

The **Member** class represents a member of a social club. Each member has a name and a list of friends (where friends are stored as Strings).

```
public class Member {
    private String myName;
    private ArrayList myFriends;    // List of String objects

    public void messageFriends(String message) {

    }

    private void sendMessage(String message, String recipient) {
        System.out.println("Message " + message + " to " + recipient);
    }
}
```

1. Add to class Member a new private field called myType as an enumerated type named **Membership** that represents two types of members (SILVER, GOLD).
2. Modify the Member class to implement the Comparable interface by adding a **compareTo()** method to compare Member objects based on their Membership type. A SILVER member is considered "smaller" than a GOLD member. Two members of the same memberType are considered equal.
3. Modify the **myFriends** field using generics so that it is an ArrayList of Strings, then implement the method **messageFriends()** so that it invokes the **sendMessage()** method for each friend in the myFriends ArrayList. The only iteration method you are allow to use is the enhanced *for* loop construct (you cannot use whiles, do whiles, or traditional for loops).
4. Modify the method **sendMessage()** to throw an **IllegalArgumentException** if the recipient is null. Modify **messageFriends()** to catch **any** exceptions thrown by the method **sendMessage()**. Use System.out.println to print the string "Exception!" if an exception is caught.