Hire() with the parameters startDate, no.Days.

By working through the responsibilities identified from the CRC cards, we have identified the operations needed to fulfil the functionality of the 'Issue bike' use case and allocated them to the appropriate classes.

At this stage, the classes and operations are as follows. We have added constructors for all of the classes.

Bike	findBike(bike#)
	getCharges(no.Days)
	Bike()
Customer	recordDetails(custID, name, address, tel)
	Customer()
Payment	calcTotalPayment()
	issueReceipt()
	Payment()
Hire	Hire(startDate, no.Days)

We now need to work through all the other use cases in the same way to identify all the operations required to fulfil the functionality of the system and then add these to the class diagram that we drew in Chapter 5 (see Figure 5.15). The class diagram with all the attributes and operations is shown in Figure 6.6.