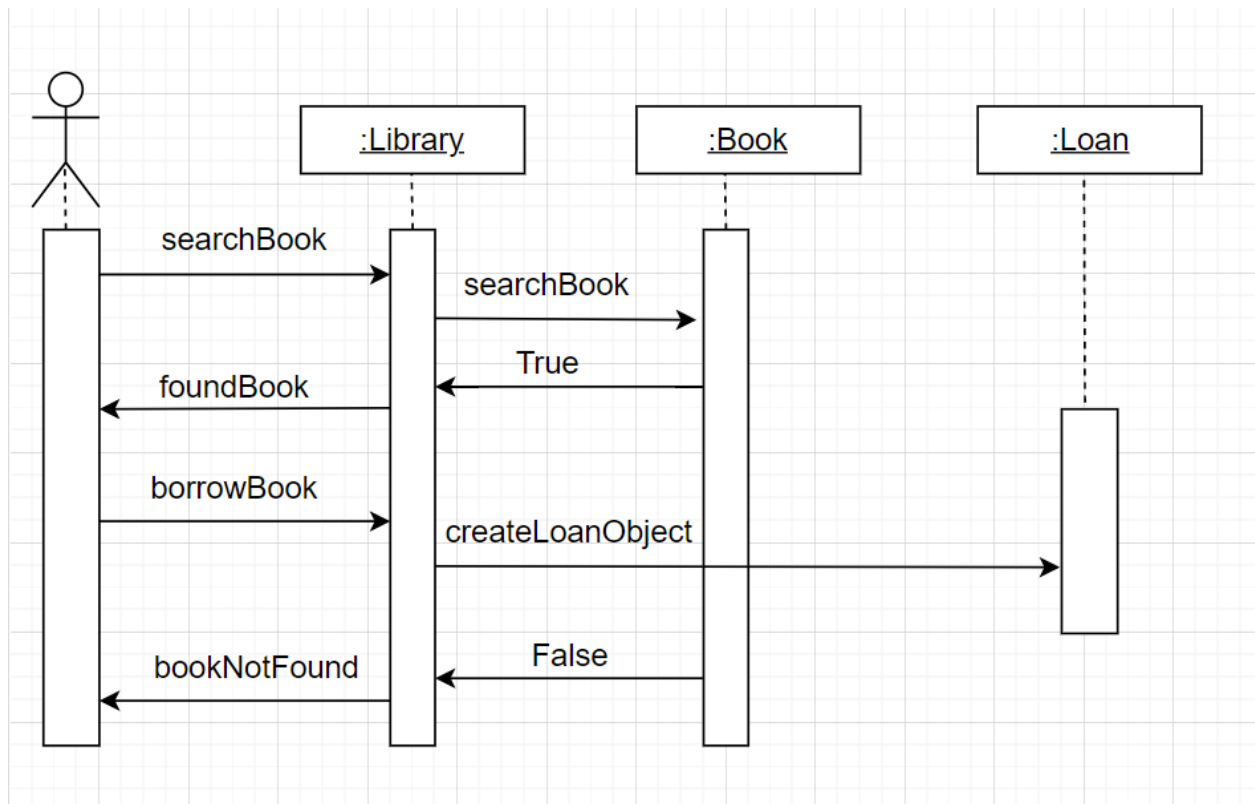
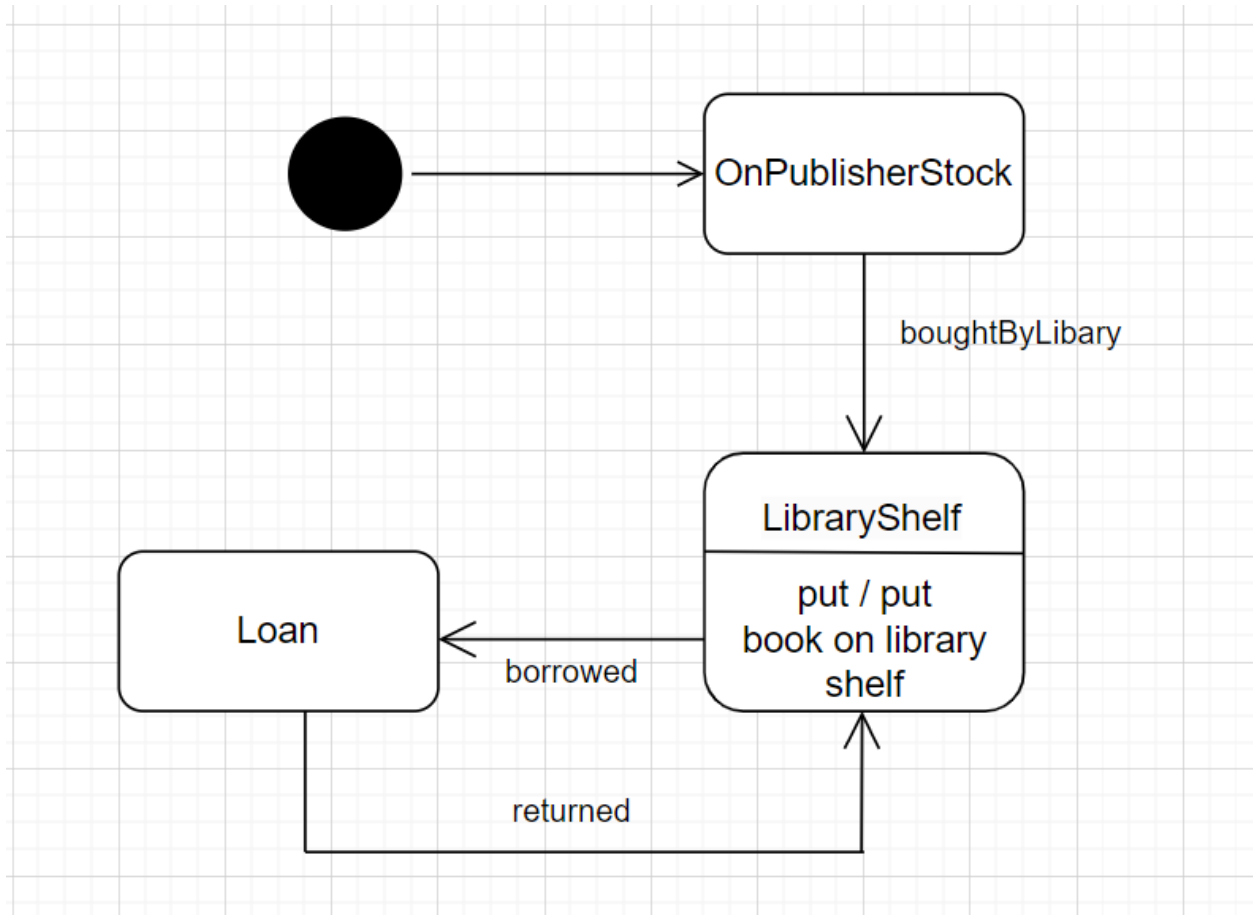


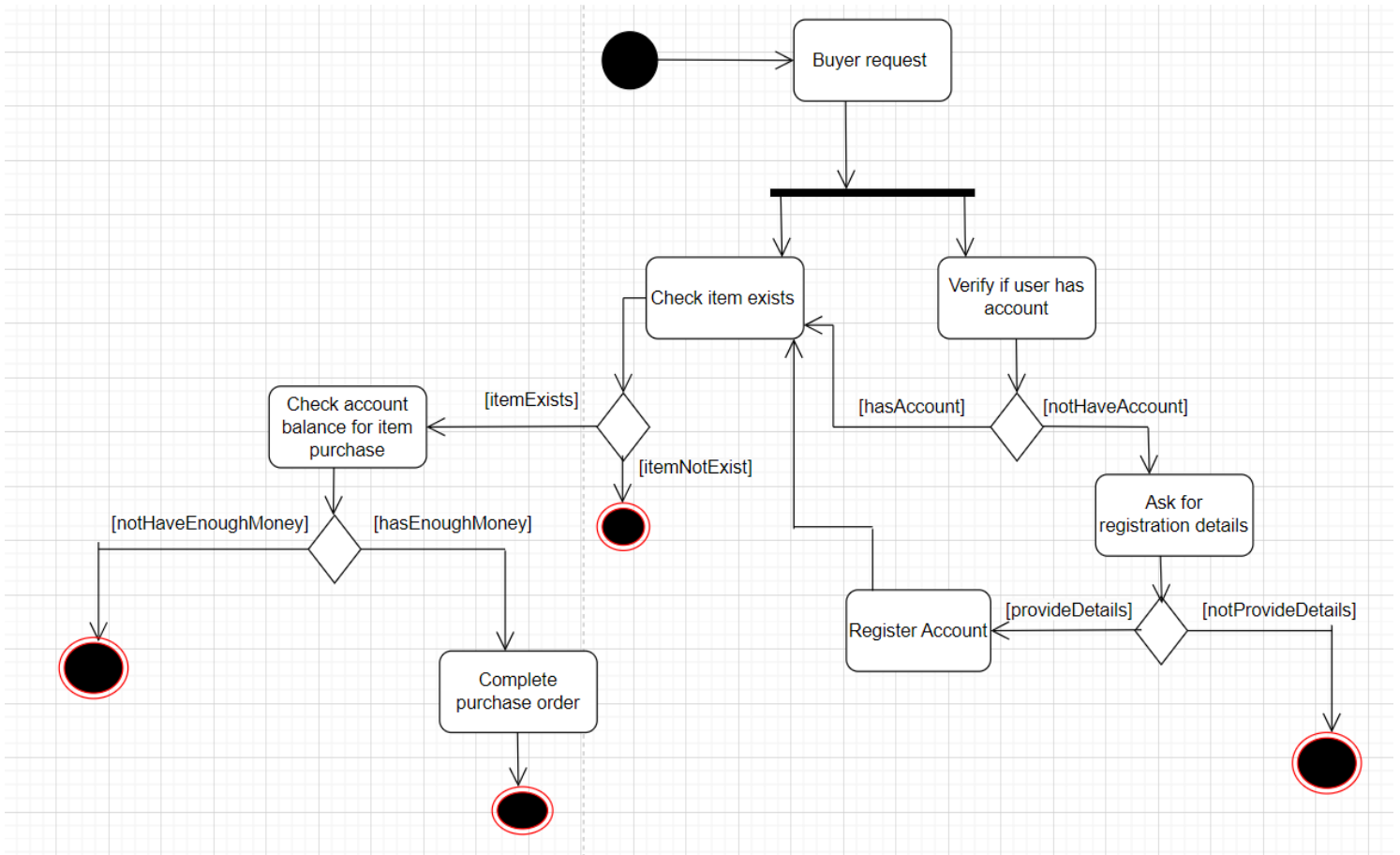
Question 1 Sequence Diagram



Question 2: State Diagram



Question 3: Activity Diagram



Question 4 Code:

```
import java.util.Date;
public class BankAccount implements Cloneable{

    public static void main(String[] args) {
```

```

// creating bank account object and cloning so that the second object is equal
to first
    BankAccount bank1= new BankAccount(0757, 1000 );
    BankAccount bank2 = (BankAccount)bank1.clone();

//print statement
    System.out.println("True:" + bank1 + " is equivalent to " + bank2);
}

    private int accountNumber;
    private int balance;
    private Date createDate;
    // constructor for creating a bank account
    public BankAccount(int accountNumber, int balance) {
        this.accountNumber = accountNumber;
        this.balance = balance;
        this.createDate = new java.util.Date();
    }

    //deposit money
    public int deposit(int amount) {
        balance = balance + amount;
        return balance;
    }

    //withdraw money
    public int withdraw(int amount) throws Exception{
        if (amount<0)
            throw new Exception("Amount cannot be negative");
        balance = balance - amount;
        return balance;
    }

    @Override
    public Object clone() {
        // Write your code here

        // shallow copy
        try {
            BankAccount bankClone = (BankAccount)super.clone();

            // deep copy on createDate
            bankClone.createDate = (java.util.Date) (createDate.clone());

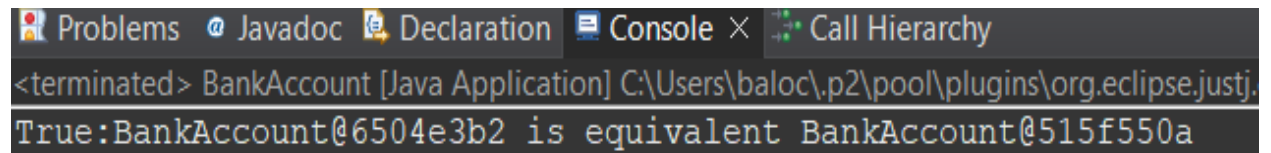
            return bankClone;
        }
        // if object is not cloneable then return null
        catch (CloneNotSupportedException ex) {
            return null;
        }

        //Main method above//

```

```
    }  
}  
}
```

Output:



The image shows the Eclipse IDE's Console window. The title bar includes tabs for 'Problems', 'Javadoc', 'Declaration', 'Console', and 'Call Hierarchy'. The 'Console' tab is active, displaying the output of a Java application. The output text is: '<terminated> BankAccount [Java Application] C:\Users\baloc\.p2\pool\plugins\org.eclipse.justj.' followed by a new line and 'True:BankAccount@6504e3b2 is equivalent BankAccount@515f550a'.

```
<terminated> BankAccount [Java Application] C:\Users\baloc\.p2\pool\plugins\org.eclipse.justj.  
True:BankAccount@6504e3b2 is equivalent BankAccount@515f550a
```