

```
hireLibrarian(ma_id,l_id,fname,lname,password,salary,hoursOfWork ){  
    manager = User.find(ma_id);  
    if(manager != null){  
        manager.setLastActivity(getCurrentDateTime());  
        result = Librarian.insert(l_id,fname,lname,password,salary,hoursOfWork);  
        if(result == true)  
            return("UnSuccessful");  
        else  
            return("UnSuccessful");  
    }  
    else  
        return("UnSuccessful");  
}
```

```
fireLibrarian(ma_id , l_id){  
    manager = User.find(ma_id);  
    if(manager != null){  
        manager.setLastActivity(getCurrentDateTime());  
        librarian = User.find(l_id);  
        if(librarian != null){  
            result = Librarian.delete(librarian);  
            if(result == true)  
                return("Successful");  
            else  
                return("UnSuccessful");  
        }  
        else  
            return("UnSuccessful");  
    }  
    else  
        return("UnSuccessful");  
}
```

```
registerMember(l_id,m_id,fname,lname,password,age,phoneNumber){  
    librarian = User.find(l_id);  
    if(librarian != null){  
        librarian.setLastActivity(getCurrentDateTime());  
        result = Member.insert(m_id,fname,lname,password,age,phoneNumber);  
        if(result == true)  
            return("Successful");  
        else  
            return("UnSuccessful");  
    }  
    else  
        return("UnSuccessful");  
}
```

```
addBook(l_id,b_id,title,author,publisher){  
    librarian = User.find(l_id);  
    if(librarian != null){  
        librarian.setLastActivity(getCurrentDateTime());  
        result = Book.insert(b_id,title,author,publisher);  
        if(result == true)  
            return ("Successful");  
        else  
            return ("UnSuccessful");  
    }  
    else  
        return ("UnSuccessful");  
}
```

```
searchBook (title,m_id){  
    member = User.find(m_id);  
    if(member != null){  
        member.setLastActivity(getCurrentDateTime());  
        book = Book.find(title);  
        if(book != null)  
            return (book.b_id);  
        else  
            return("UnSuccessful");  
    }  
    else  
        return("UnSuccessful");  
}
```

```
returnBook (b_id,m_id) {  
    member = User.find(m_id);  
    if(member != null){  
        member.setLastActivity(getCurrentDateTime());  
        borrowBook = Borrow.find(b_id);  
        if(borrowBook != null){  
            result = Borrow.delete(borrowBook);  
            if(result == true)  
                return ("Successful");  
            else  
                return("UnSuccessful");  
        }  
        else  
            return("UnSuccessful");  
    }  
    else  
        return("UnSuccessful");  
}
```

```
bookRequest(b_id,m_id) {  
    member = User.find(m_id);  
    if(member != null){  
        member.setLastActivity(getCurrentDateTime());  
        book = Book.find(b_id);  
        if(book != null){  
            from = getCurrentDateTime();  
            result = Borrow.insert(b_id,m_id,from);  
            if(result == true)  
                return("Successful");  
            else  
                return("UnSuccessful");  
        }  
        return("UnSuccessful");  
    }  
    return("UnSuccessful");  
}
```

```
registerManager (ma_id,fname,lname,password,income){  
    result = manager.insert(ma_id,fname,lname,password,income);  
    if(result == true)  
        return("Successful");  
    else  
        return("UnSuccessful");  
}
```

```
logout(u_id){  
    u = User.find(u_id);  
    if(u != null && u.isLogin){  
        u.isLogin = false;  
        boolean = User.update(u);  
        if(boolean == true)  
            return("Successful");  
        else  
            return("UnSuccessful");  
    }  
    else  
        return("UnSuccessful");  
}
```

```
login(u_id,password){  
    u = User.find(u_id);  
    if(u != null){  
        if(u.password = password){  
            u.isLogin = true;  
            u.setLastActivity(getCurrentDateTime());  
            boolean = User.update();  
            if(boolean == true){  
                type = User.getUserType(u_id);  
                return type;  
            }  
            else  
                return("UnSuccessful");  
        }  
        return("UnSuccessful");  
    }  
    return("UnSuccessful");  
}
```

```
kickout(){  
    u = User.findAll();  
    for(i = 0; i < u.size() ; i++){  
        if(u(i).isLogin){  
            if(u(i).getLastActivity – getCurrentDateTime() > 2) {  
                u(i).isLogin = false;  
                boolean = User.update(u);  
                if(boolean == true)  
                    return("Successful");  
                else  
                    return("UnSuccessful");  
            }  
        }  
    }  
}
```