

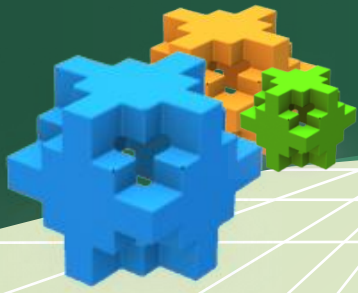
Team4

Quick Matching Time Table System

[Design]

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Detailed Design

1. Introduction



❖ 1.1 Purpose

- Quick Matching Time Table System에 대해서 SRS에서 나타난 유스케이스들이 어떻게 구체화 되었는지를 보여준다.

❖ 1.2 Definitions, Acronyms and Abbreviations

- 그룹 : 수강 신청을 함께 할 학생들이 모인 집단
- 리더 : 그룹을 만든 학생, 그룹 수강 신청을 할 수 있는 학생
그룹을 삭제 할 수 있는 학생
- 그룹원 : 리더를 제외한 그룹에 소속된 학생,
그룹을 탈퇴 할 수 있는 학생
- 그룹 수강 신청 : 리더와 그룹원이 같은 강의로 수강 신청
- 그룹 수강 삭제 : 리더와 그룹원이 같은 강의로 수강 삭제

2. References

- 
- ❖ IEEE Standard 1016-1998
 - ❖ 다이어그램으로 쉽게 배우는 UML
 - ❖ Object-Oriented Software Engineering
 - ❖ 초보자를 위한 UML 객체지향 설계



3. Decomposition Description

❖ 3.1 Class Description

- 3.1.1 Class : Person

Purpose : Student class와 Manager class의 부모 클래스,
초기메뉴 호출

Function : 로그인, 로그아웃, 비밀번호 변경, 초기메뉴 호출

- 3.1.2 Class : Student

Purpose : 학생에 관한 모든 정보를 가지고 있으며 학생에
관한 모든 기능을 수행하는 Class

Function : 그룹생성, 그룹참여, 그룹탈퇴, 그룹삭제,
그룹수강신청, 수강신청, 수강삭제, 그룹수강삭제,
강의목록보기, 시간표 보기, 나의 정보 저장,
나의 정보 불러오기, 학생메뉴 호출



3. Decomposition Description

❖ 3.1 Class Description

- 3.1.3 Class : Manager

Purpose : 학생 ID를 관리하는 Class

Function : ID생성, ID삭제, 관리자메뉴 호출

- 3.1.4 Class : Lecture

Purpose : 강의의 정보를 저장하는 Class

Function : 강의 저장, 강의 불러오기

- 3.1.5 Class : Sugang

Purpose : 수강신청과 관련된 실질적인 기능을 수행하는 Class

Function : 수강신청, 수강삭제, 강의검색



3. Decomposition Description

❖ 3.1 Class Description

- 3.1.6 Class : UserList

Purpose : 시스템내의 모든 이용자의 정보를 담고 있는 Class

Function : 사용자추가, 사용자삭제, 비밀번호 변경,
ID삭제 시 ID확인, 로그인 시 사용자확인,
파일로 사용자 정보 저장, 사용자 정보 불러오기

- 3.1.7 Class : LectureList

Purpose : 현재 등록되어있는 강의들의 정보를 저장하는 Class

Function : 강의 목록에 강의추가, 강의 목록에 강의삭제,
강의 목록 저장, 불러오기, 강의 검색 결과 만들기



3. Decomposition Description

❖ 3.1 Class Description

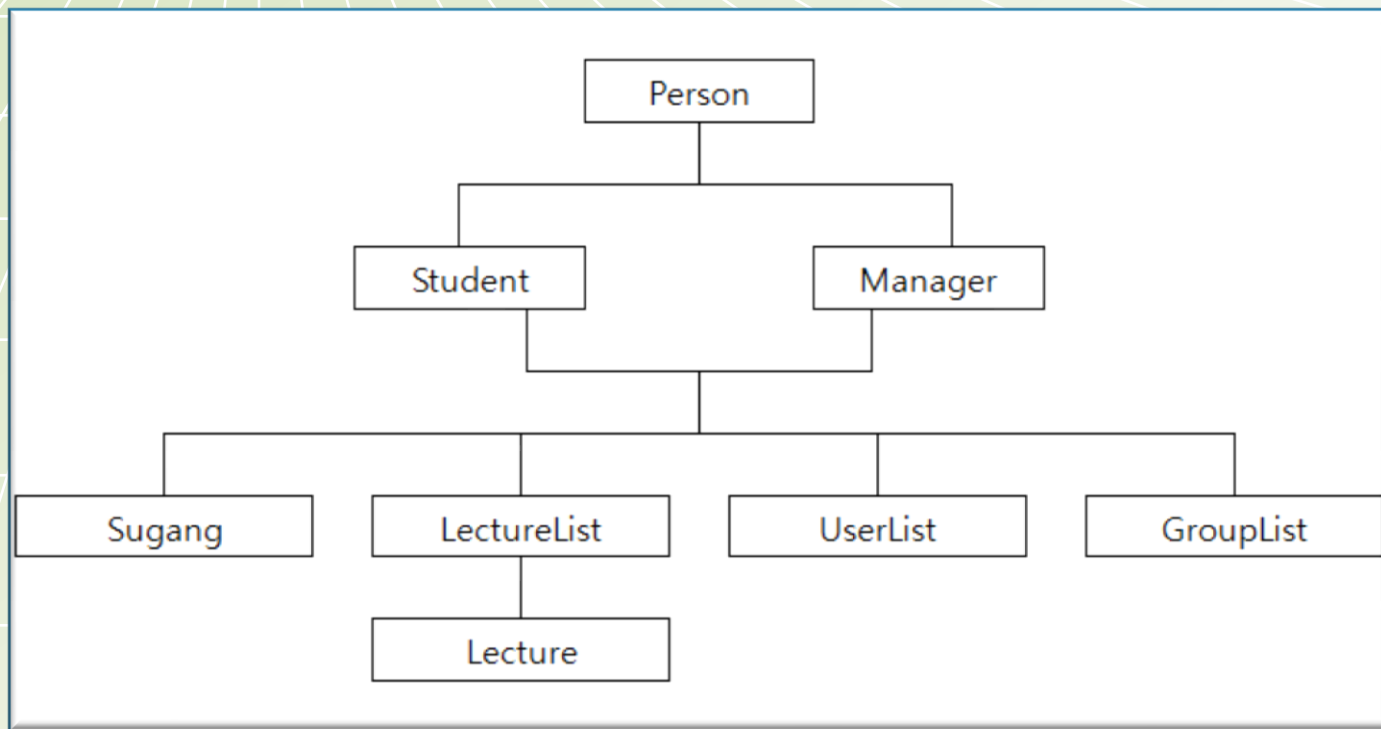
- 3.1.8 Class : GroupList

Purpose : 그룹에 속한 학생들의 정보를 저장하는 Class

Function : 그룹 목록에 그룹원 추가,
그룹 목록에서 그룹원 삭제,
그룹 목록에 그룹 추가,
그룹 목록에서 그룹 삭제,
그룹 목록에서 그룹원 리턴

3. Decomposition Description

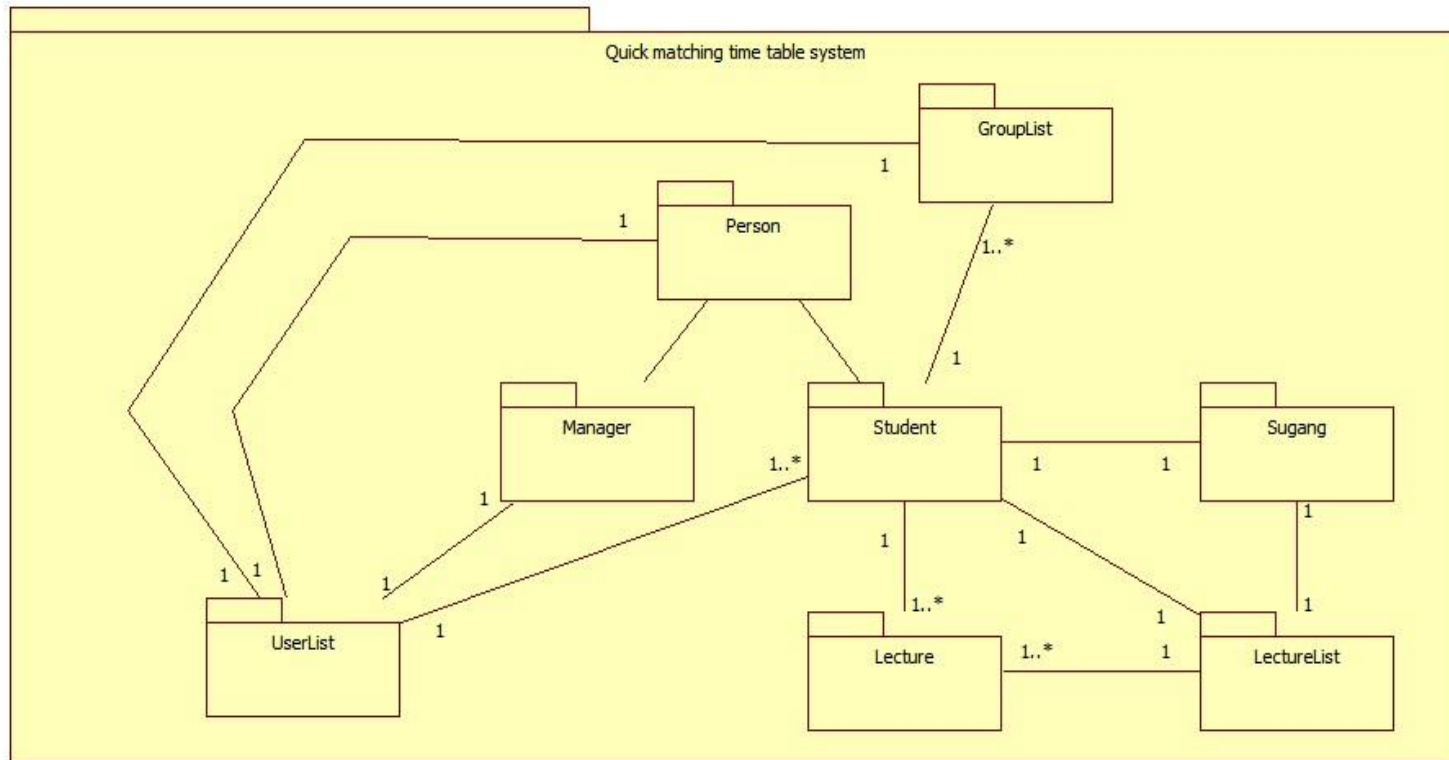
❖ 3.2 Hierarchical Decomposition Diagram





4. Dependency Description

❖ 4.1 Package



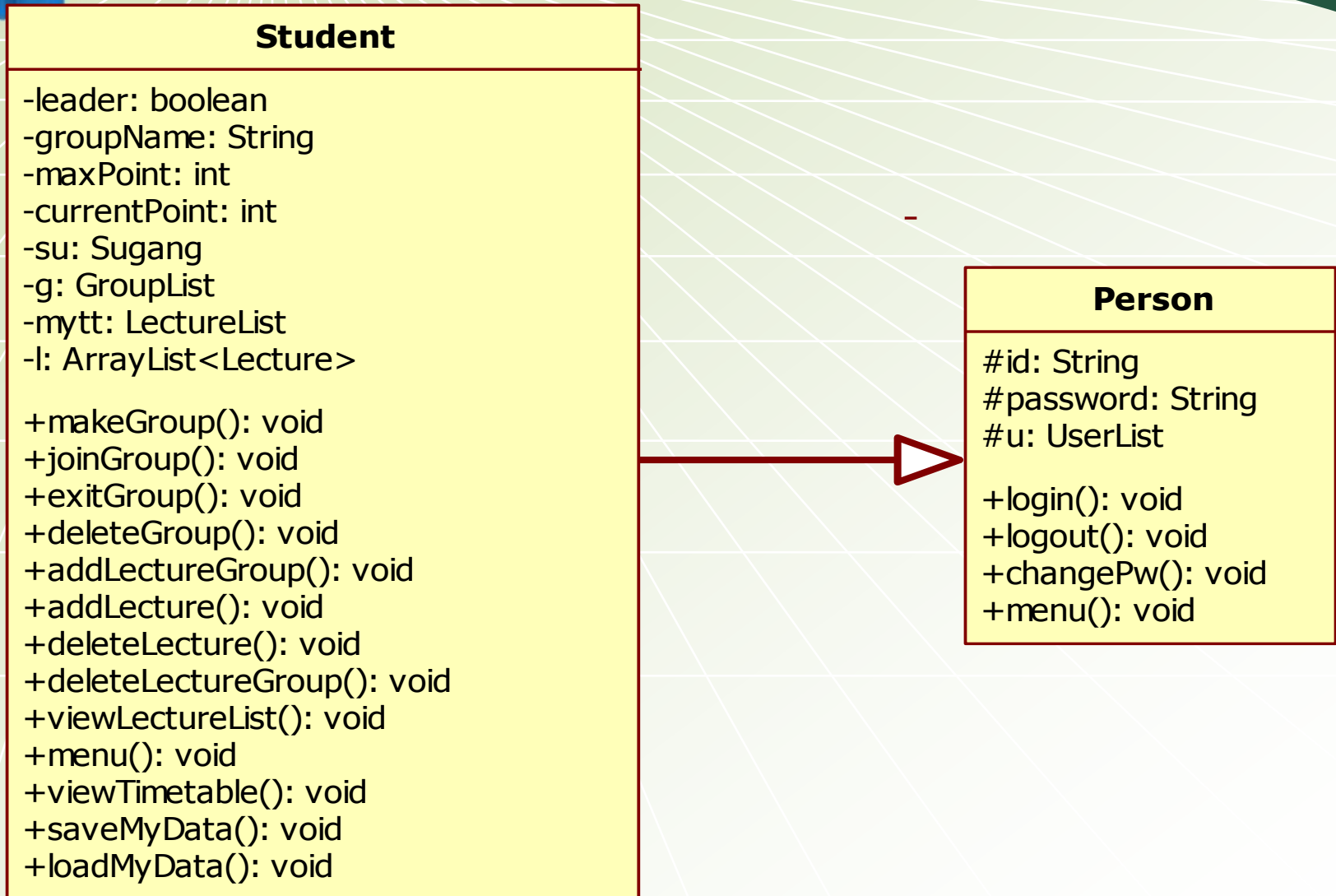


4. Dependency Description

❖ 4.2 Data Dictionary

Entity Name	Element Name	Data Type	Display Format	Default Value	Constraints
Person	id	String	Number	null	n/a
Person	password	String	any	1	n/a
Student	leader	boolean	T or F	false	0 : no leader 1 : leader
Student	groupName	String	number	null	null : no group else : group
Student	maxPoint	int	number	18	n/a
Student	currentPoint	int	number	0	n/a
Lecture	timetable	String	any	null	n/a
Lecture	lectureNum	int	number	0	n/a
Lecture	lectureName	String	any	null	n/a
Lecture	profName	String	english, korean	null	n/a
Lecture	needPoint	int	number	0	n/a
Lecture	currentStudentNum	int	number	0	n/a
Lecture	maxStudentNum	int	number	0	n/a

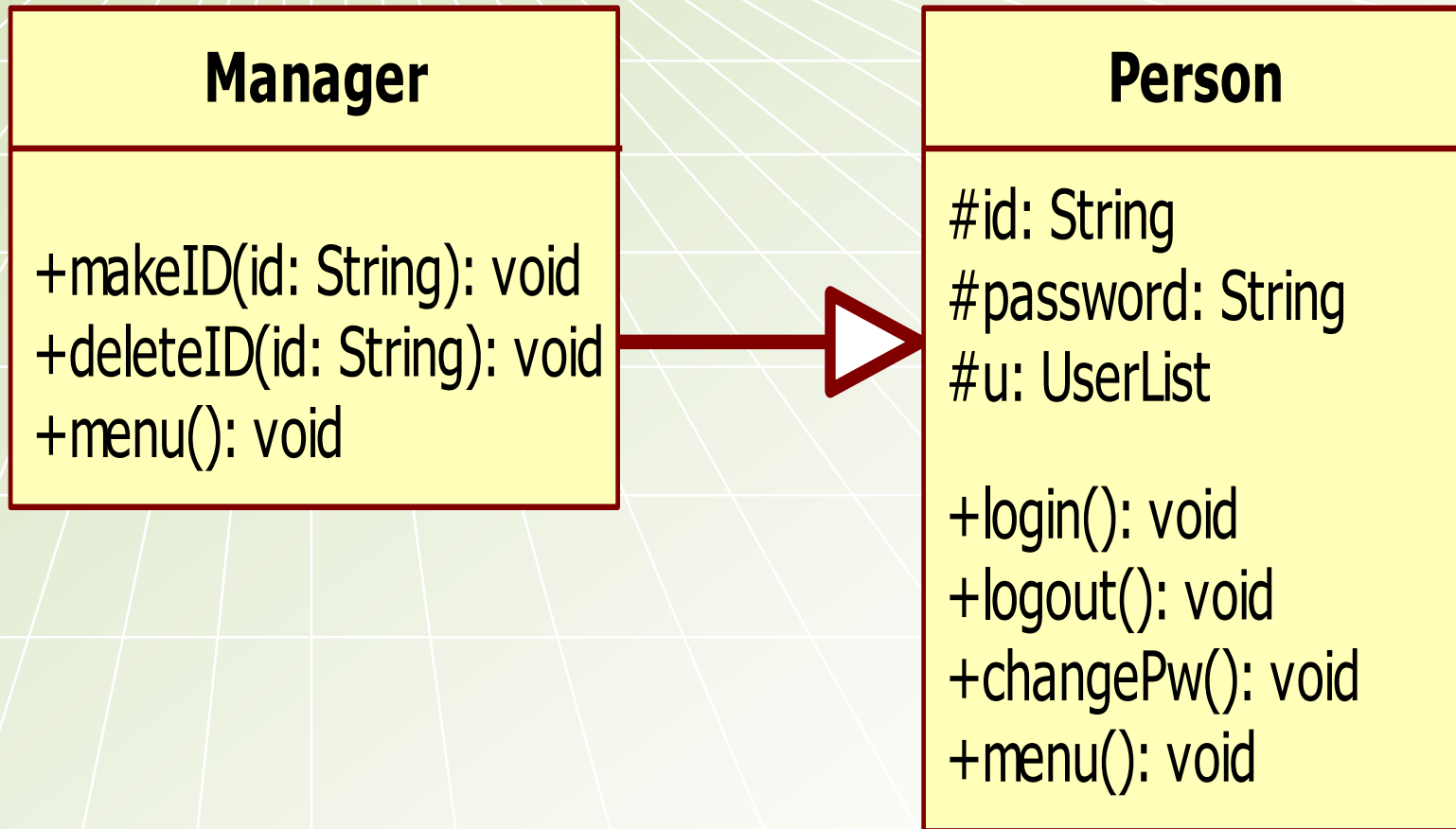
4. Dependency Description





4. Dependency Description

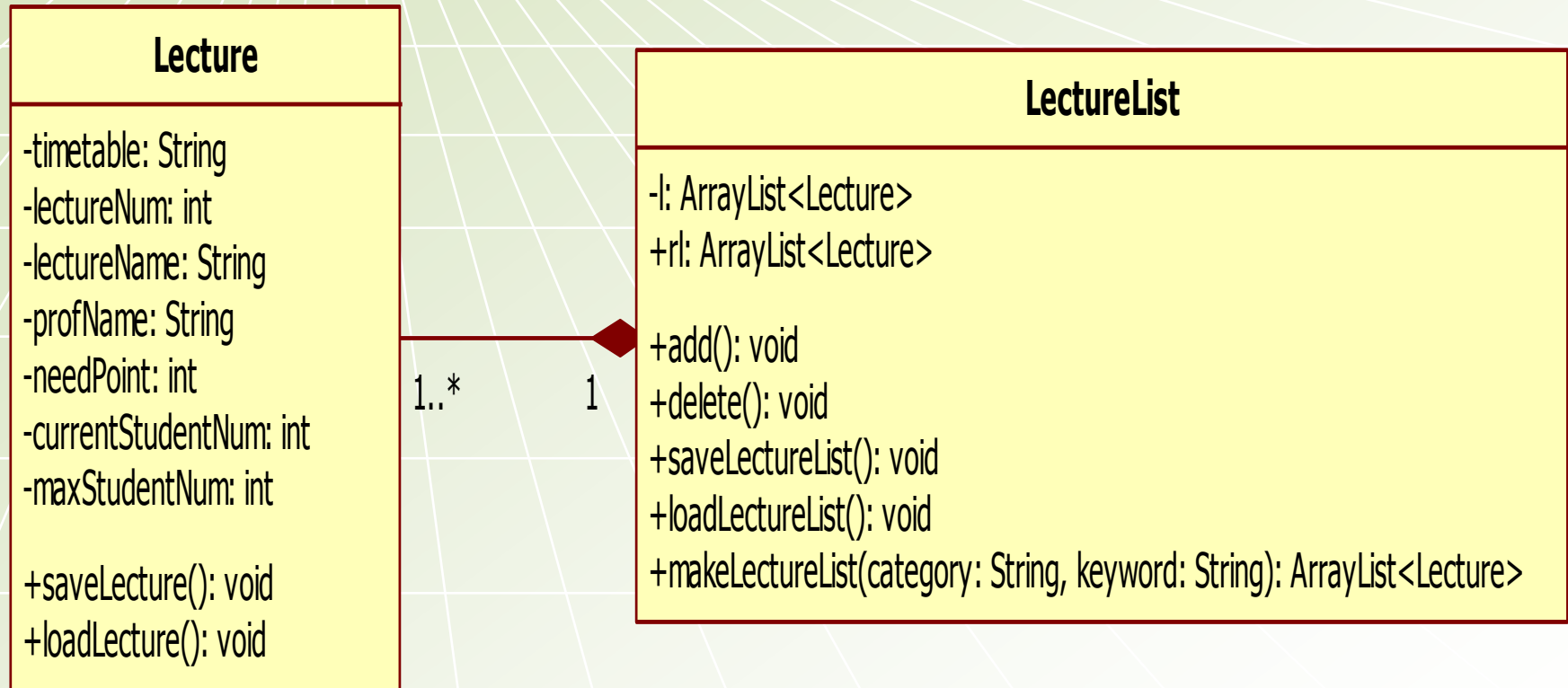
❖ 4.3 Relationship





4. Dependency Description

❖ 4.3 Relationship





4. Dependency Description

❖ 4.3 Relationship

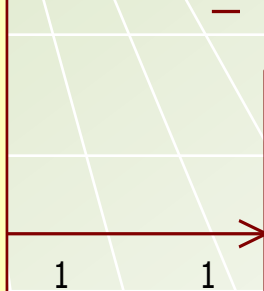
Student

-leader: boolean
-groupName: String
-maxPoint: int
-currentPoint: int
-su: Sugang
-g: GroupList
-mytt: LectureList
-l: ArrayList<Lecture>

+makeGroup(): void
+joinGroup(): void
+exitGroup(): void
+deleteGroup(): void
+addLectureGroup(): void
+addLecture(): void
+deleteLecture(): void
+deleteLectureGroup(): void
+viewLectureList(): void
+menu(): void
+viewTimetable(): void
+saveMyData(): void
+loadMyData(): void

Sugang

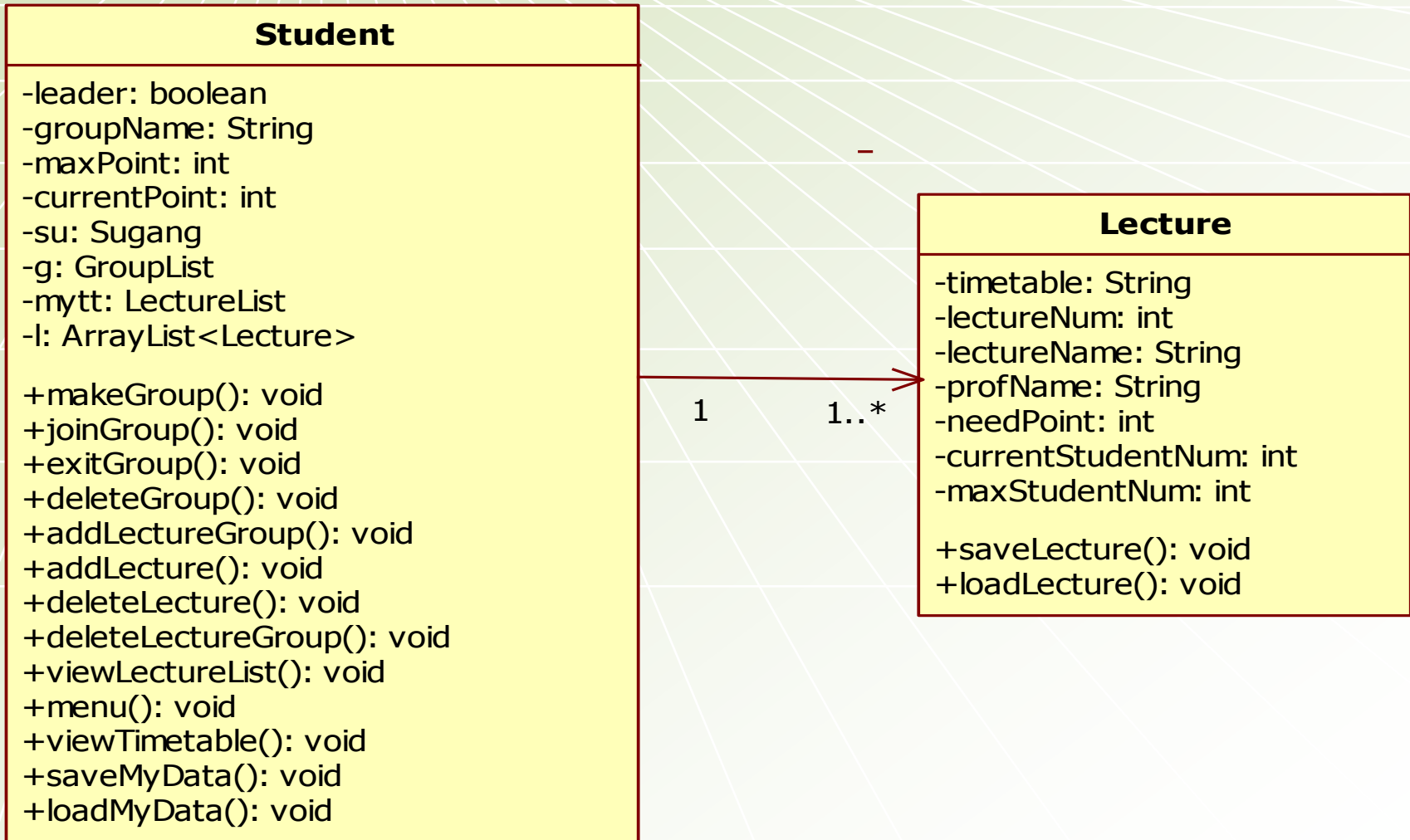
-l: LectureList
+regLecture(lectureNum: int): Lecture
+cancelLecture(lectureNum: int): void
+searchLectureList(category: String, keyword: String): ArrayList<Lecture>





4. Dependency Description

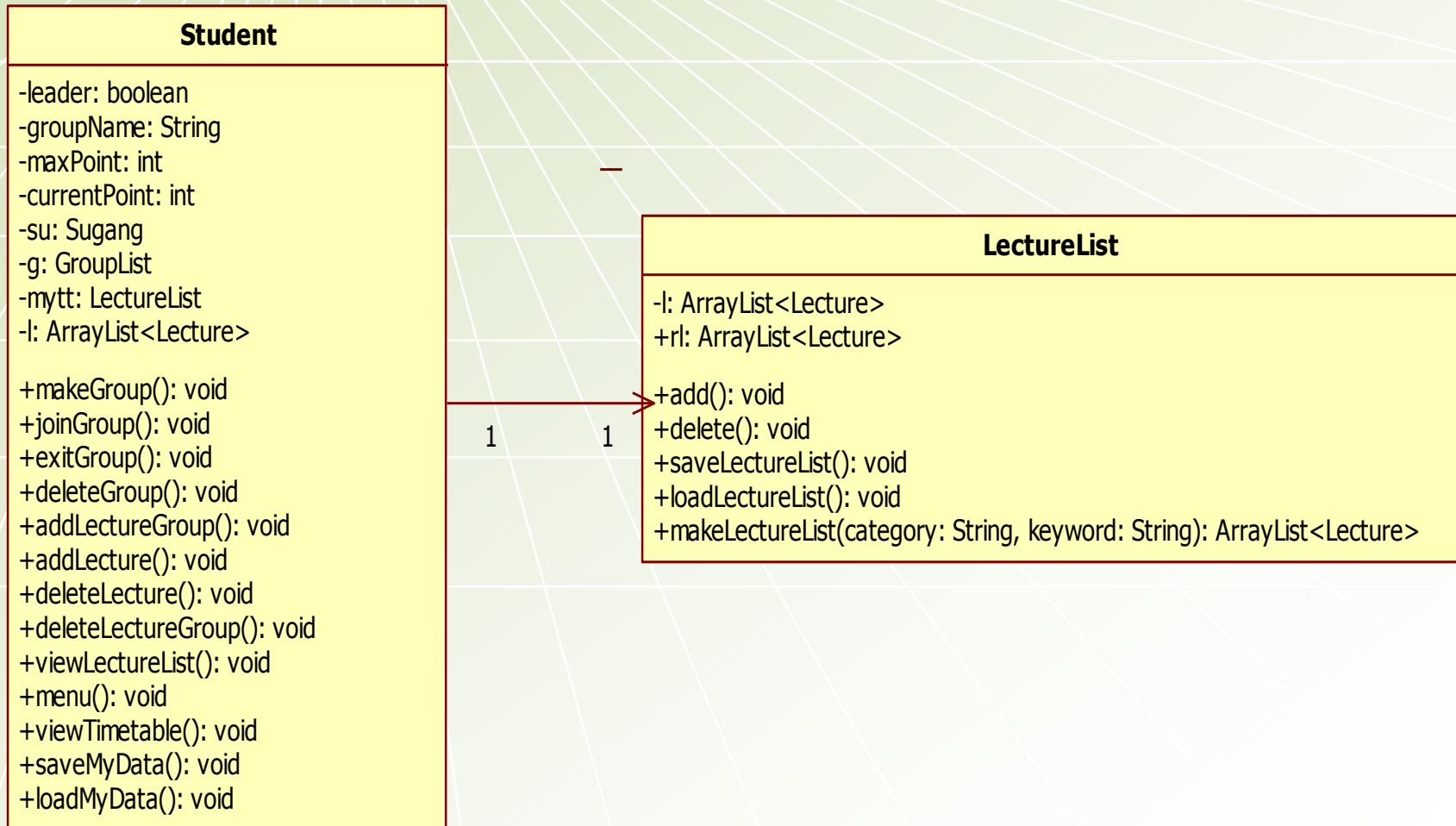
❖ 4.3 Relationship





4. Dependency Description

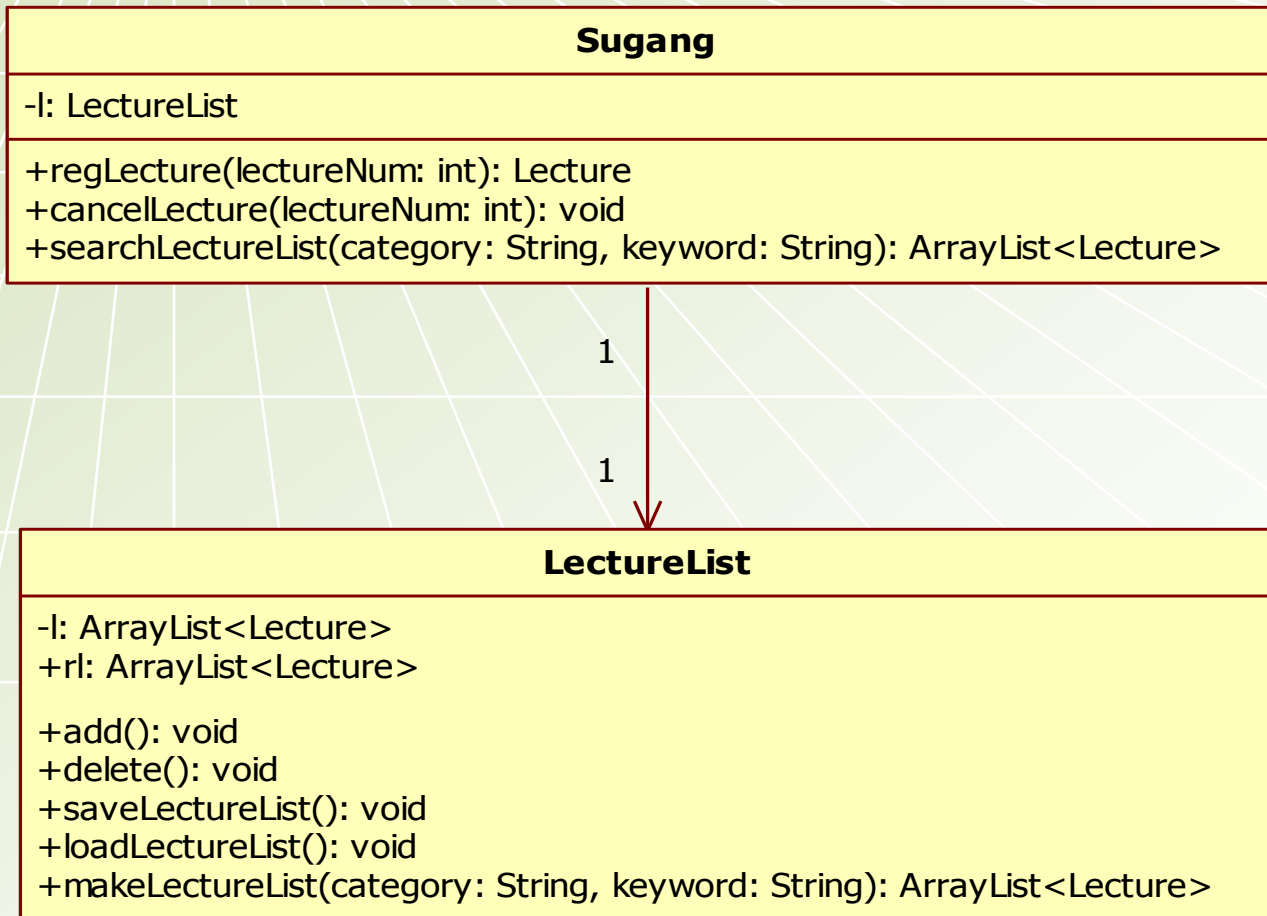
❖ 4.3 Relationship





4. Dependency Description

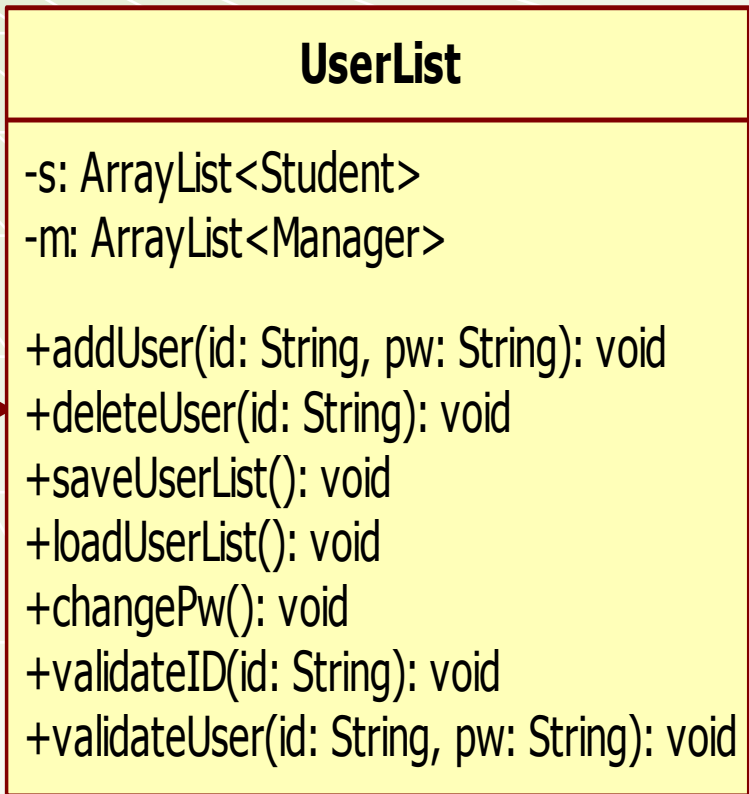
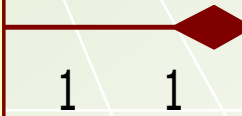
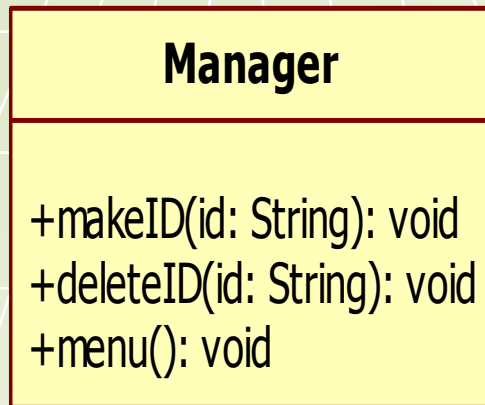
❖ 4.3 Relationship





4. Dependency Description

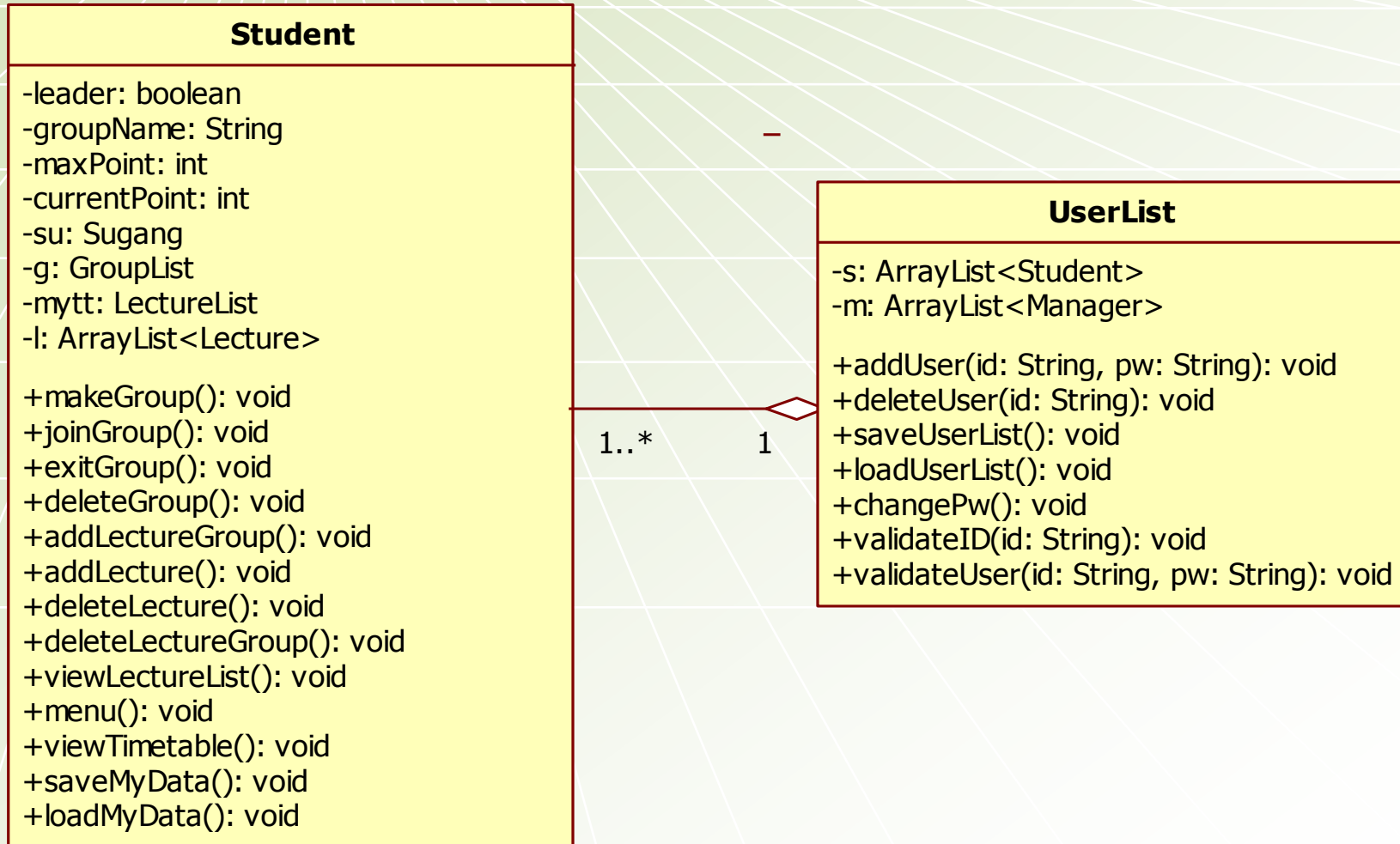
❖ 4.3 Relationship





4. Dependency Description

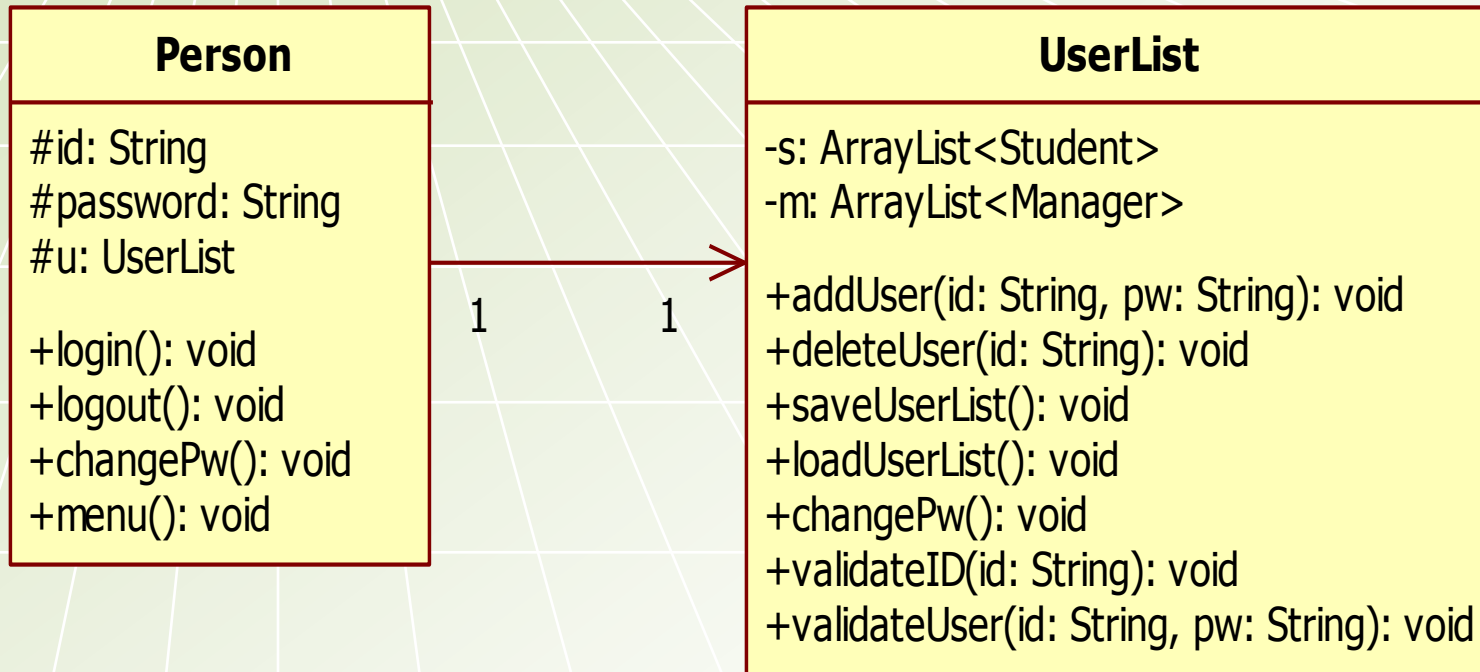
- ❖ 4.3 Relationship





4. Dependency Description

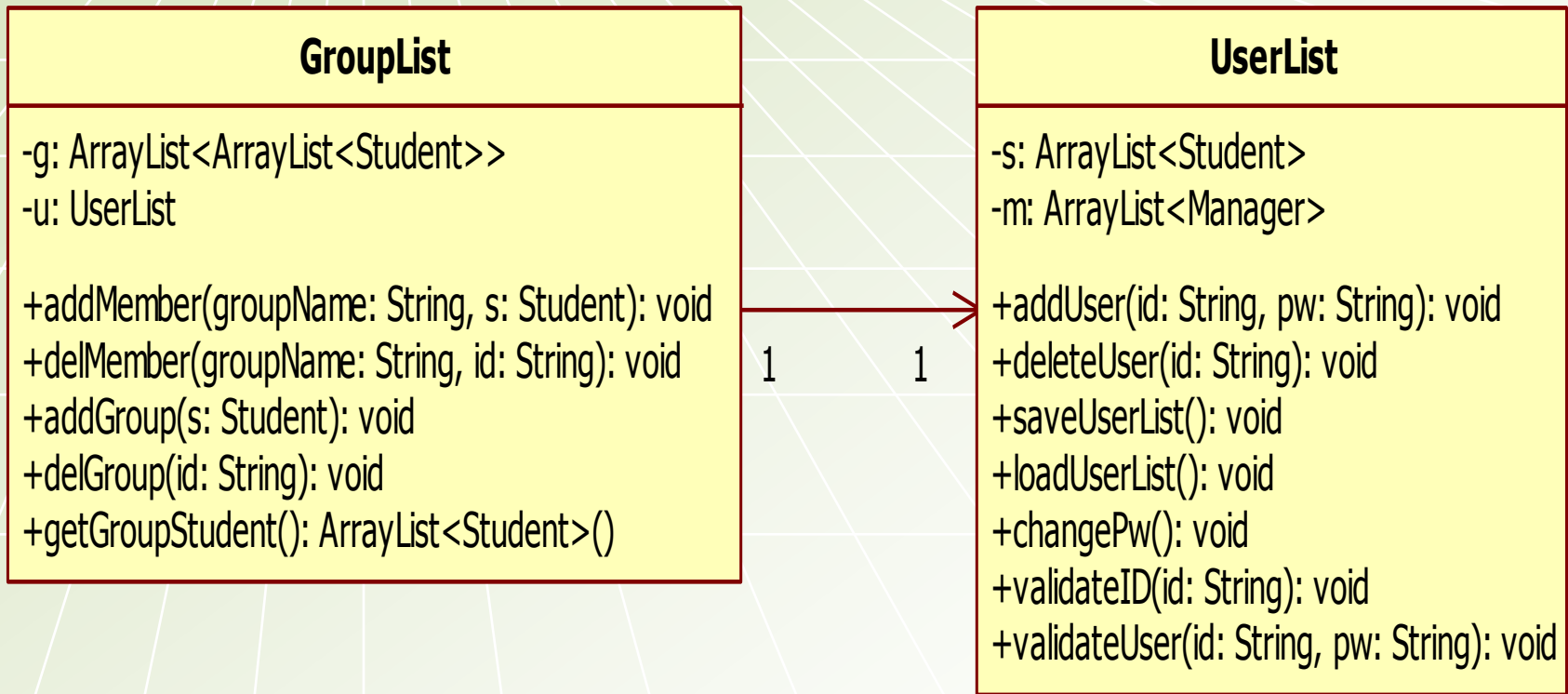
❖ 4.3 Relationship





4. Dependency Description

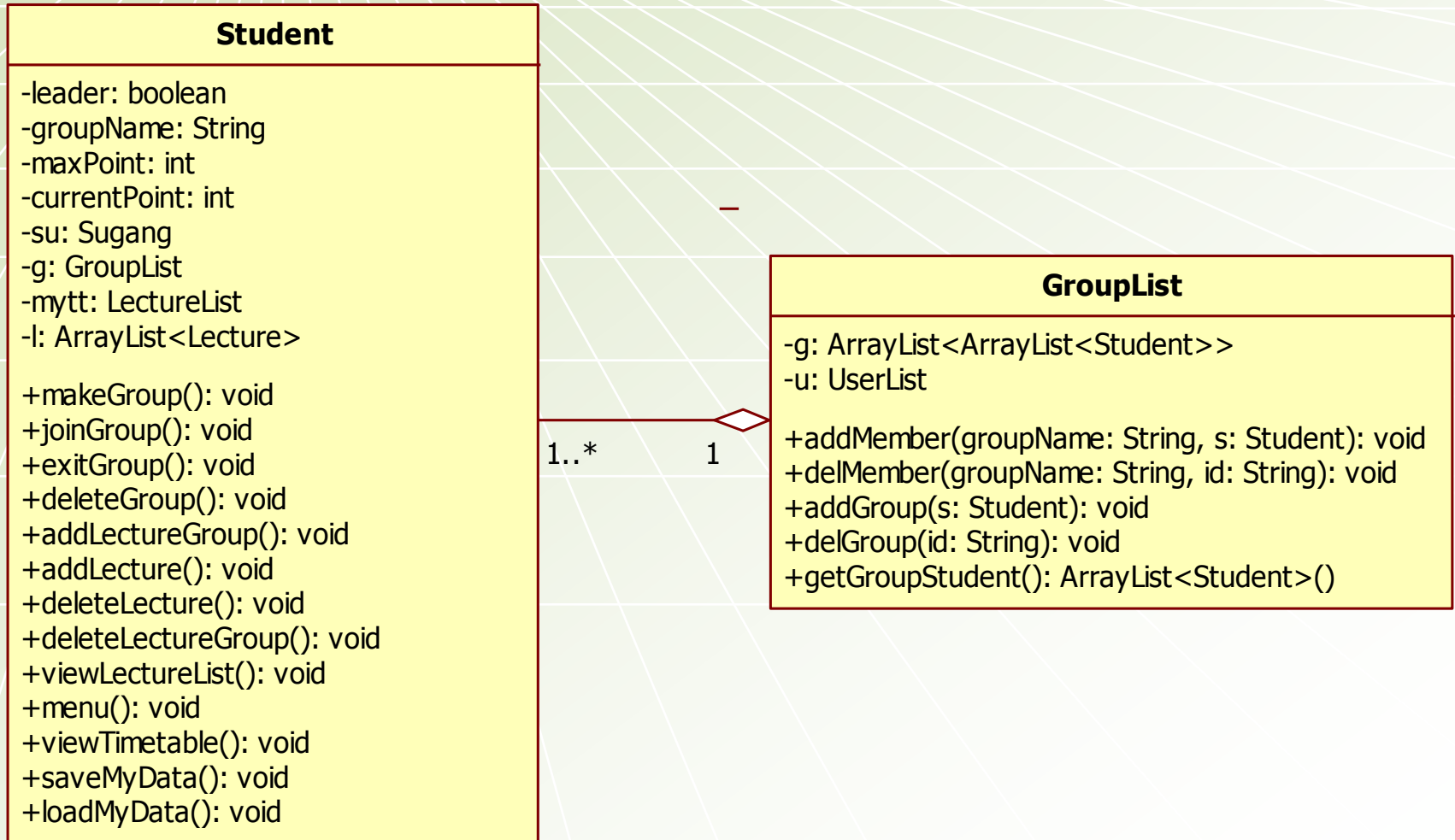
❖ 4.3 Relationship





4. Dependency Description

- ❖ 4.3 Relationship



5. Interface Description

❖ 그룹수강신청

Quick Matching Time Table v1.0

그룹 수강 신청 ⑤

로그아웃

과목번호 ① ② 신청

요일 / 교시	과목번호	과목명	교수명	필요학점	현재인원	수강인원	③ 삭제
월/01~04	4132	컴퓨터응...	박석희	3	3	40	삭제
화/03~06	4134	시스템프...	허원선	3	10	40	삭제
목/04~07	4133	컴퓨터회...	양다빈	3	11	50	삭제
금/06~08	4135	선형대수...	홍창현	3	7	70	삭제

현재 신청한 학점 학점 최대 한도 학점 학점

④ 뒤로



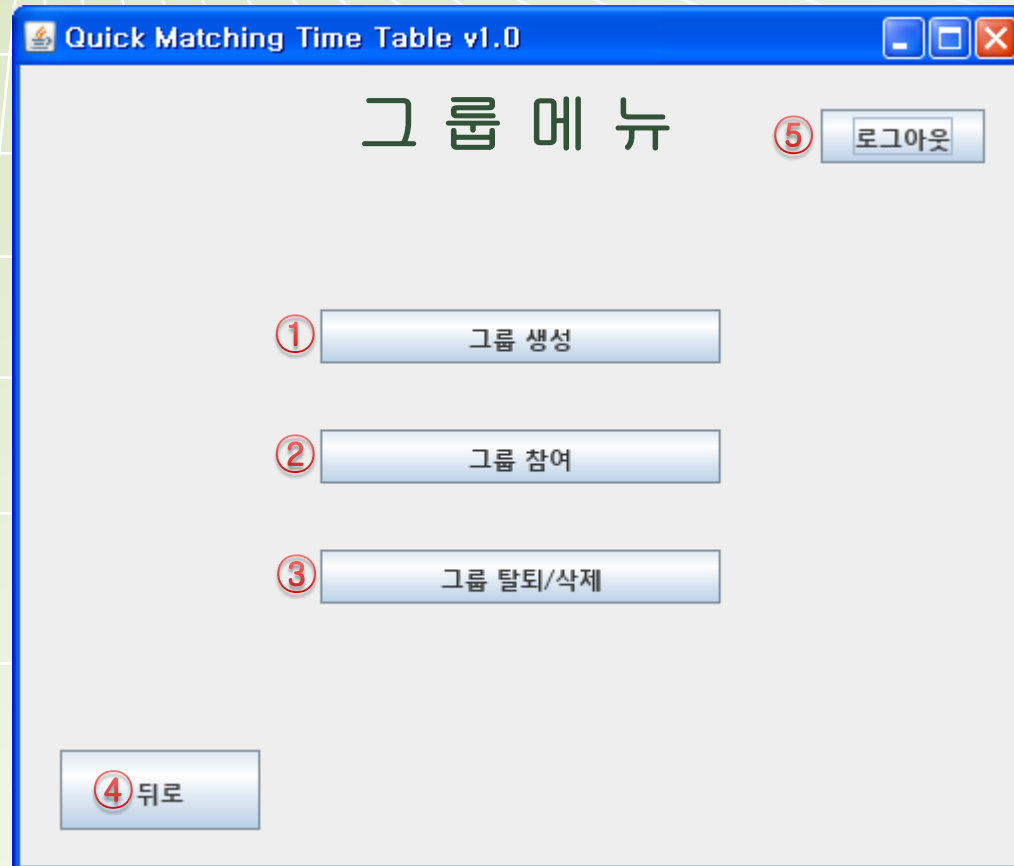
5. Interface Description

❖ 그룹수강신청

- 1 : 수강 신청을 할 과목의 번호를 쓴다.
- 2 : 1화면에 쓴 과목 번호에 해당하는 강의를 수강 신청한다.
- 3 : 해당 강의를 누를 시 확인창을 띄우고 확인할 시 강의를 삭제한다.
- 4 : 버튼을 누르면 메인 메뉴 화면으로 이동한다.
- 5 : 버튼을 누르면 로그인 화면으로 이동한다.

5. Interface Description

❖ 그룹 메뉴





5. Interface Description

❖ 그룹 메뉴

- 1 : 버튼을 누르면 그룹 생성 화면으로 이동한다.
- 2 : 버튼을 누르면 그룹 참여 화면으로 이동한다.
- 3 : 버튼을 누를 시 그룹 탈퇴/삭제 화면으로 이동한다.
- 4 : 버튼을 누르면 메인 메뉴 화면으로 이동한다.
- 5 : 버튼을 누르면 로그인 화면으로 이동한다.

5. Interface Description

❖ 그룹 생성

Quick Matching Time Table v1.0

그룹 생성

⑥ 로그아웃

① 로그인한 아이디 : 200712345

이 아이디로 그룹 생성됩니다.

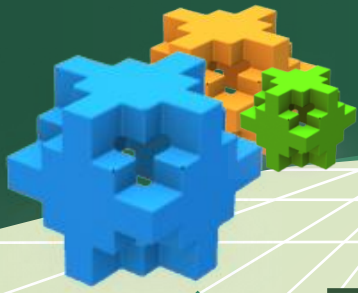
비밀번호를 입력하세요.

② 비밀번호

③ 비밀번호 확인

⑤ 뒤로

④ 확인



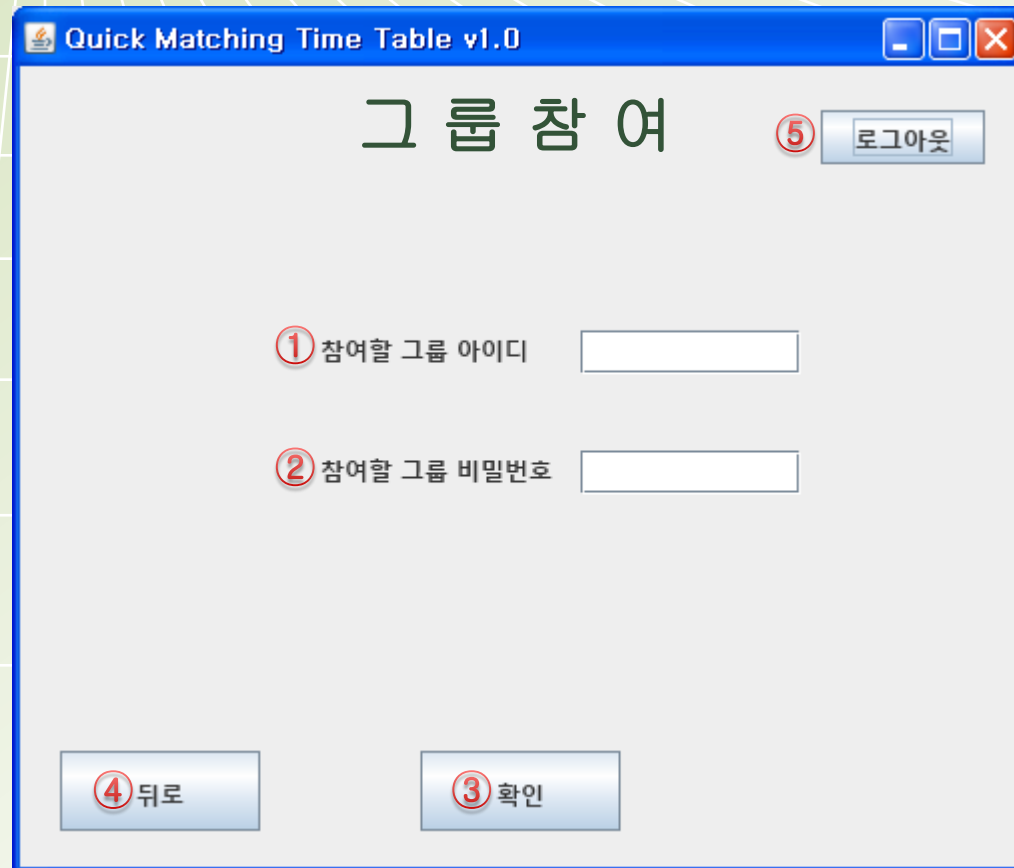
5. Interface Description

❖ 그룹 생성

- 1 : 현재 프로그램에 로그인 되어있는 사람의 아이디가 출력된다.
- 2 : 그룹 참여시 사용 할 비밀번호를 입력한다.
- 3 : 그룹 비밀번호를 한번 더 입력한다.
- 4 : 버튼을 누르면 그룹이 생성된다.
- 5 : 버튼을 누르면 그룹 메뉴 화면으로 이동한다.
- 6 : 버튼을 누르면 로그인 화면으로 이동한다.

5. Interface Description

❖ 그룹참여



Quick Matching Time Table v1.0

그룹 참여 (5) 로그아웃

① 참여할 그룹 아이디

② 참여할 그룹 비밀번호

④ 뒤로

③ 확인



5. Interface Description

❖ 그룹참여

1 : 참여 하고 싶은 그룹명을 입력한다.

2 : 참여할 그룹의 비밀번호를 입력한다.

(틀릴 경우 그룹 참여 불가)

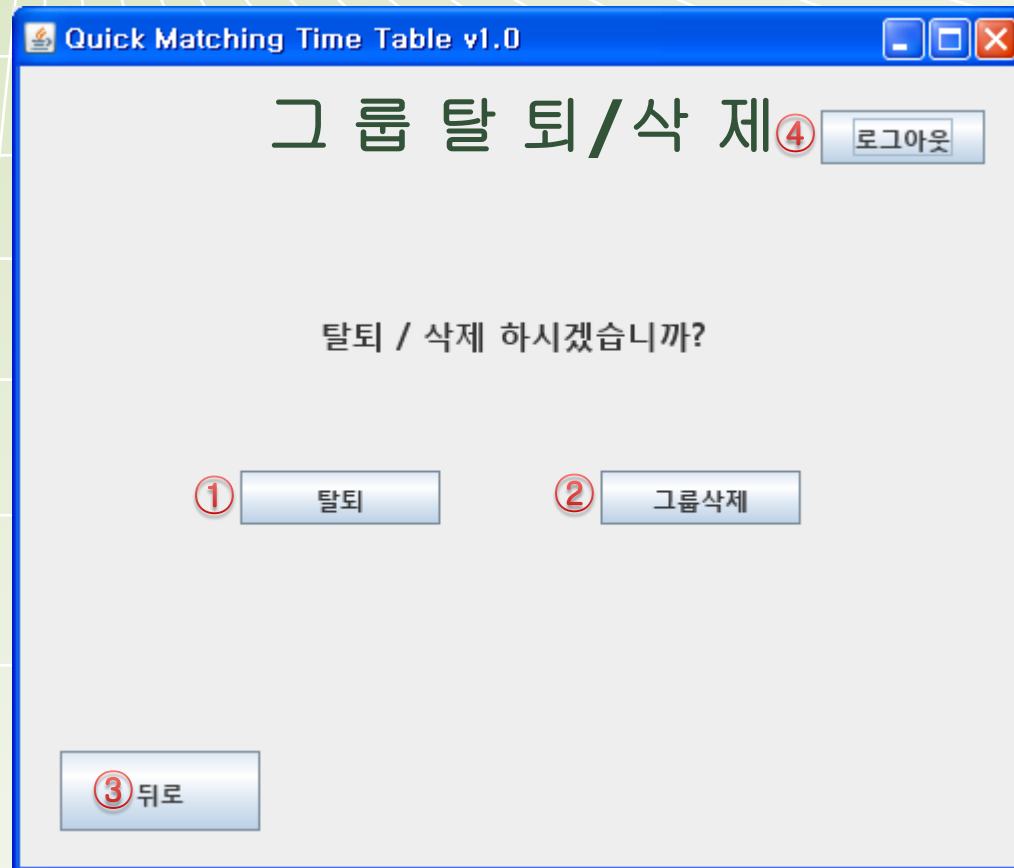
3 : 버튼을 누르면 그룹에 참여된다.

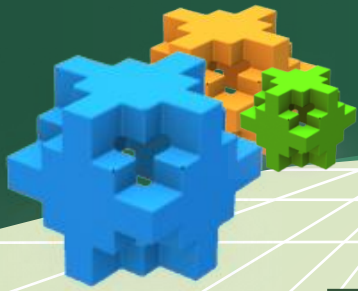
4 : 버튼을 누르면 그룹 메뉴 화면으로 이동한다.

5 : 버튼을 누르면 로그인 화면으로 이동한다.

5. Interface Description

❖ 그룹 탈퇴 / 삭제





5. Interface Description

❖ 그룹 탈퇴 / 삭제

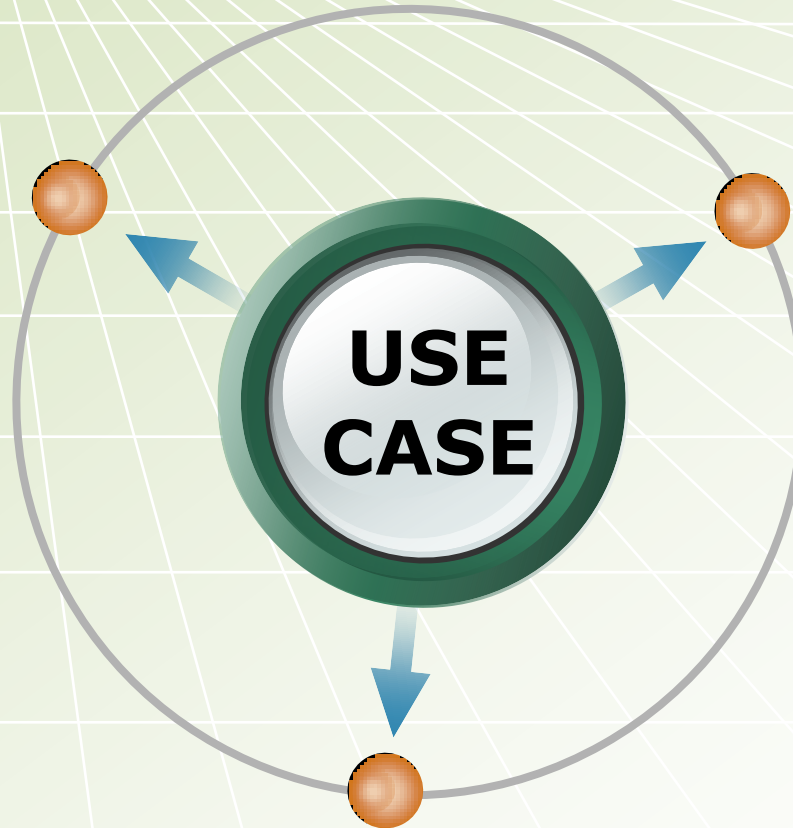
- 1 : 리더가 아닌 그룹원일 경우 활성화되며 누르면 그룹에서 탈퇴한다.
- 2 : 리더인 경우 활성화되며 누르면 그룹을 해체한다. 이때, 이 그룹의 그룹원들은 자동 탈퇴 처리된다.
- 3 : 버튼을 누르면 그룹 메뉴 화면으로 이동한다.
- 4 : 버튼을 누르면 로그인 화면으로 이동한다.

6. Detailed Design



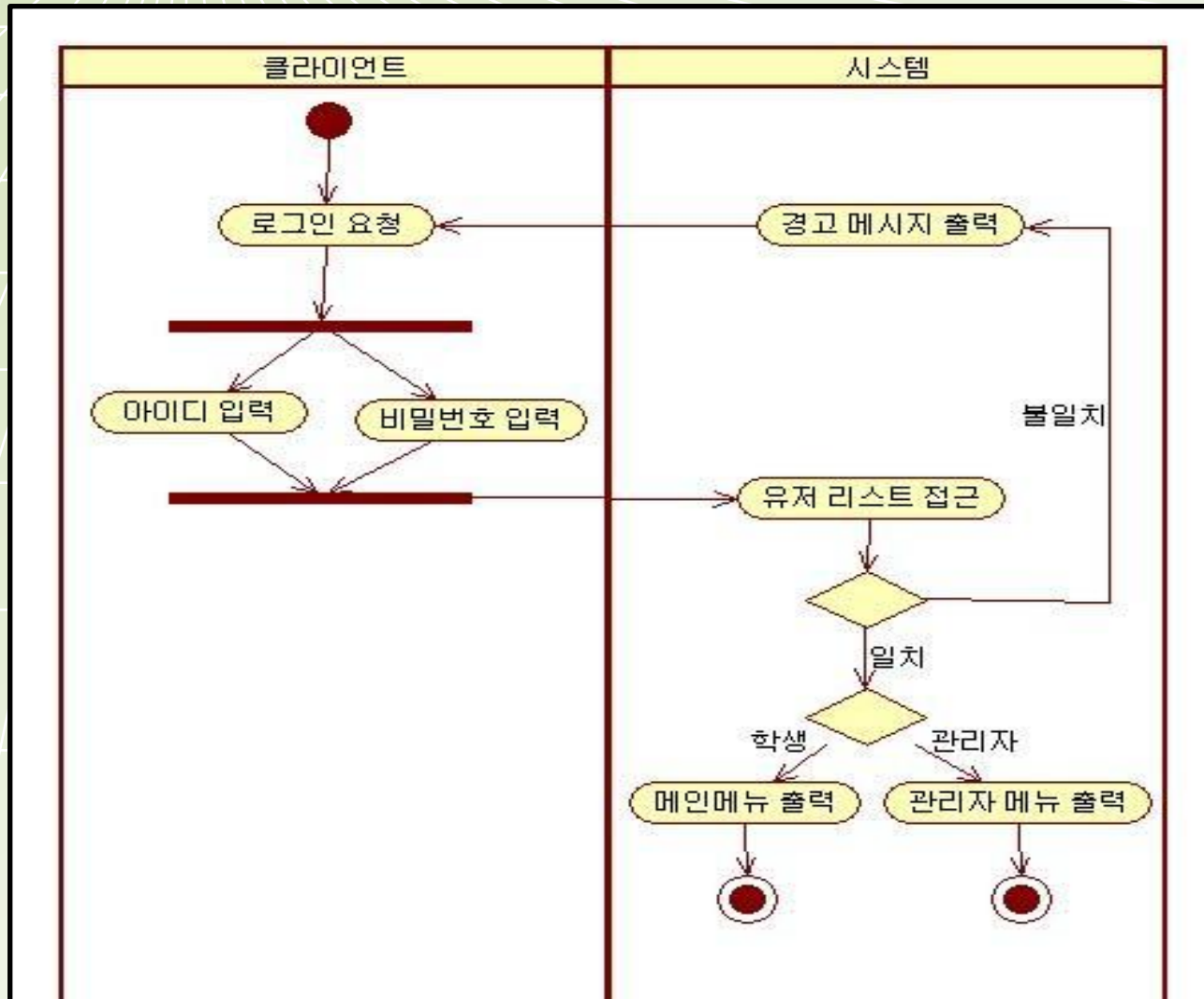
Activity Diagram

Sequence Diagram

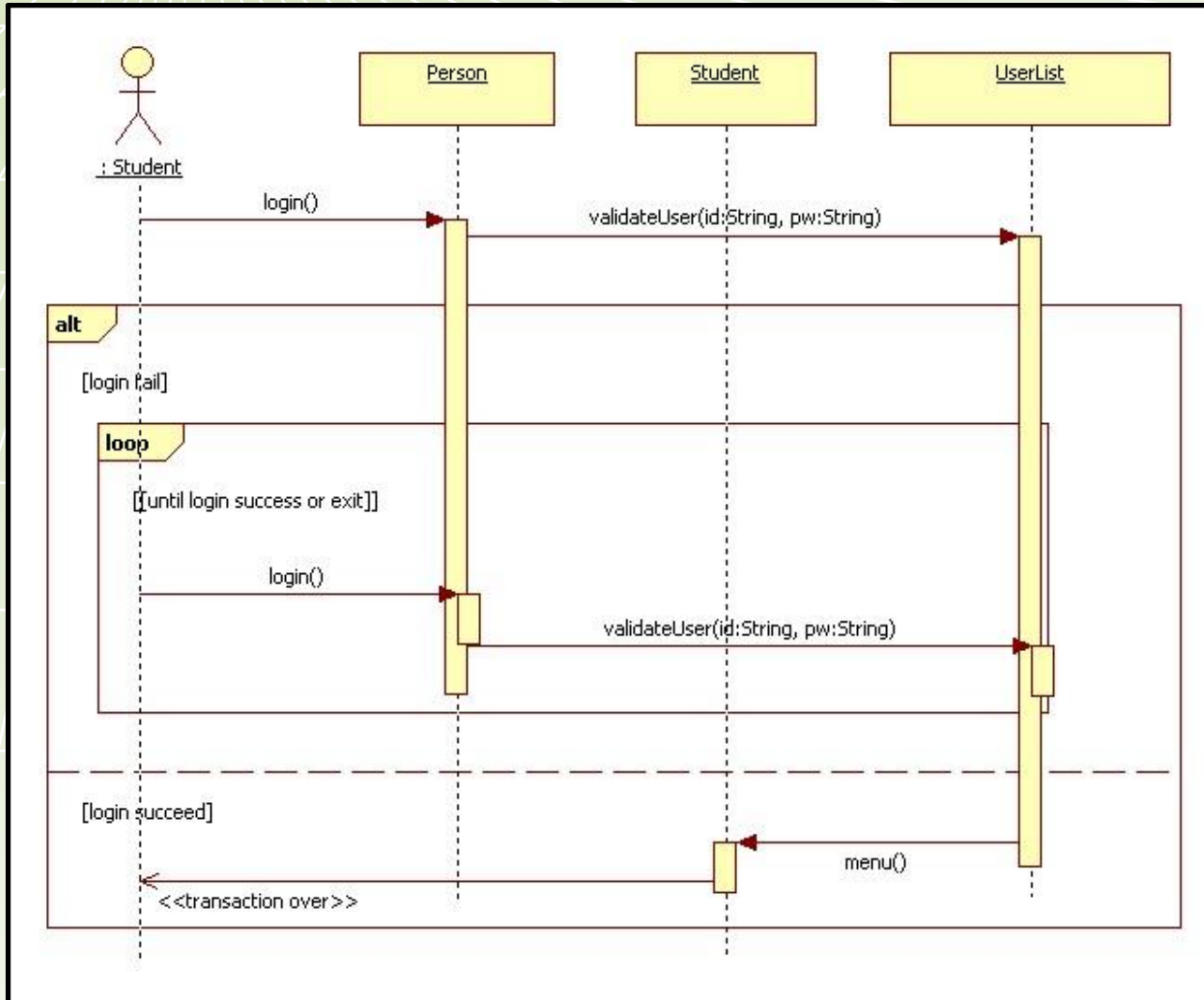


Collaboration Diagram

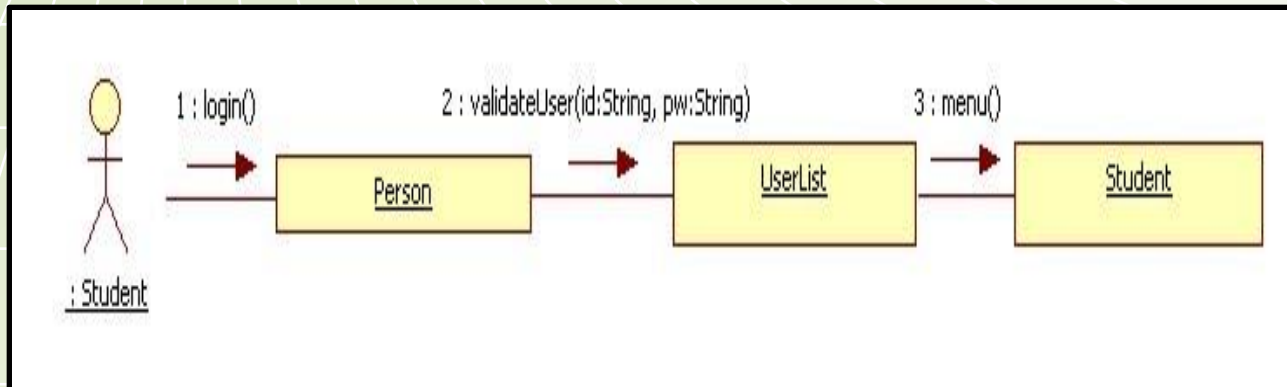
6.1.1 Student Login



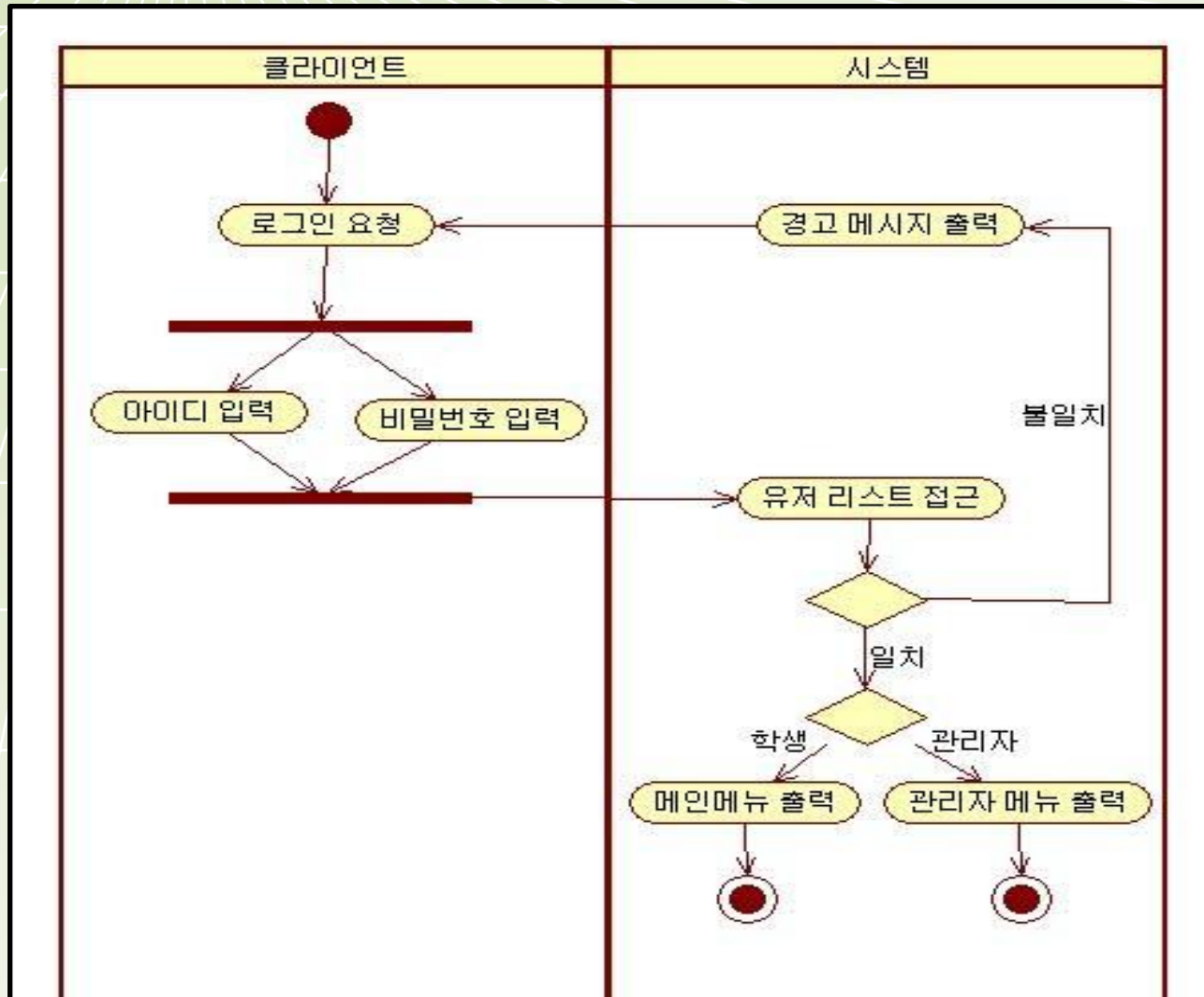
6.1.1 Student Login



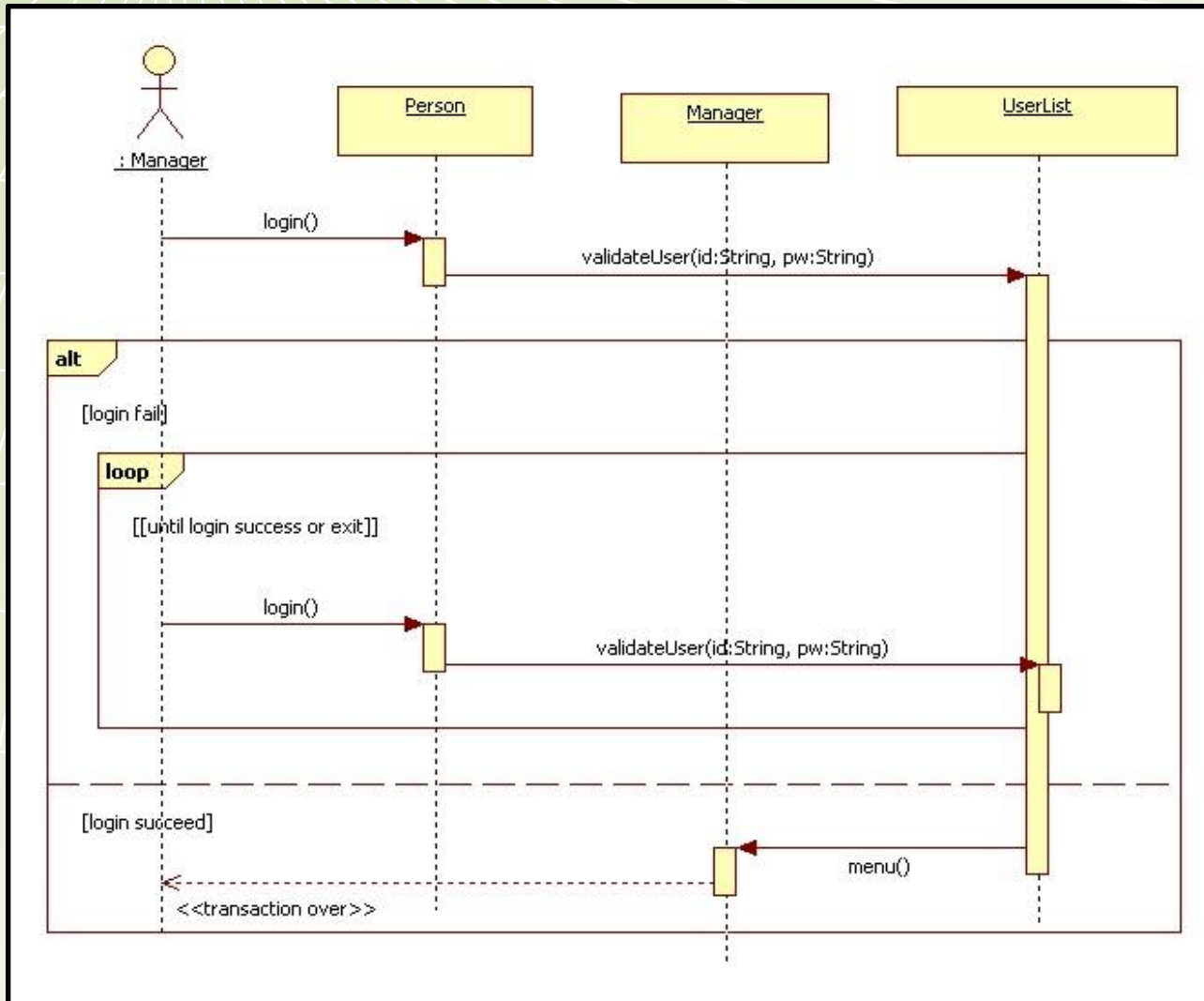
6.1.1 Student Login



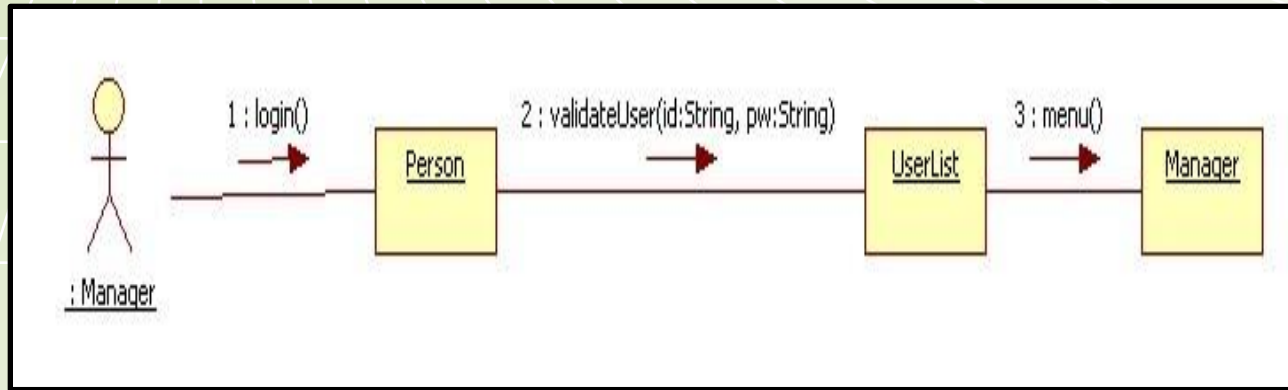
6.1.2 Manager Login



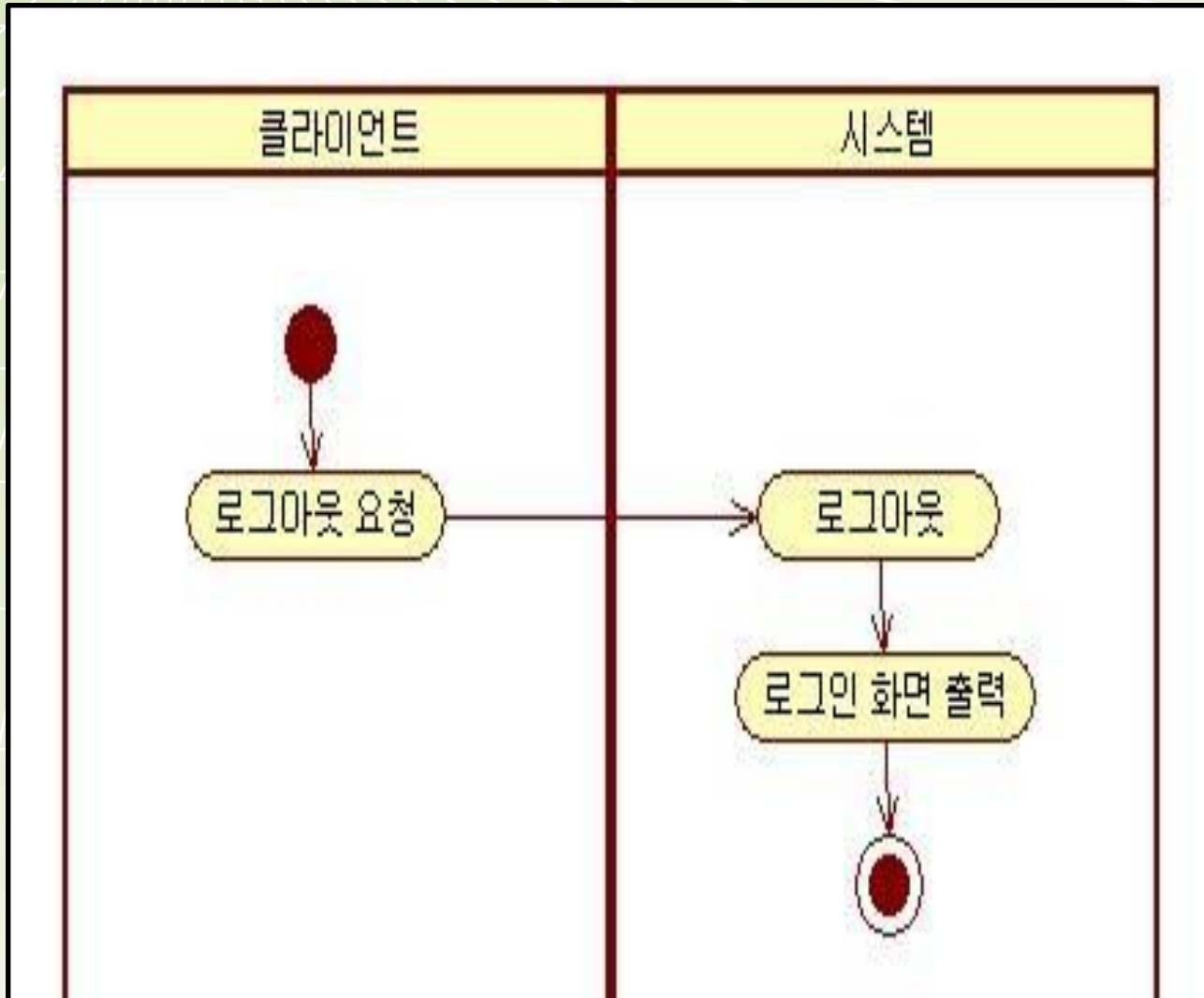
6.1.2 Manager Login



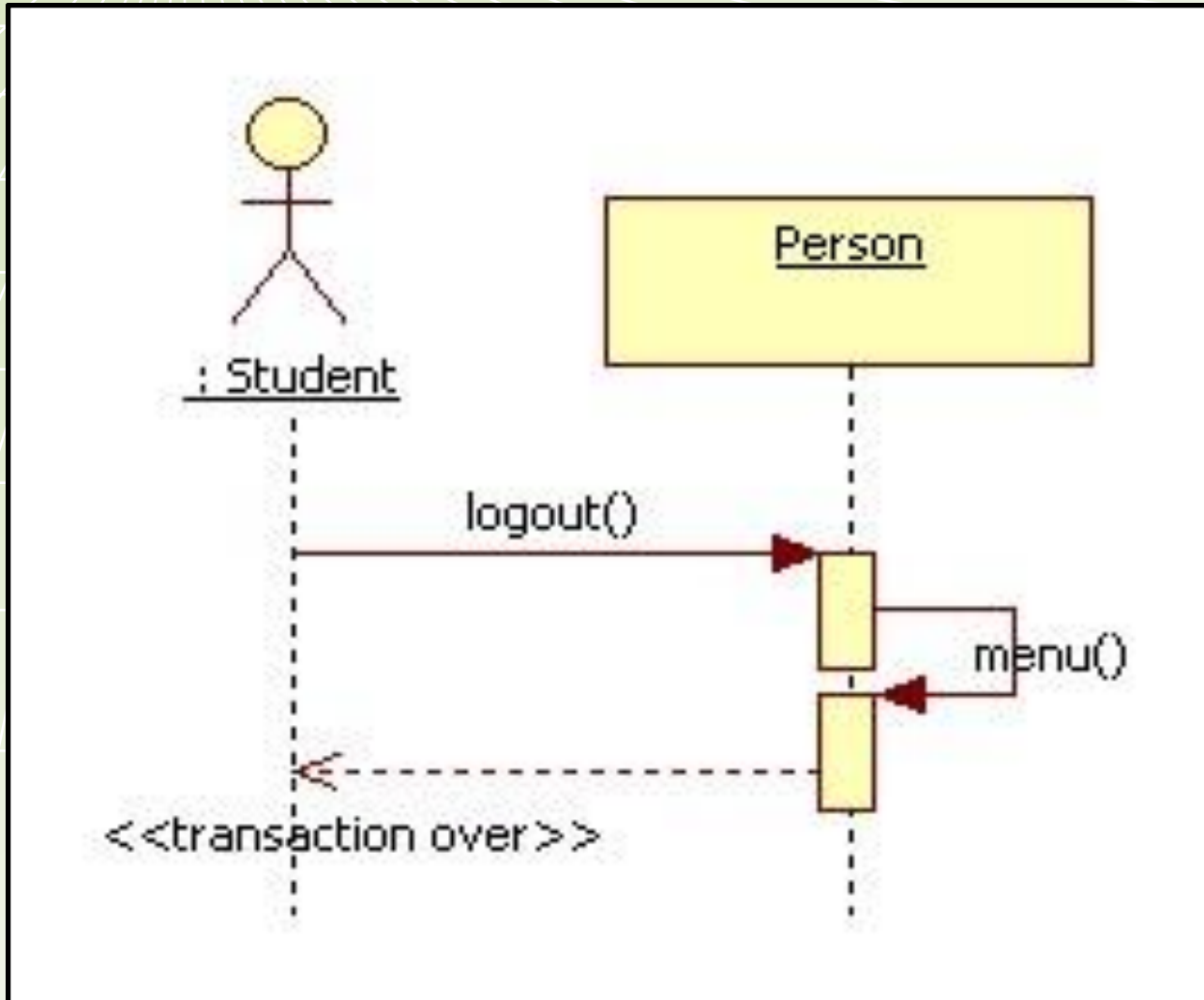
6.1.2 Manager Login



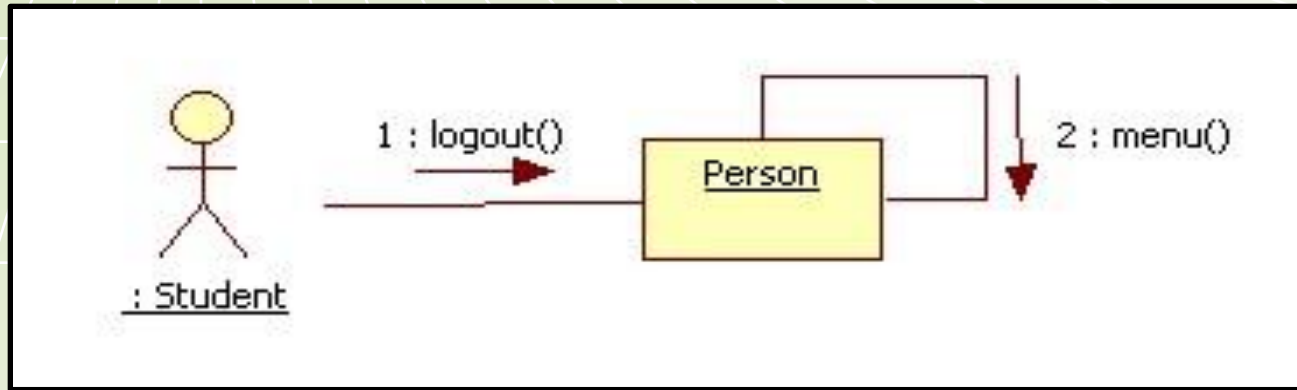
6.1.3 Student Logout



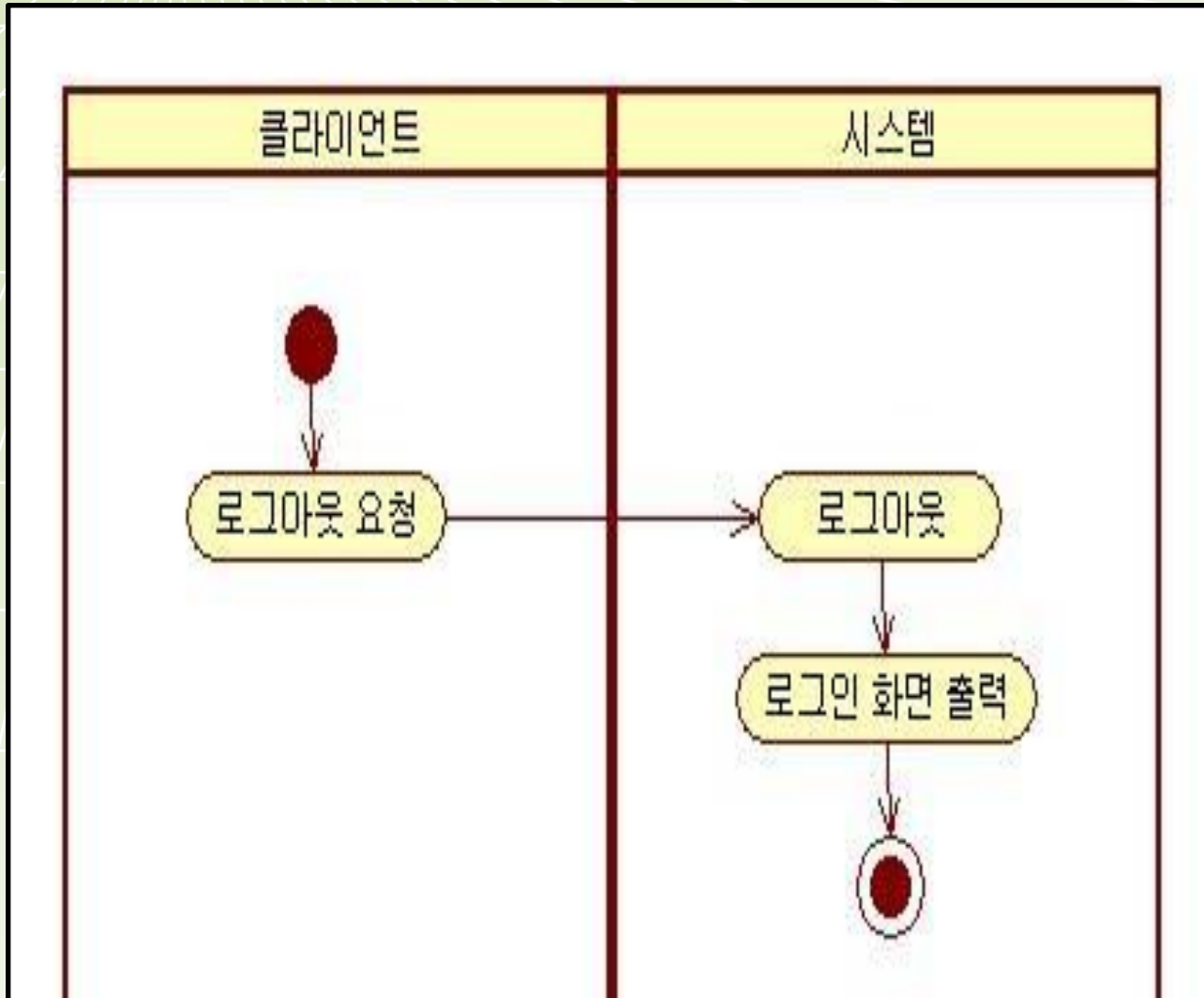
6.1.3 Student Logout



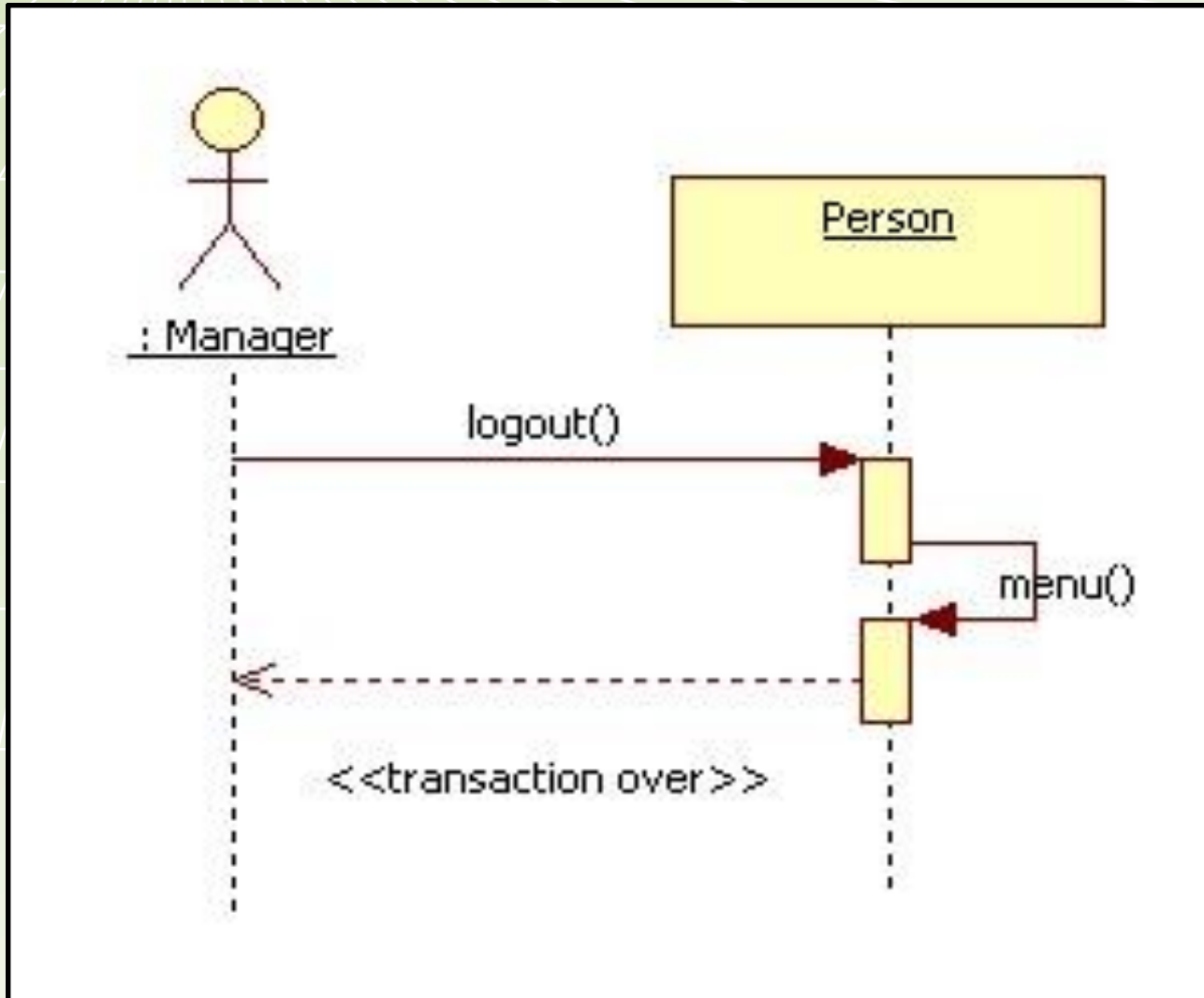
6.1.3 Student Logout



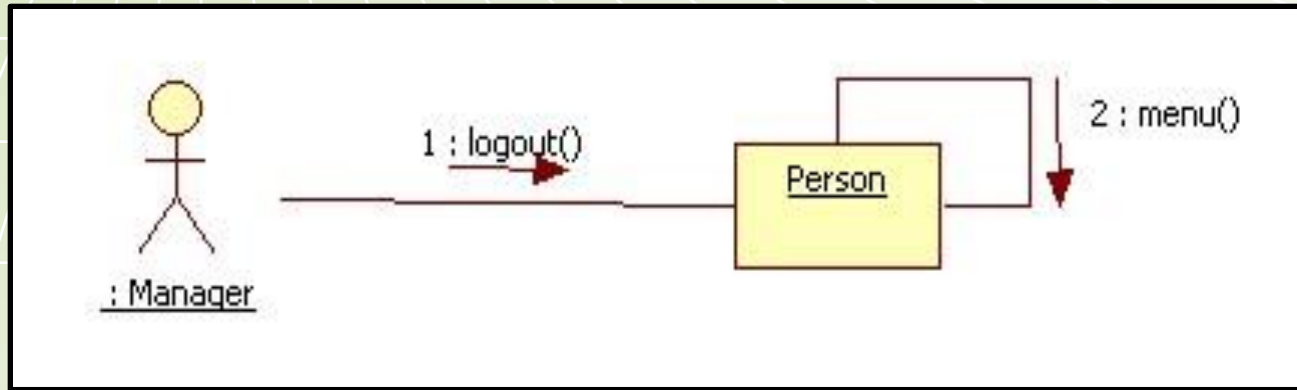
6.1.4 Manager Logout

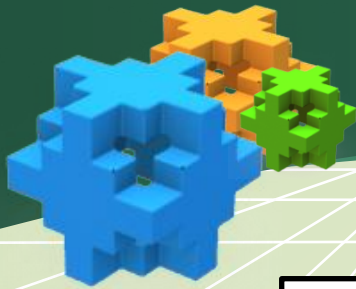


6.1.4 Manager Logout

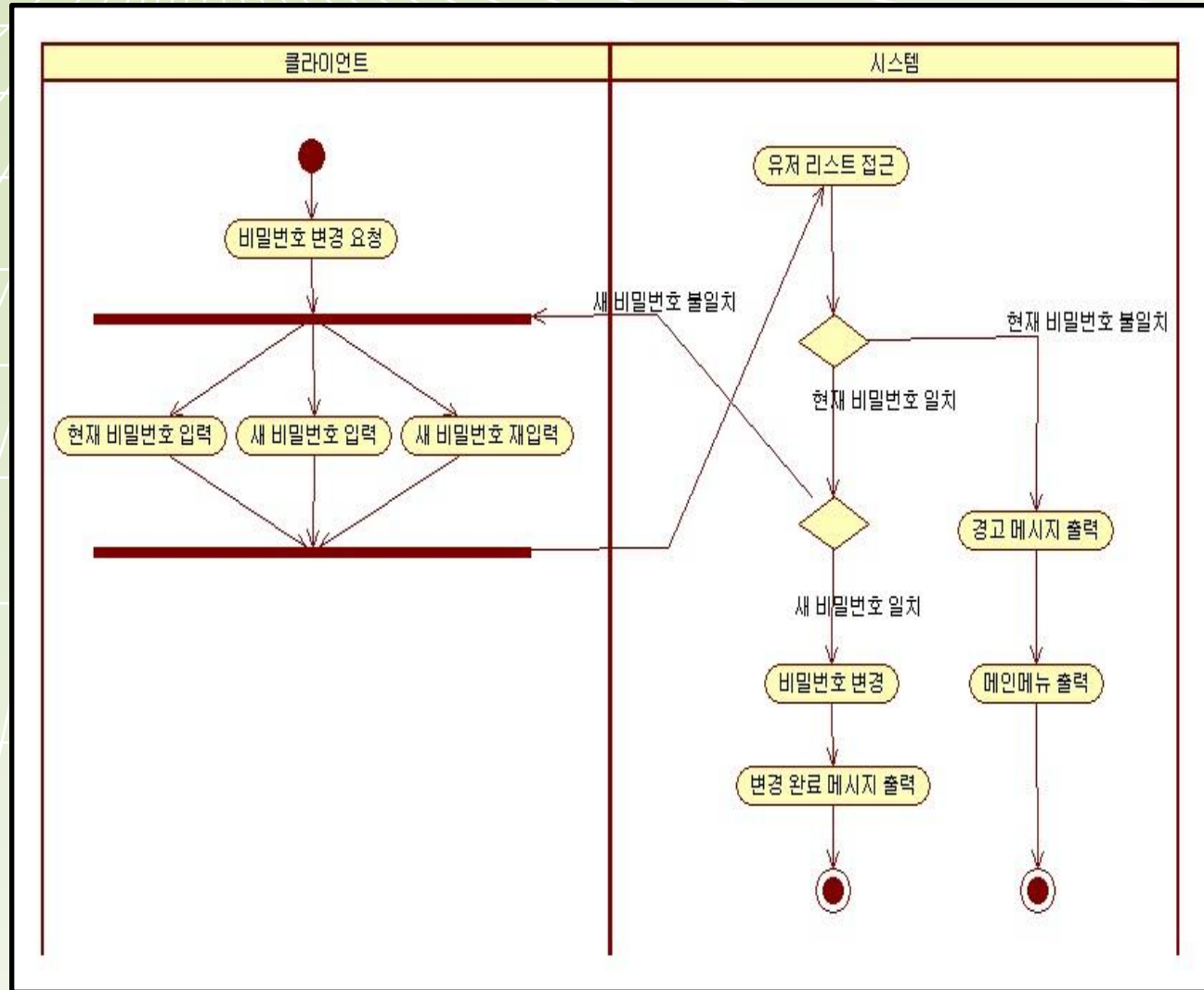


6.1.4 Manager Logout

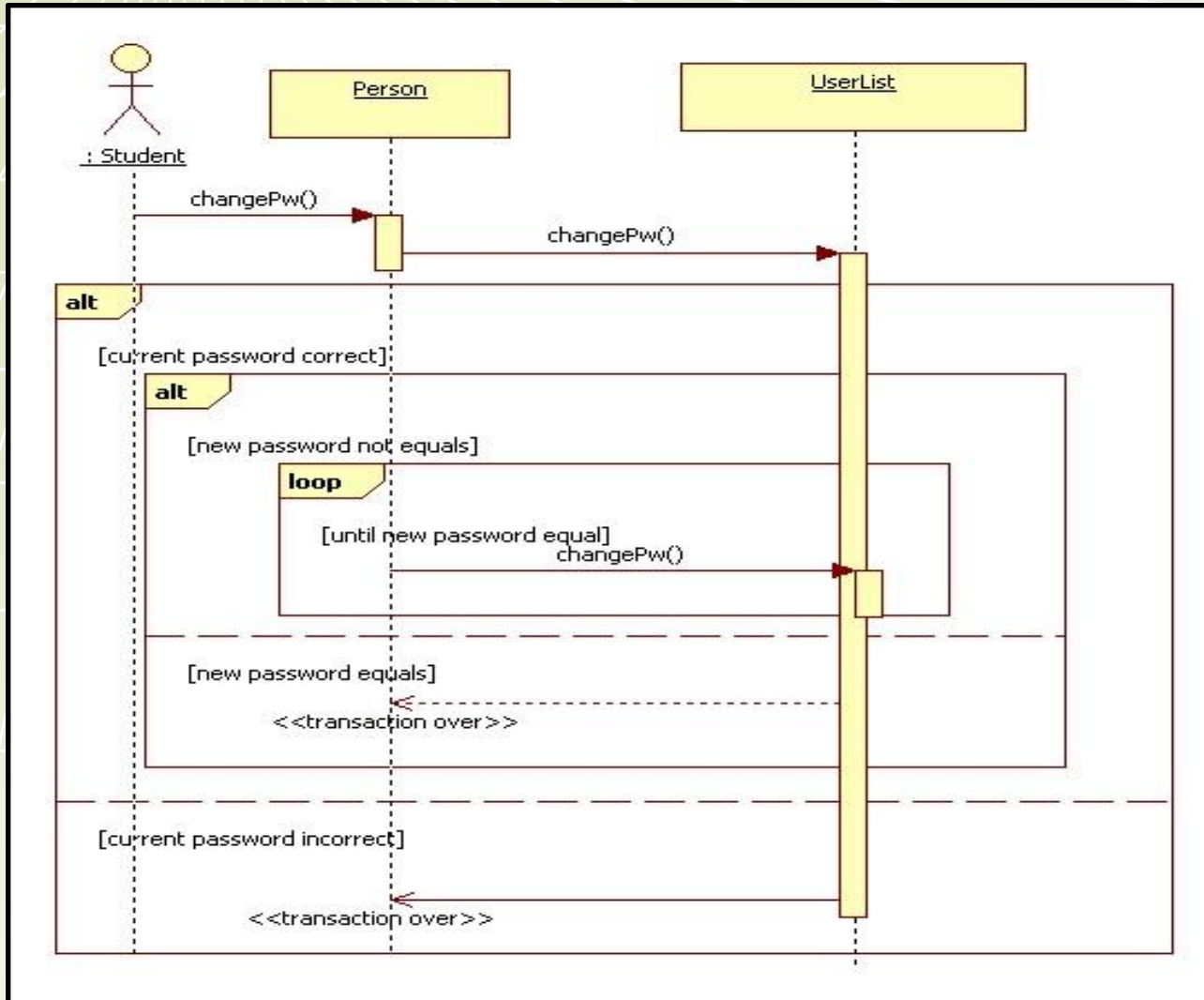




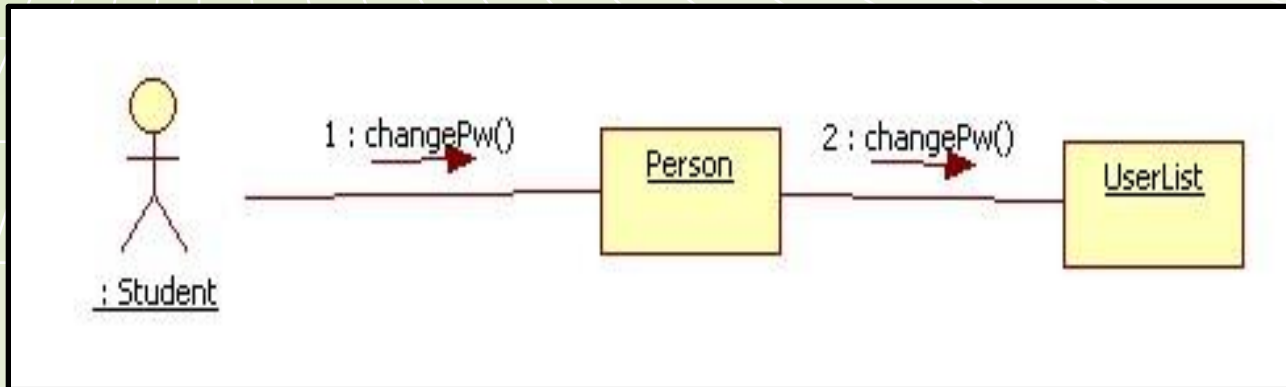
6.1.5 Student ChangePw



6.1.5 Student ChangePw

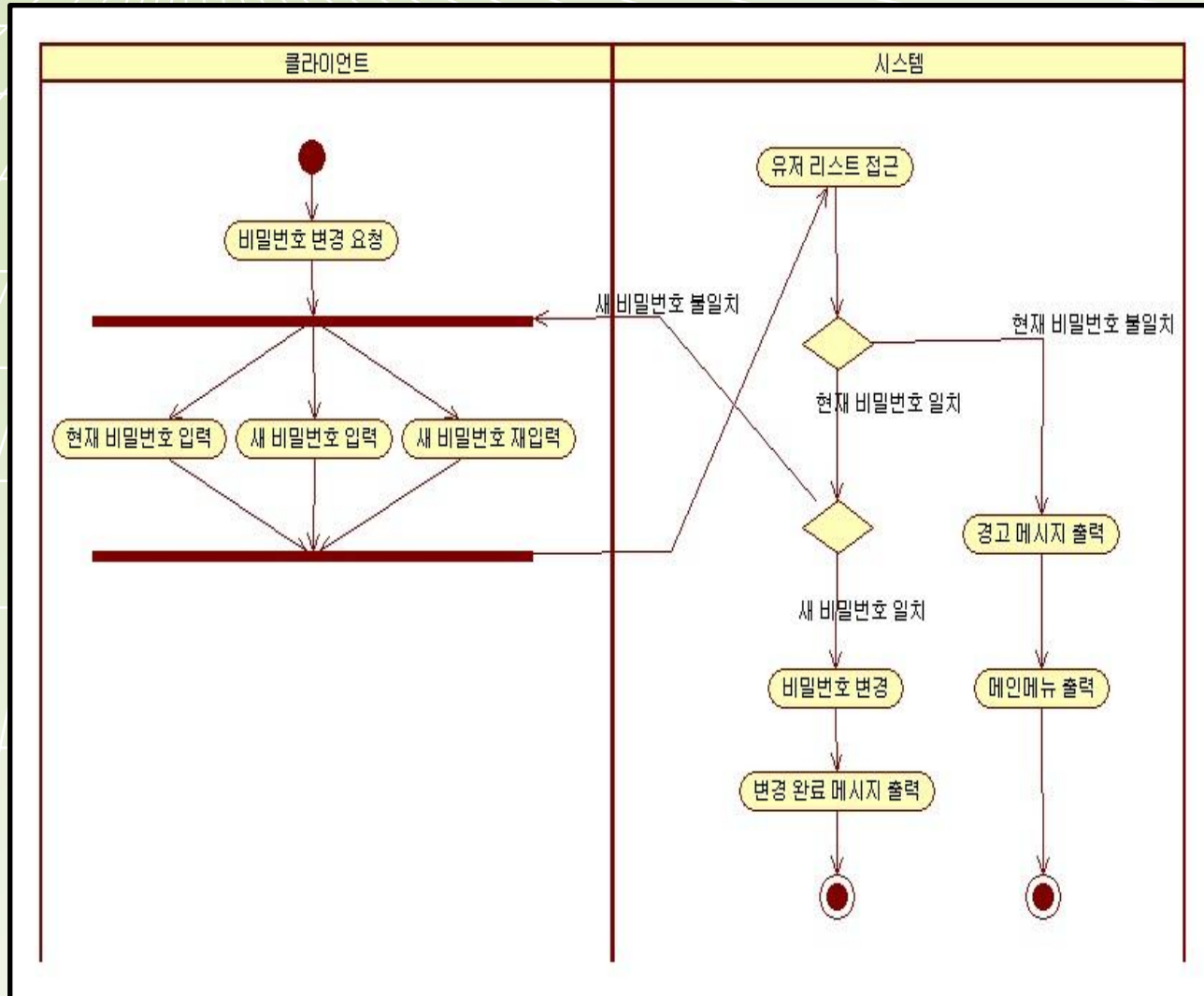


6.1.5 Student ChangePw

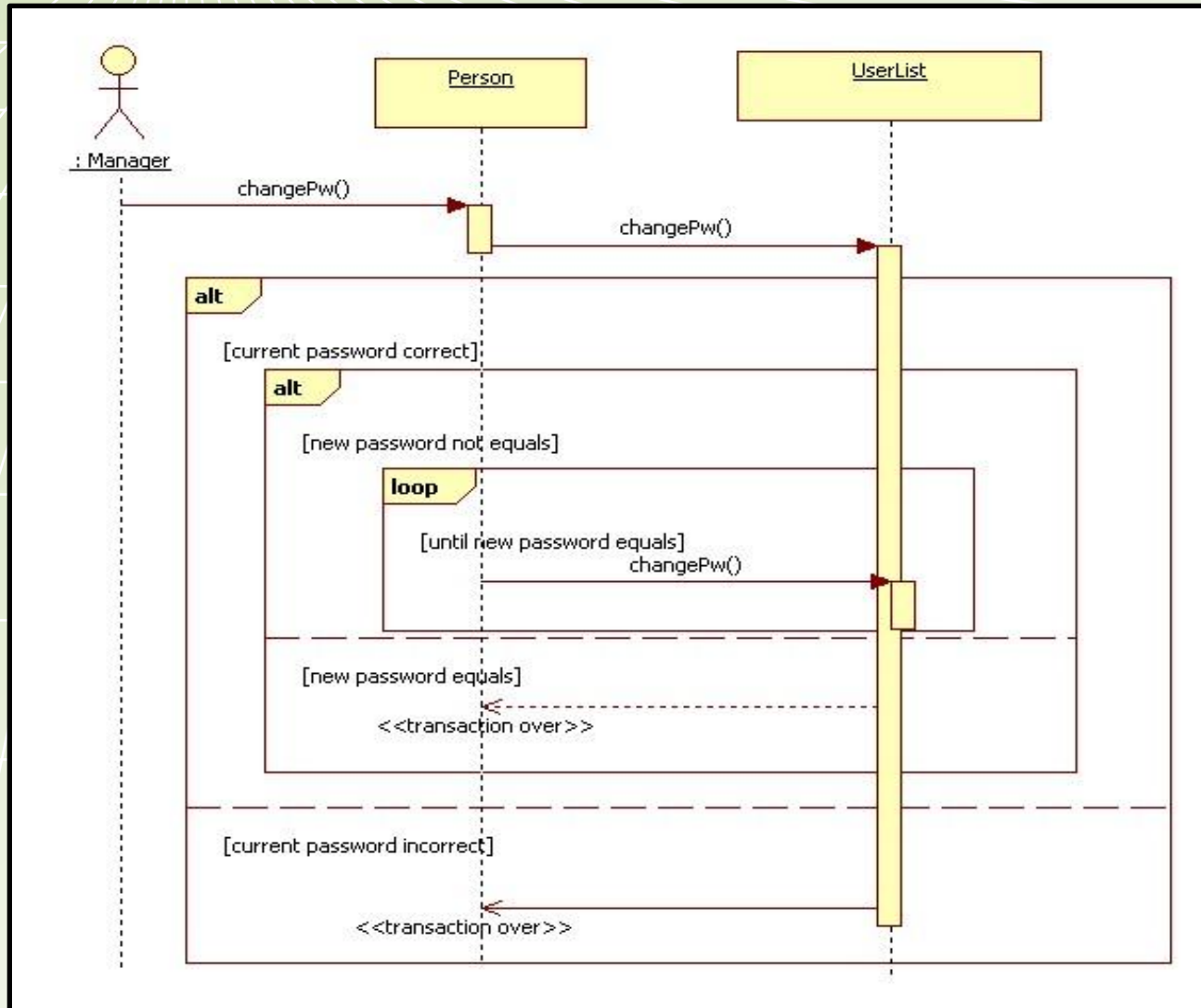




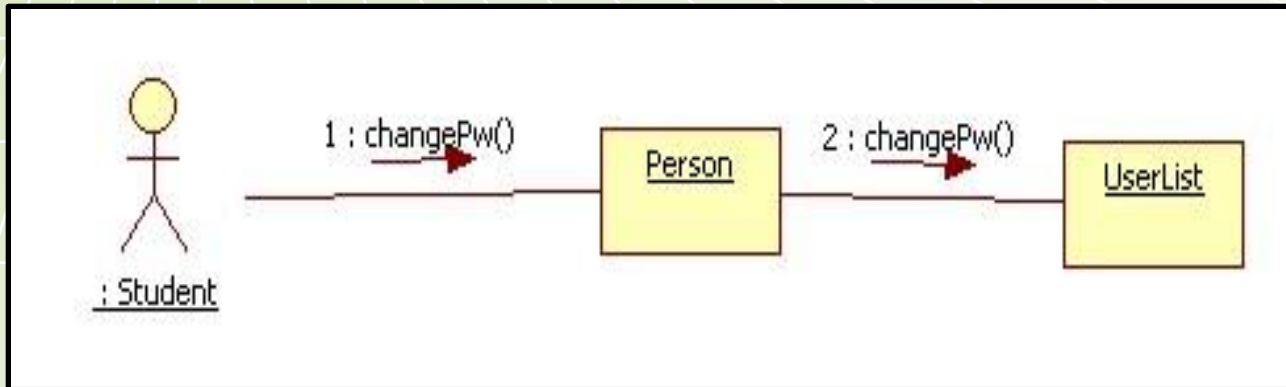
6.1.6 Manager ChangePw



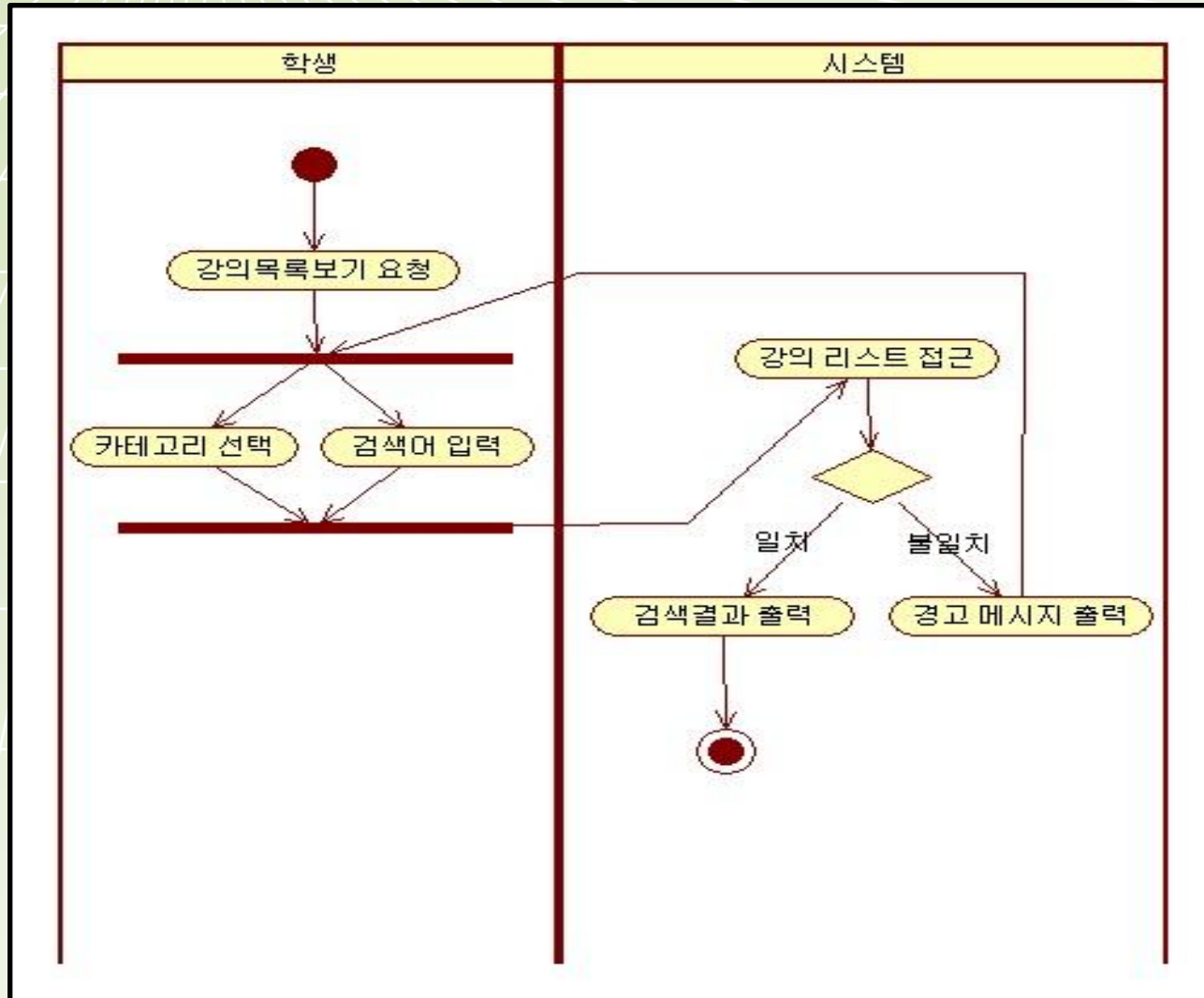
6.1.6 Manager ChangePw



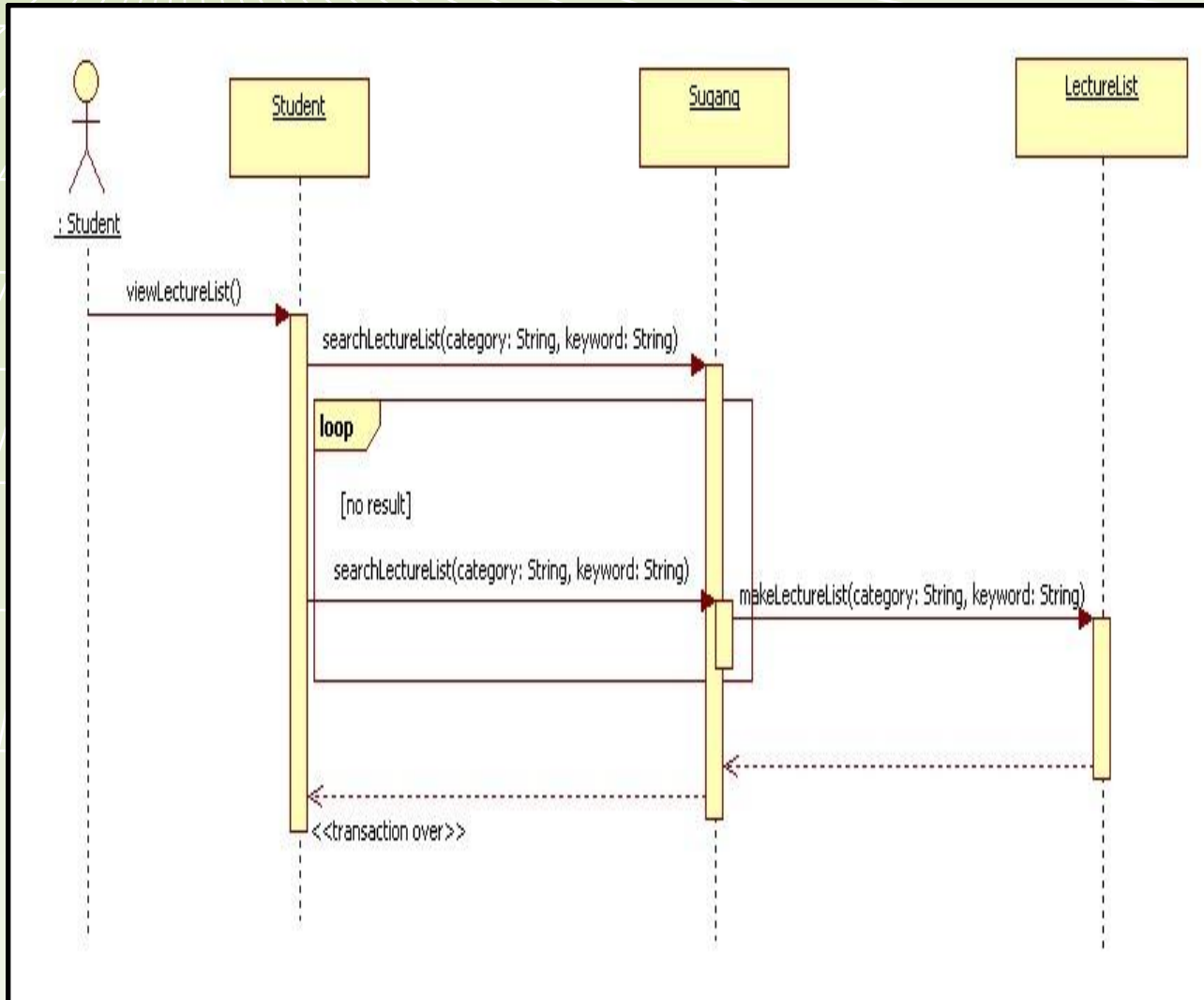
6.1.6 Manager ChangePw



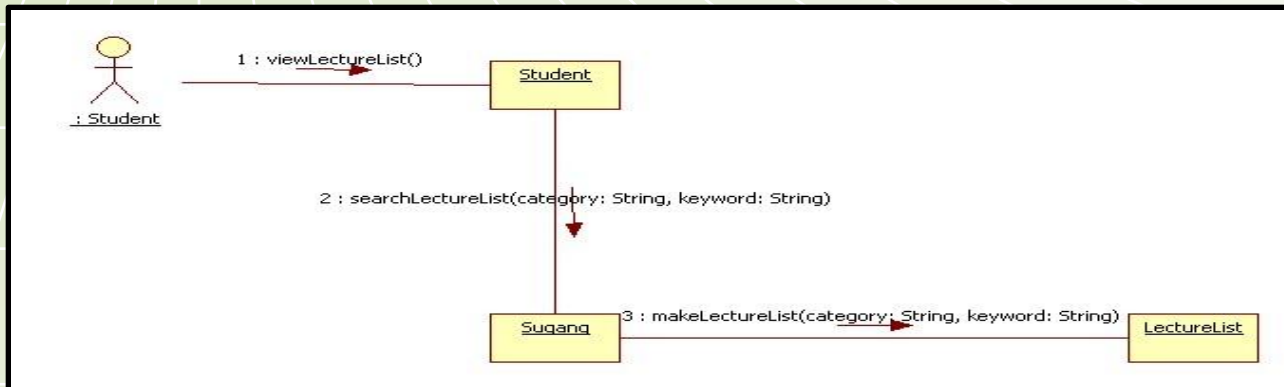
6.1.7 View LectureList



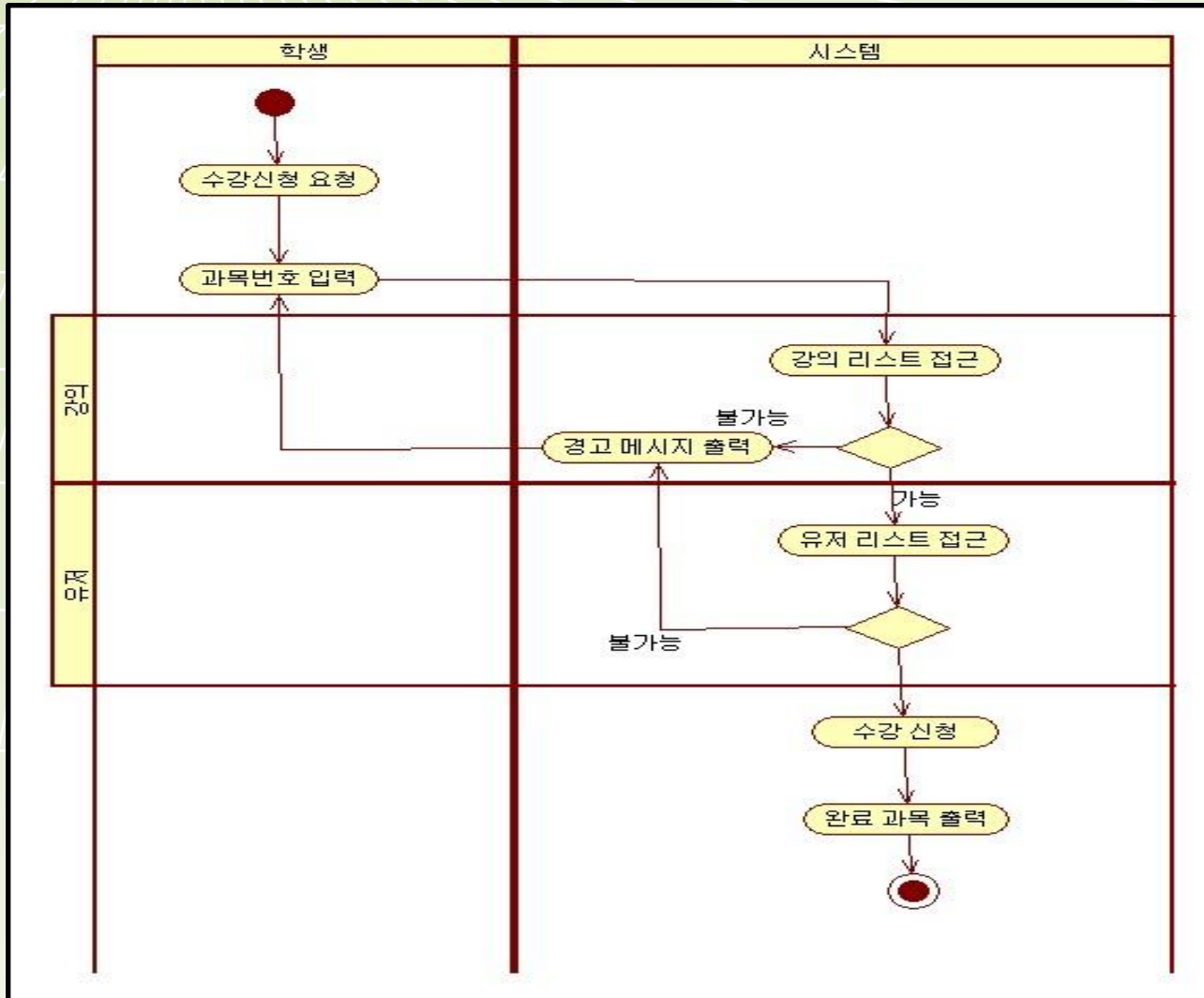
6.1.7 View LectureList



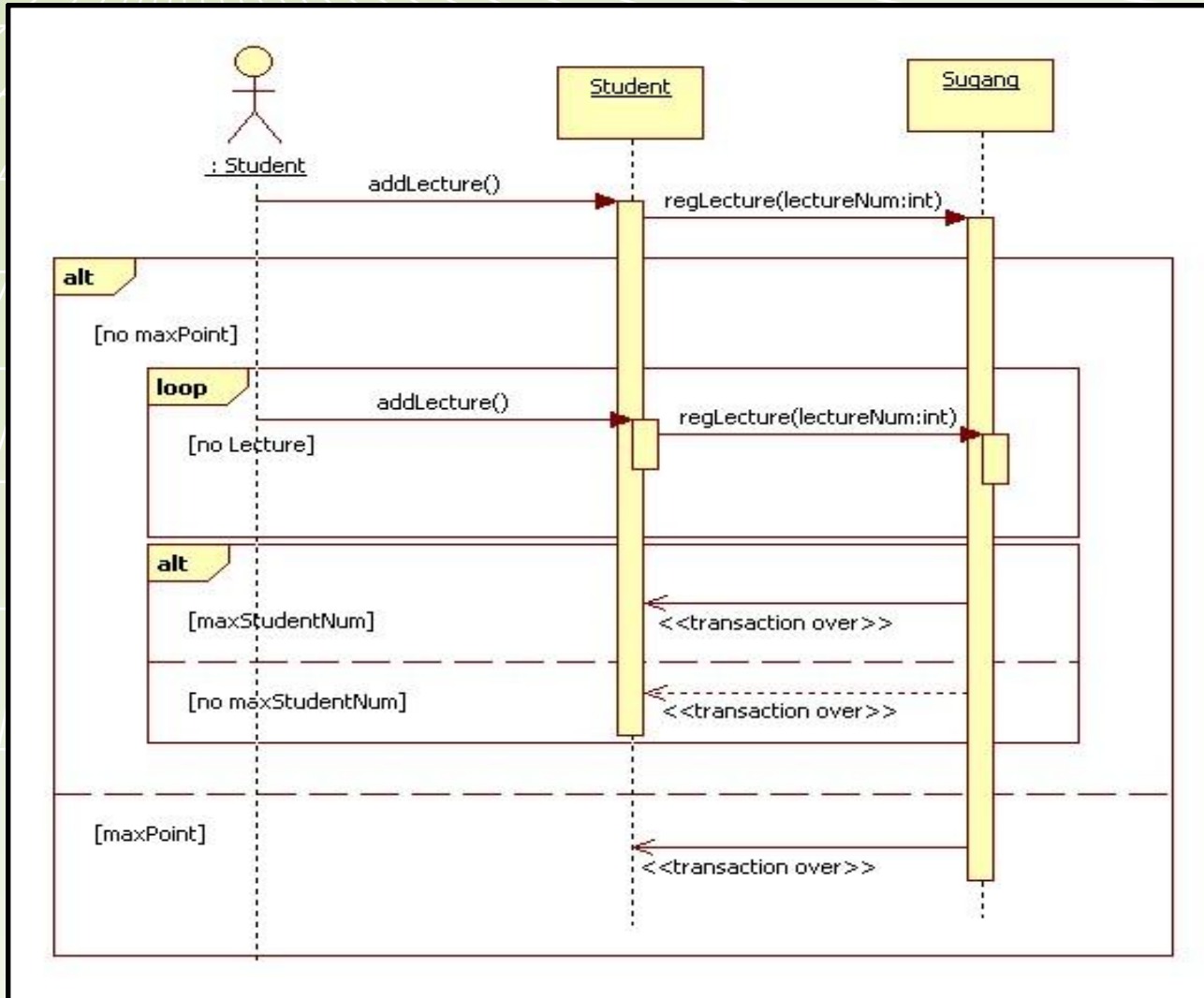
6.1.7 View LectureList



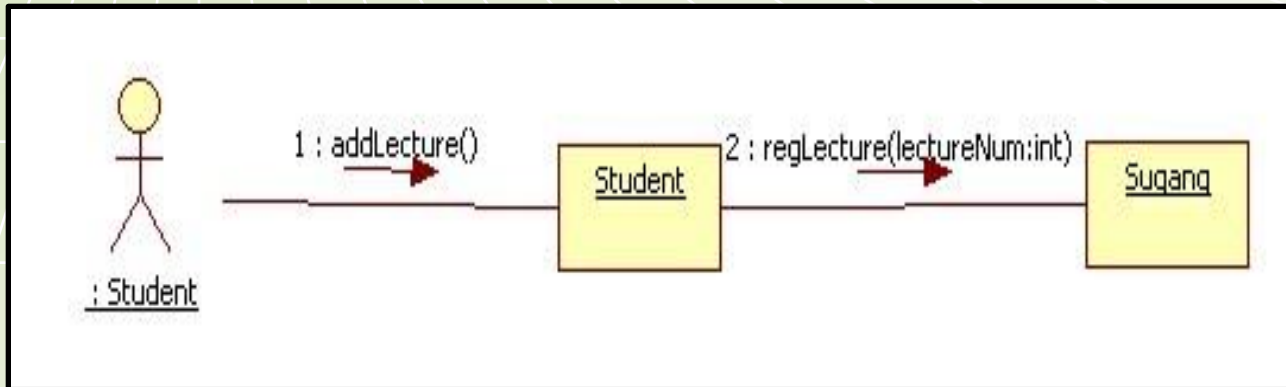
6.1.8 Add Lecture



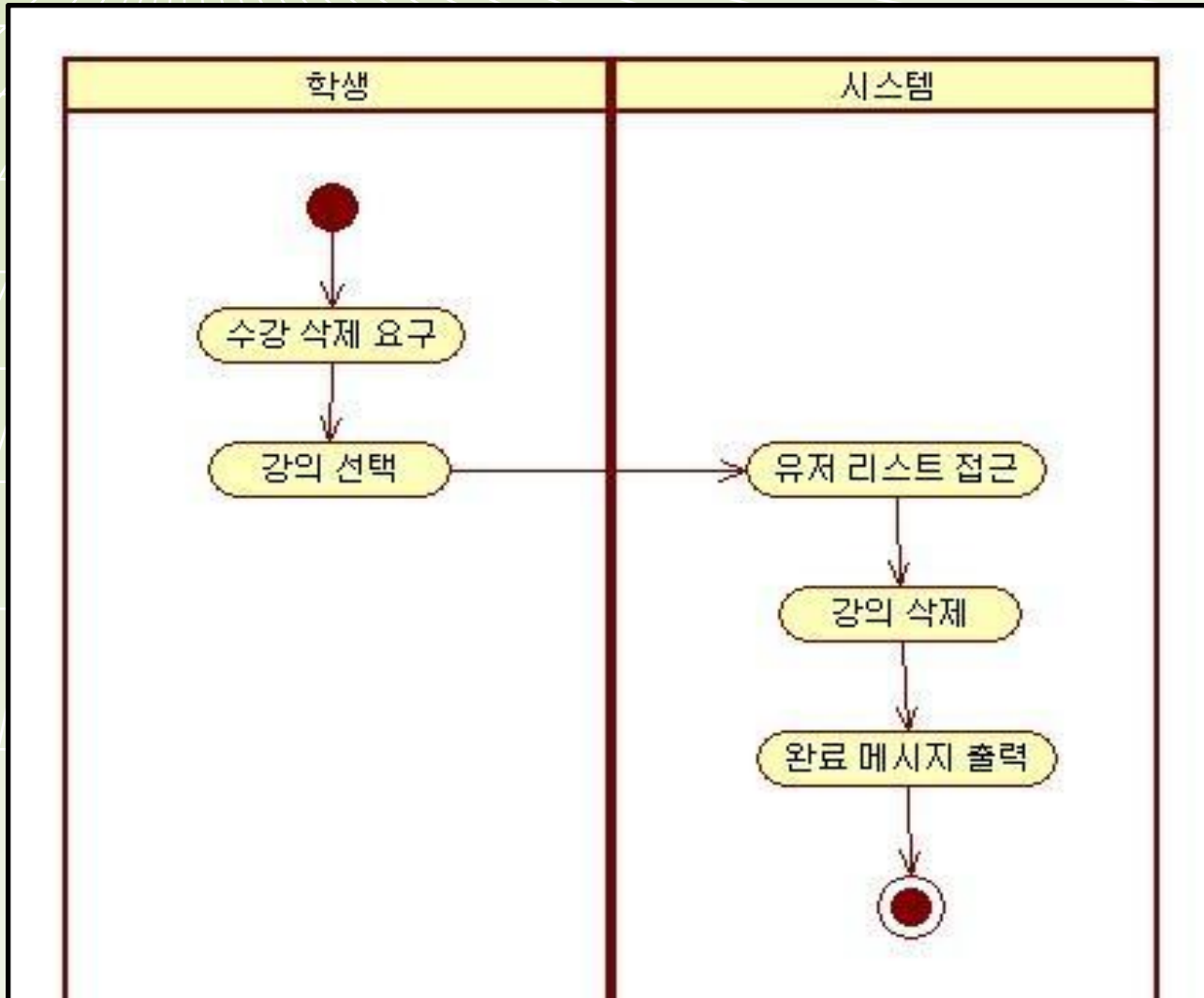
6.1.8 Add Lecture



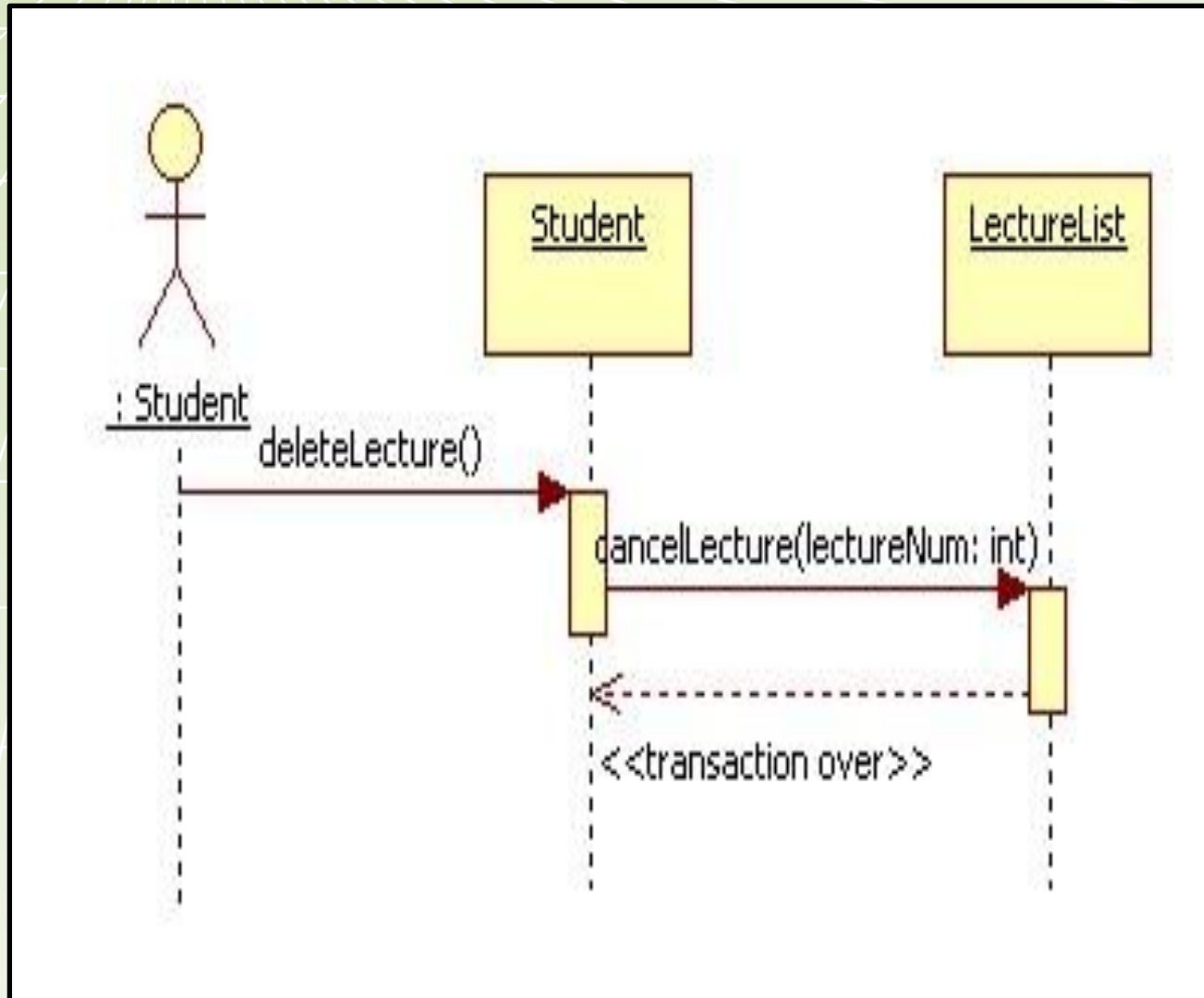
6.1.8 Add Lecture



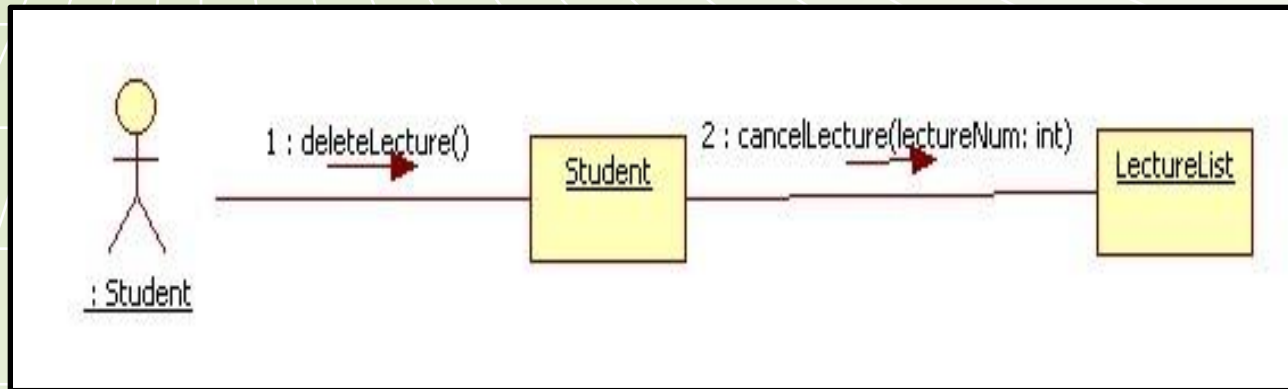
6.1.9 Delete Lecture



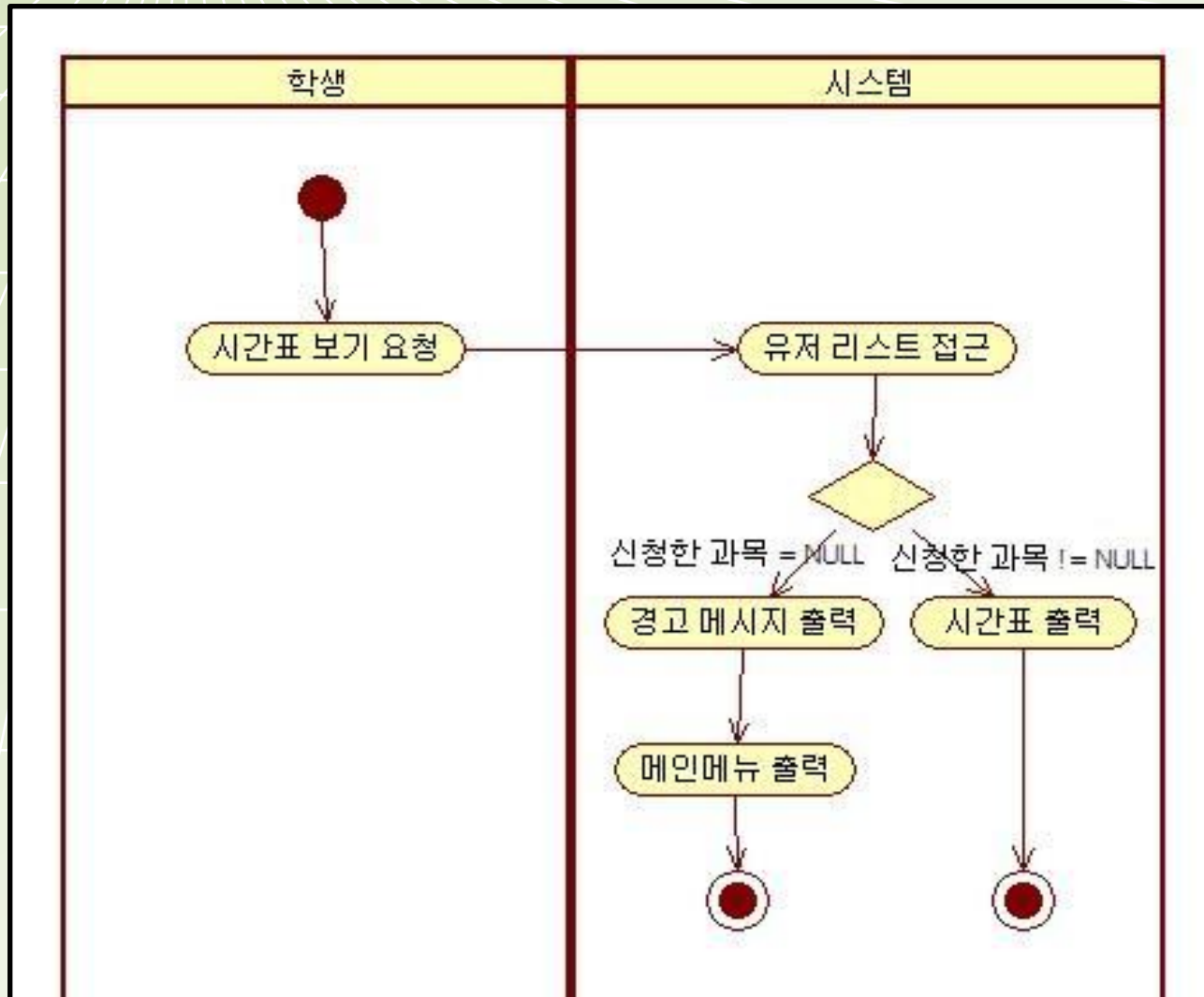
6.1.9 Delete Lecture



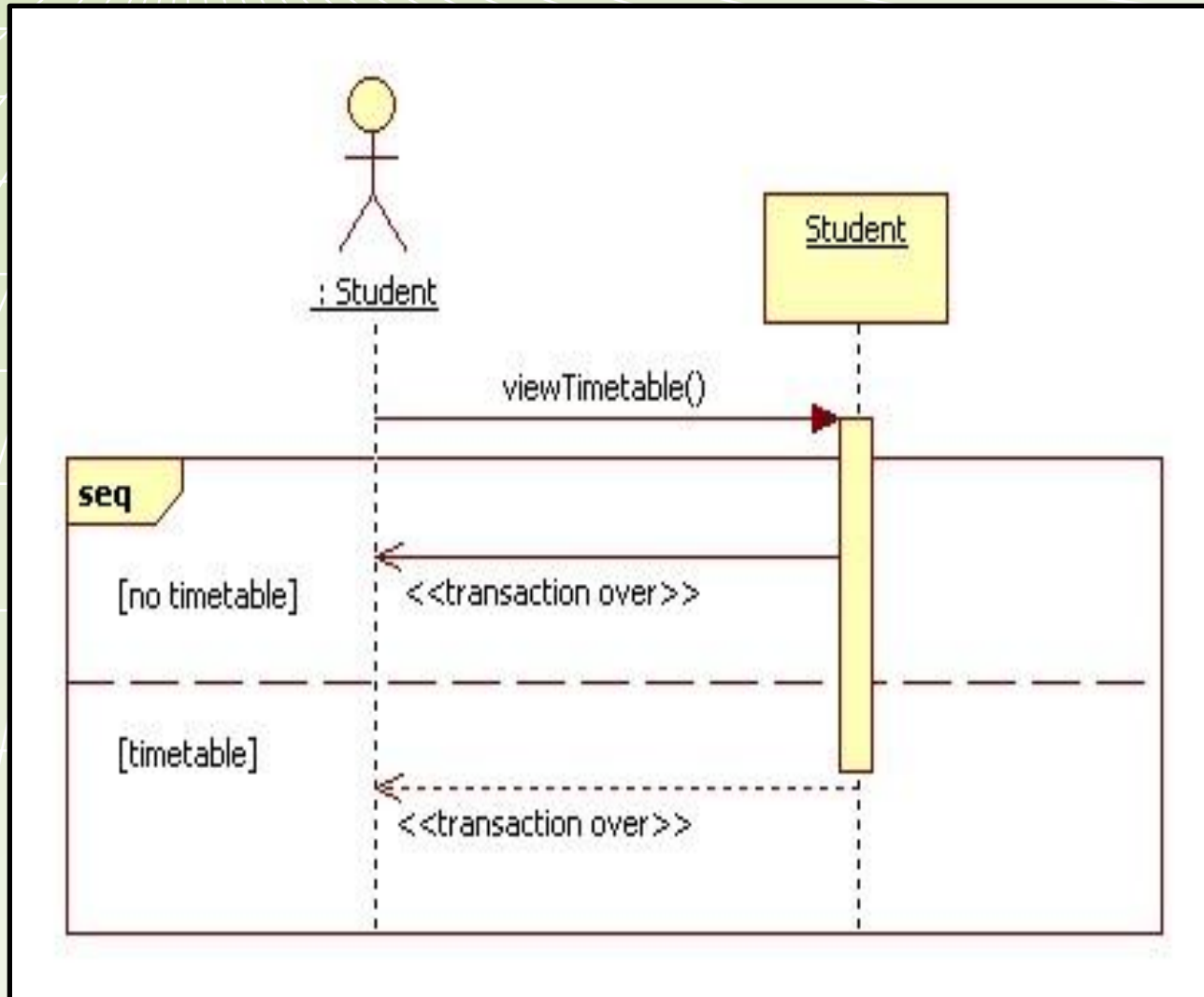
6.1.9 Delete Lecture



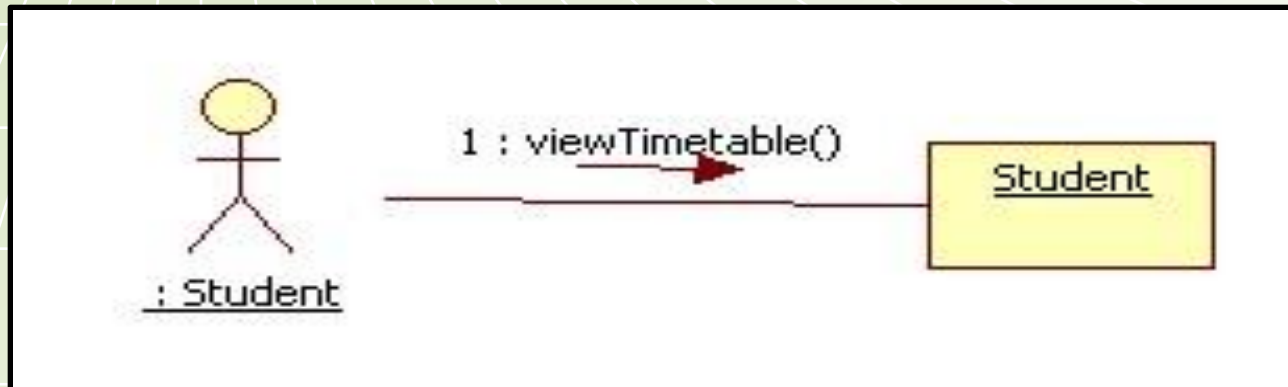
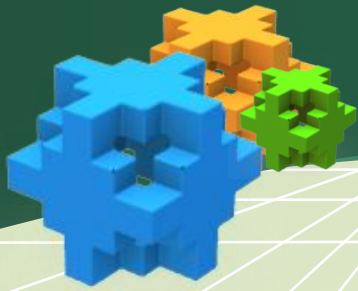
6.1.10 View Time Table



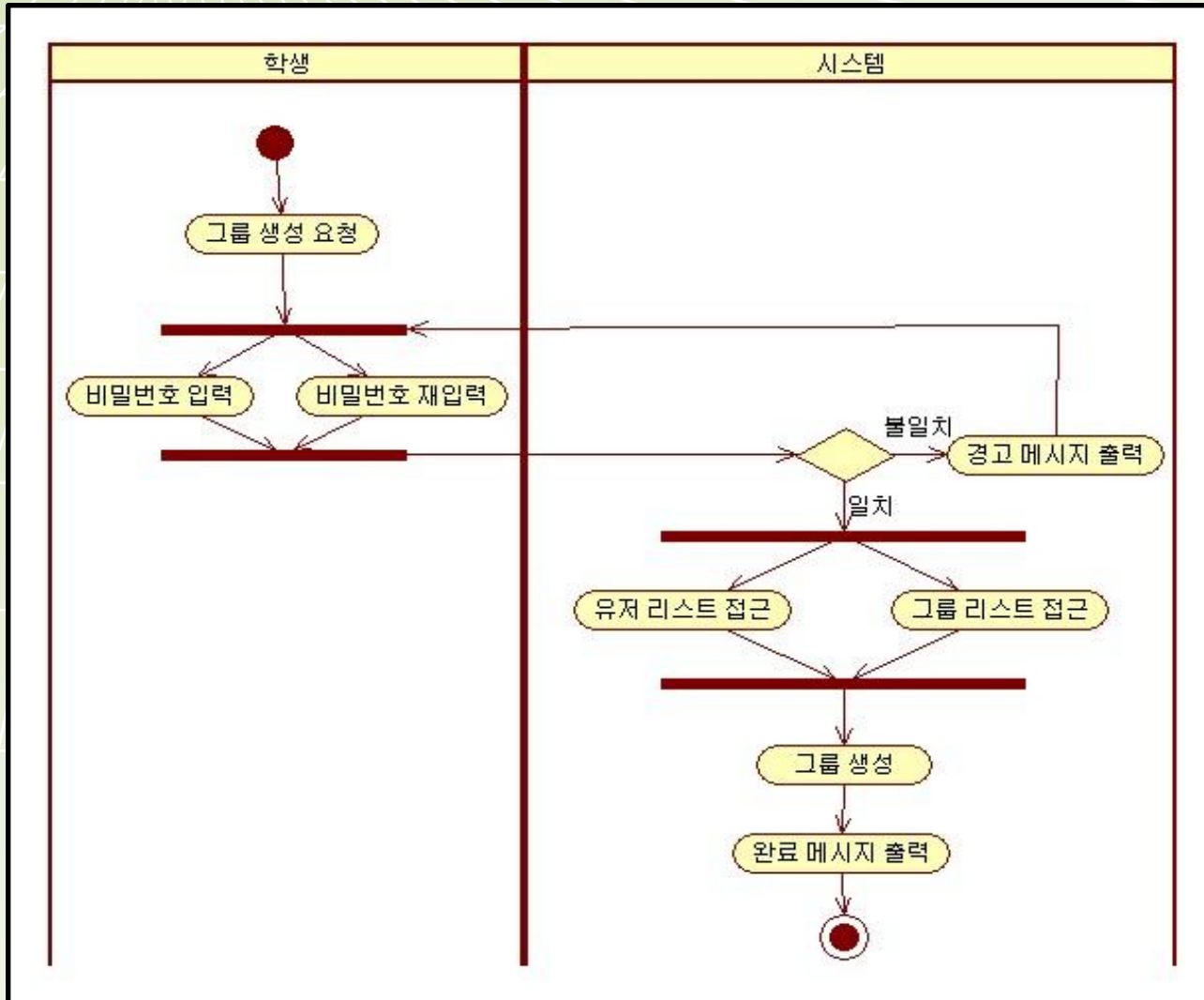
6.1.10 View Time Table



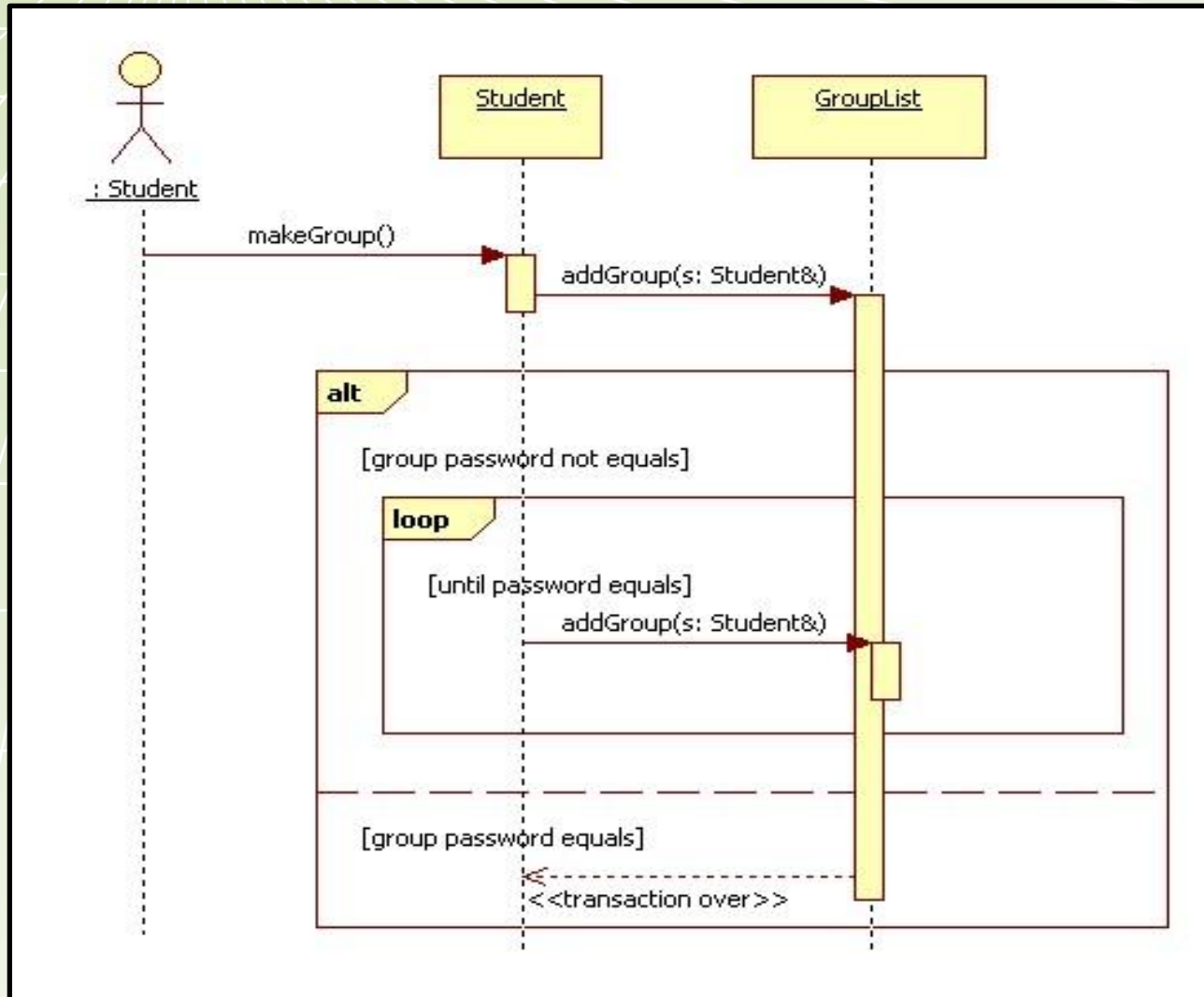
6.1.10 View Time Table



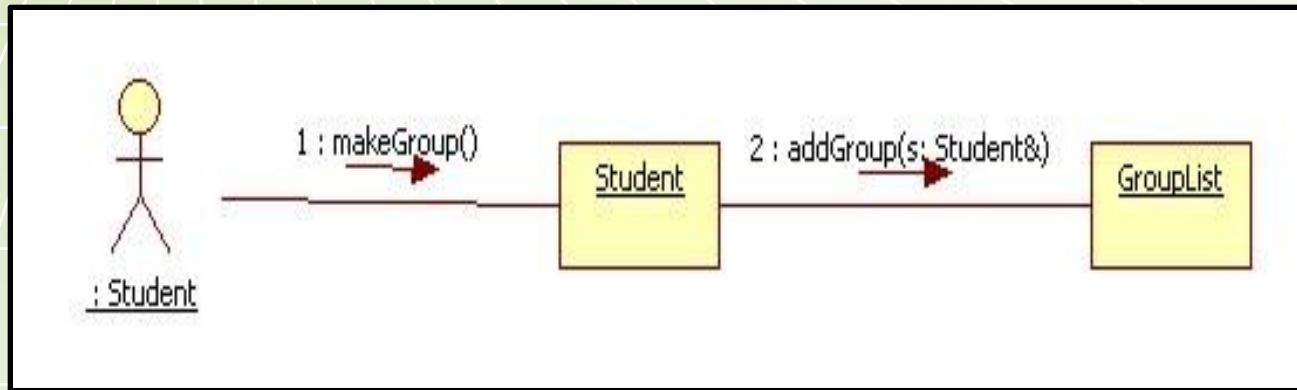
6.1.11 Make Group



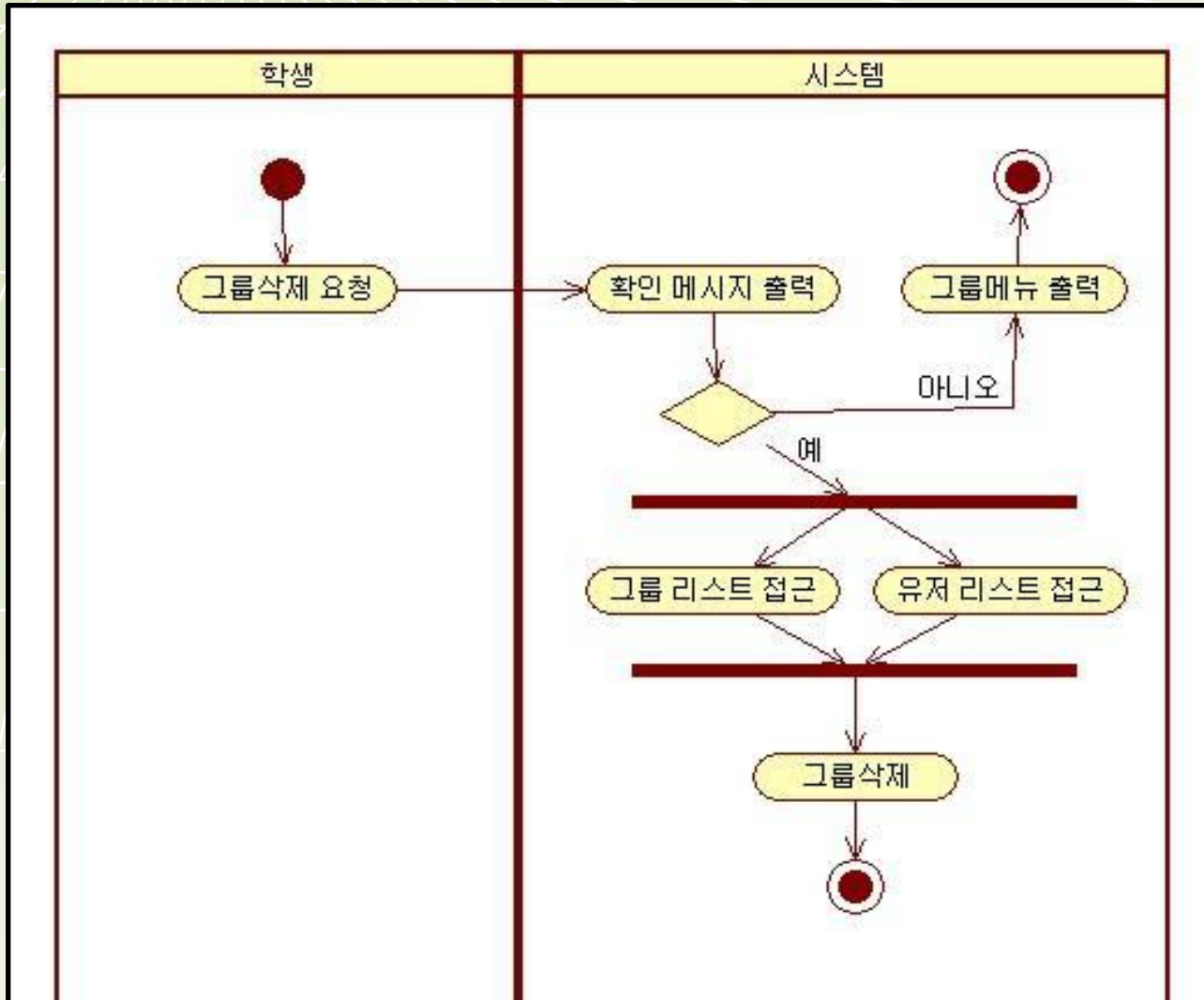
6.1.11 Make Group



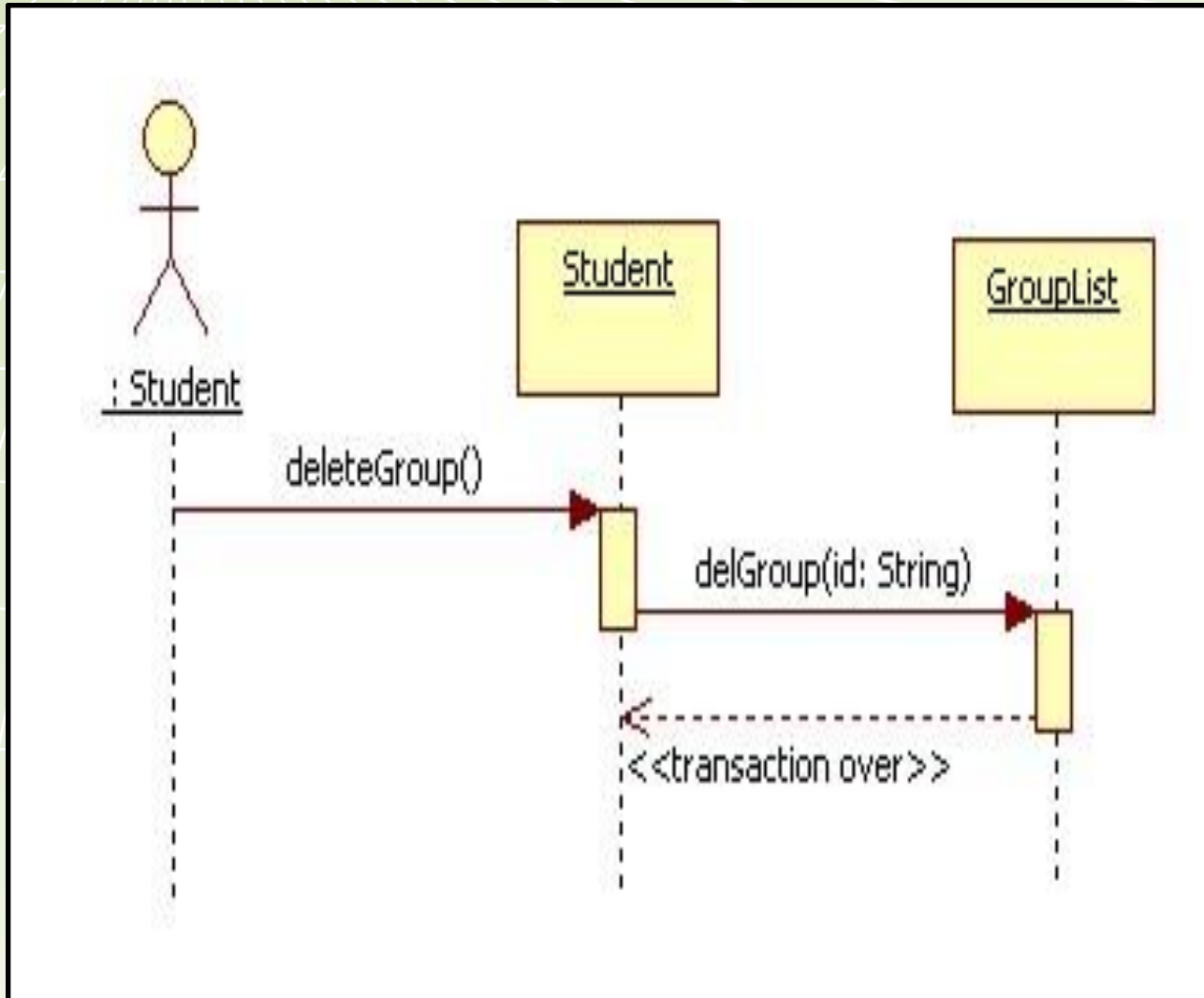
6.1.11 Make Group



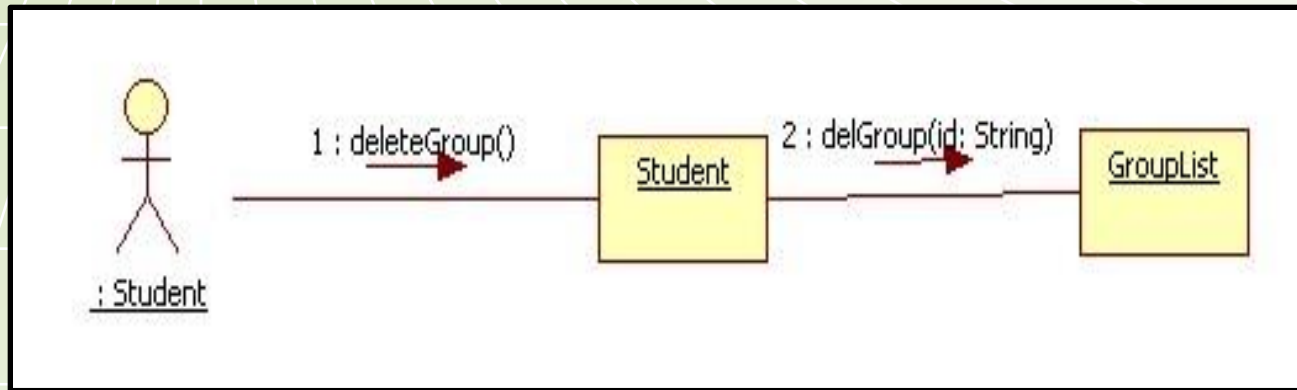
6.1.12 Delete Group



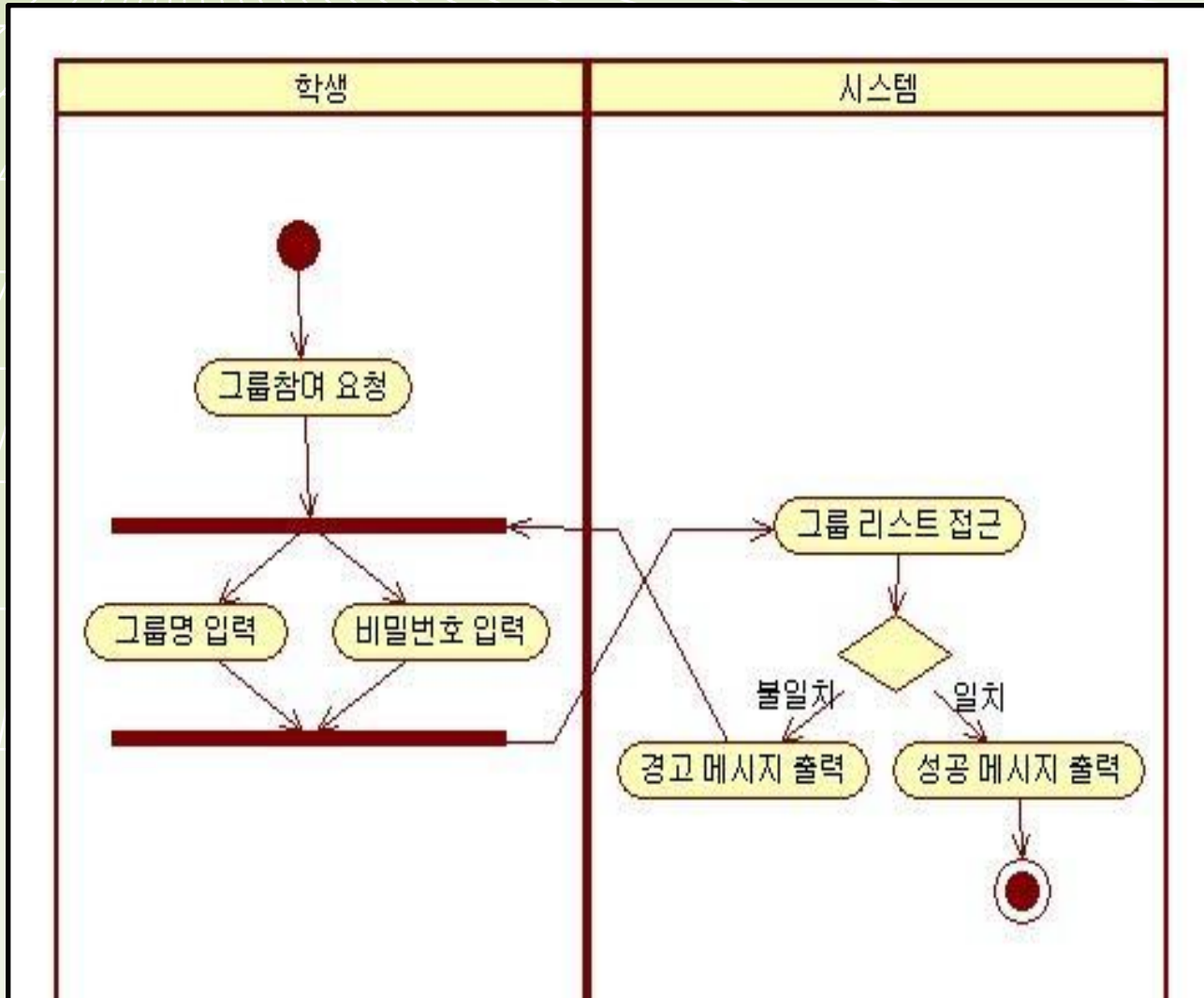
6.1.12 Delete Group



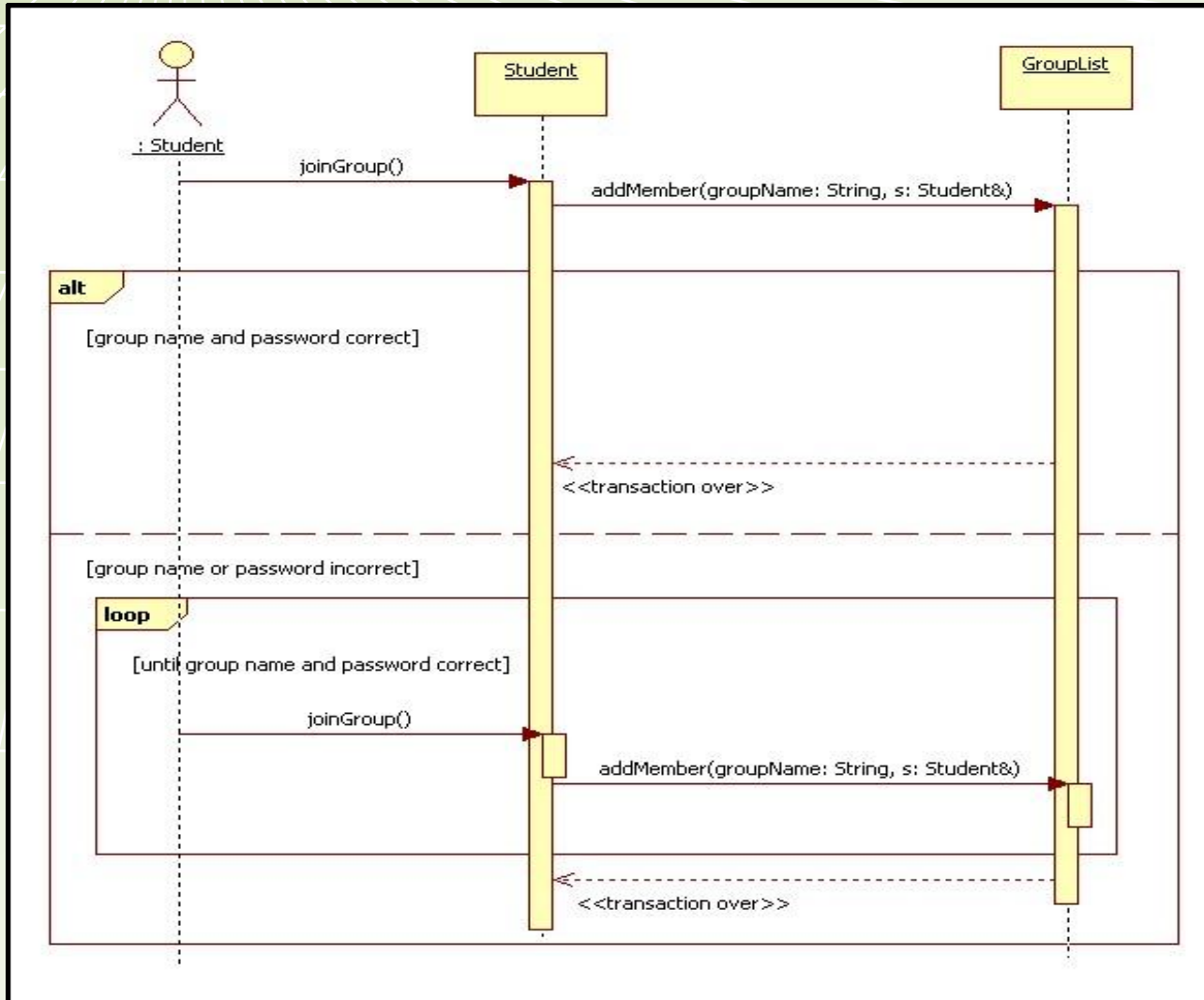
6.1.12 Delete Group



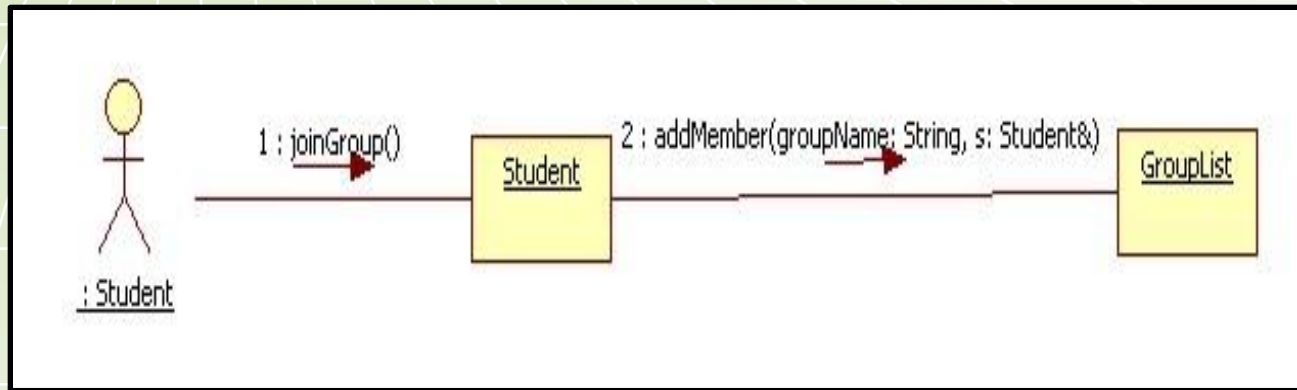
6.1.13 Join Group



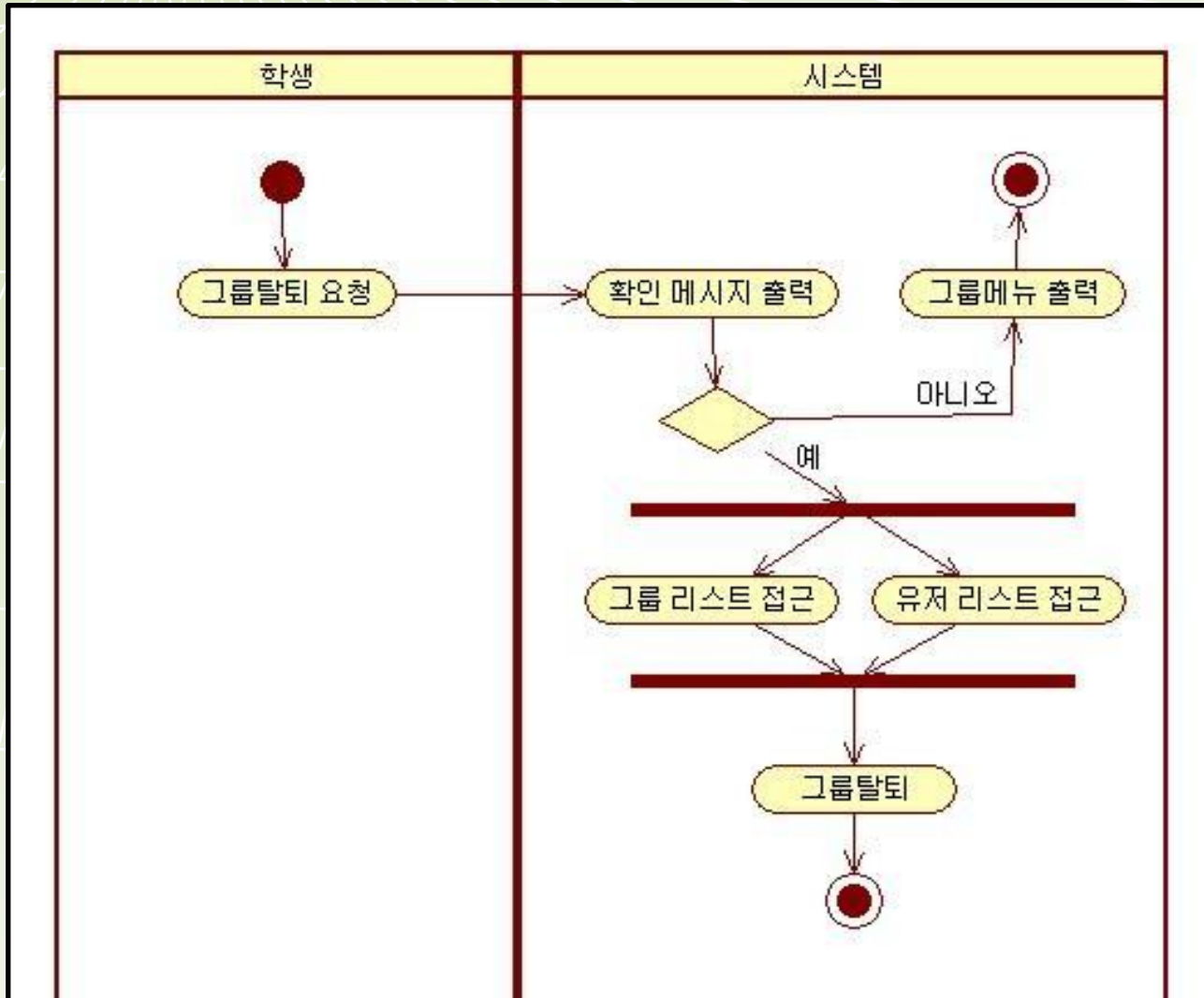
6.1.13 Join Group



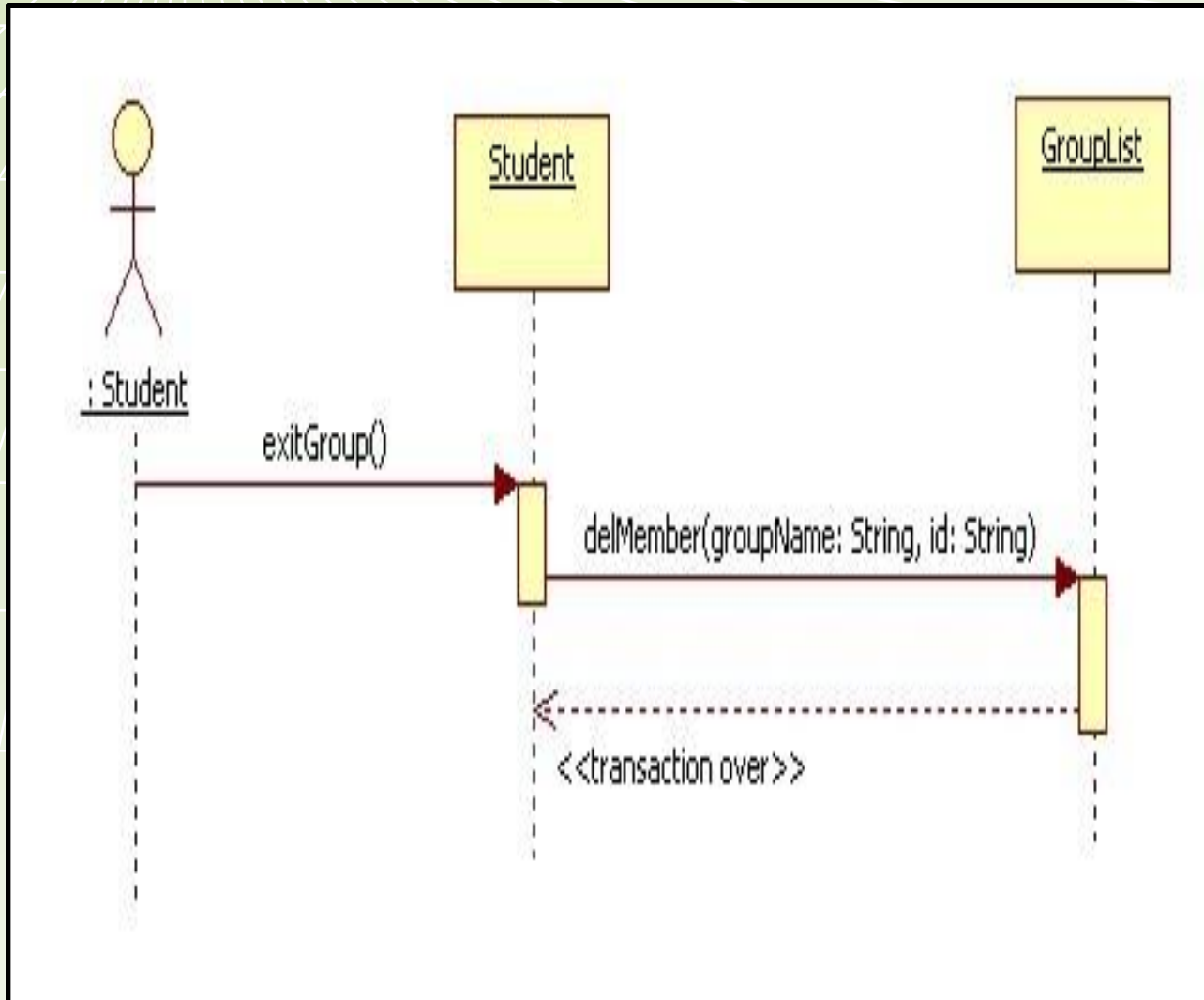
6.1.13 Join Group



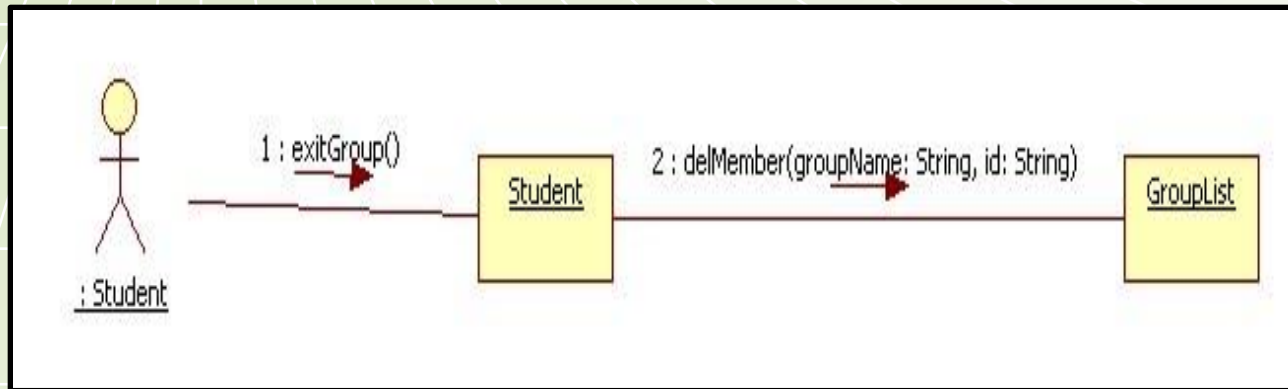
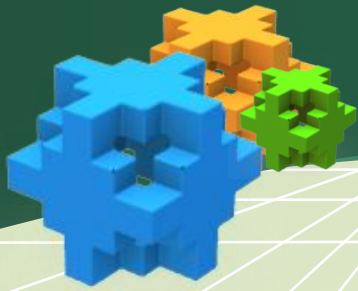
6.1.14 Exit Group



6.1.14 Exit Group

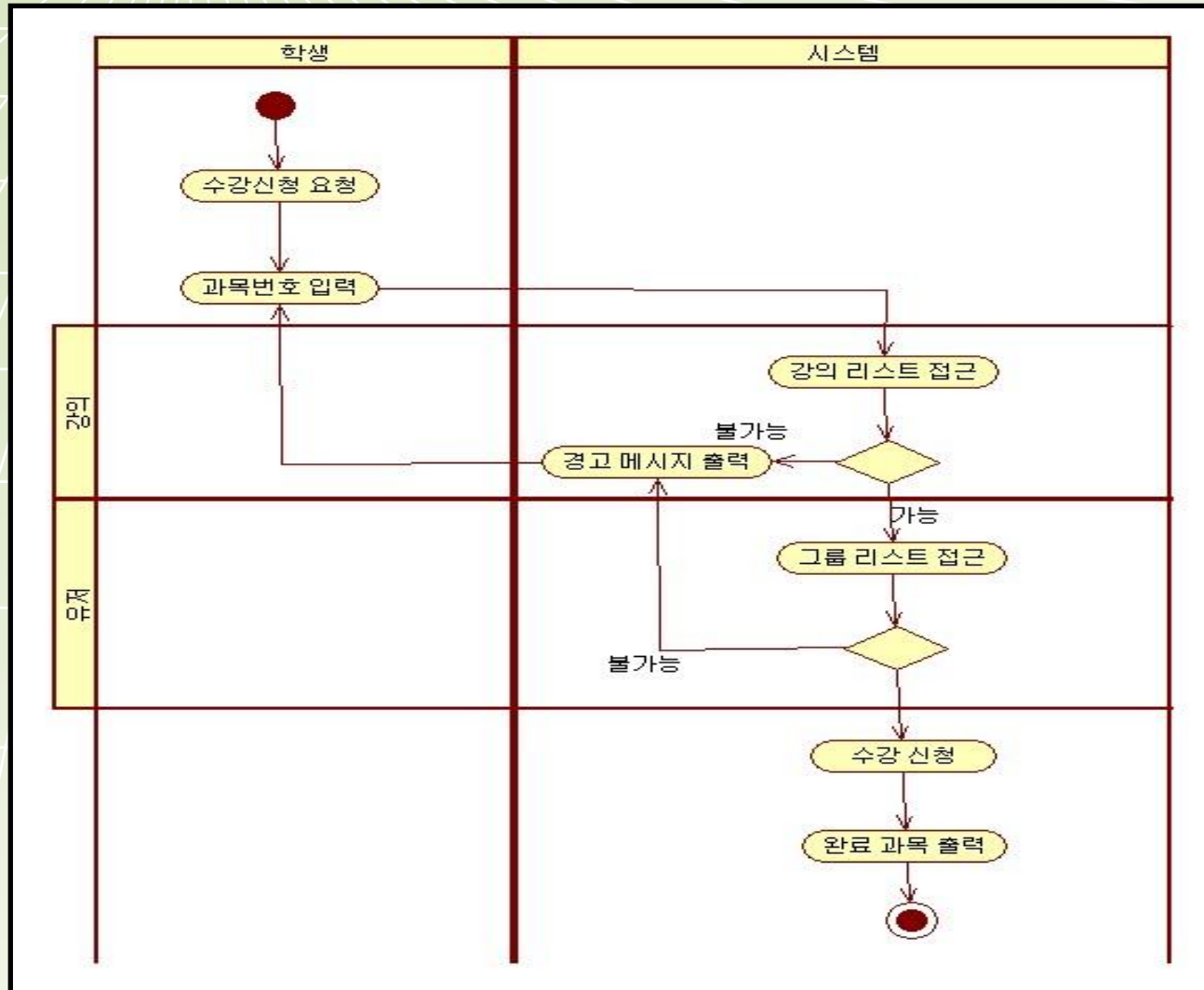


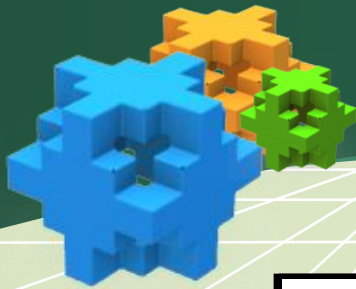
6.1.14 Exit Group



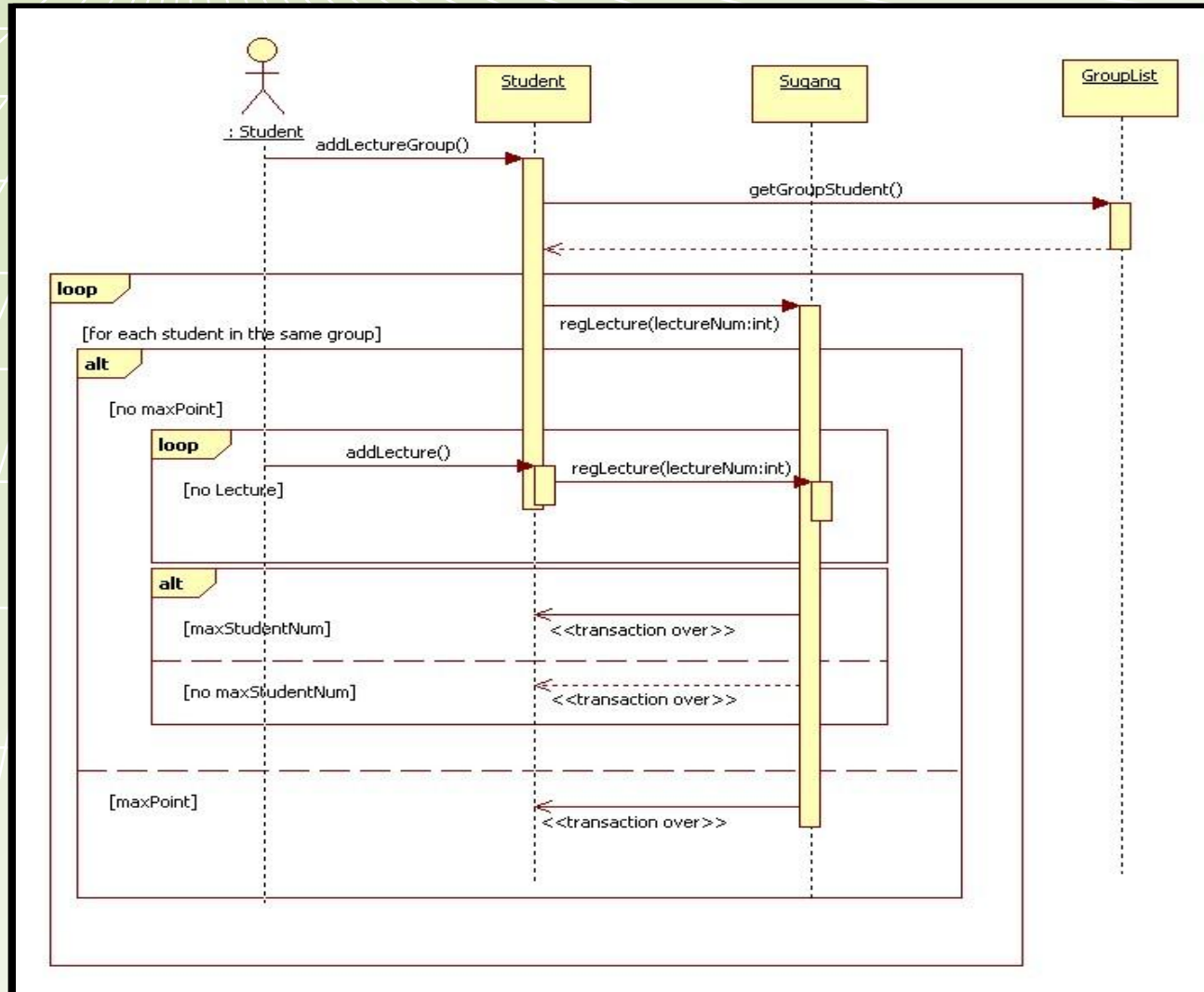


6.1.15 Add Lecture Group

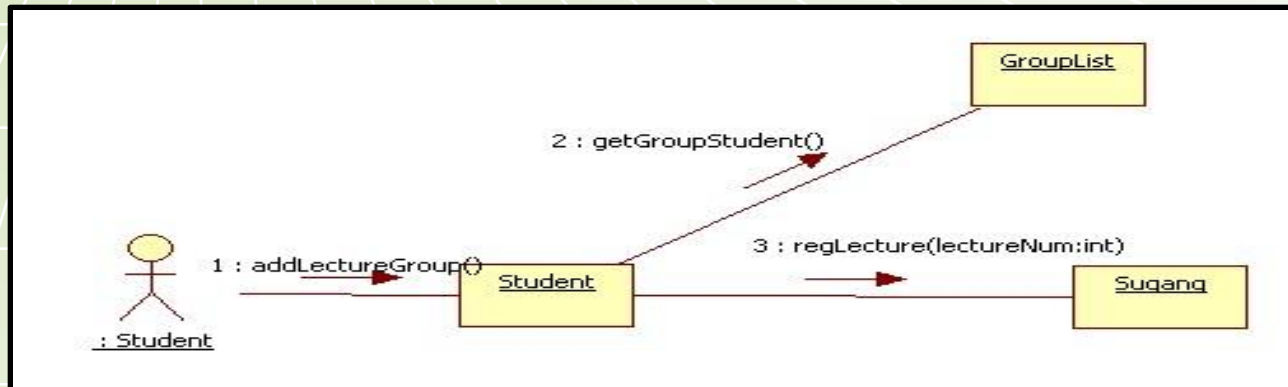




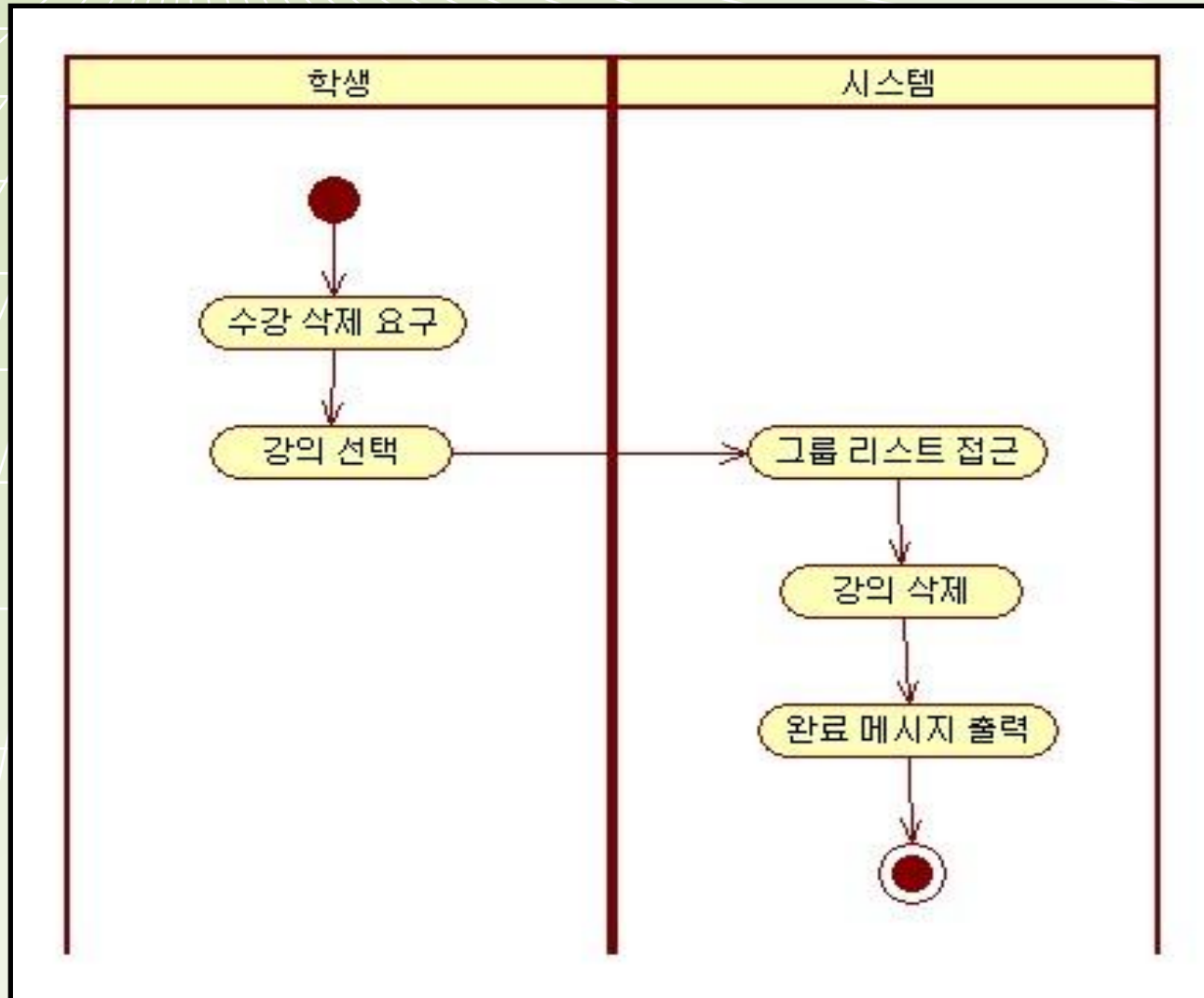
6.1.15 Add Lecture Group



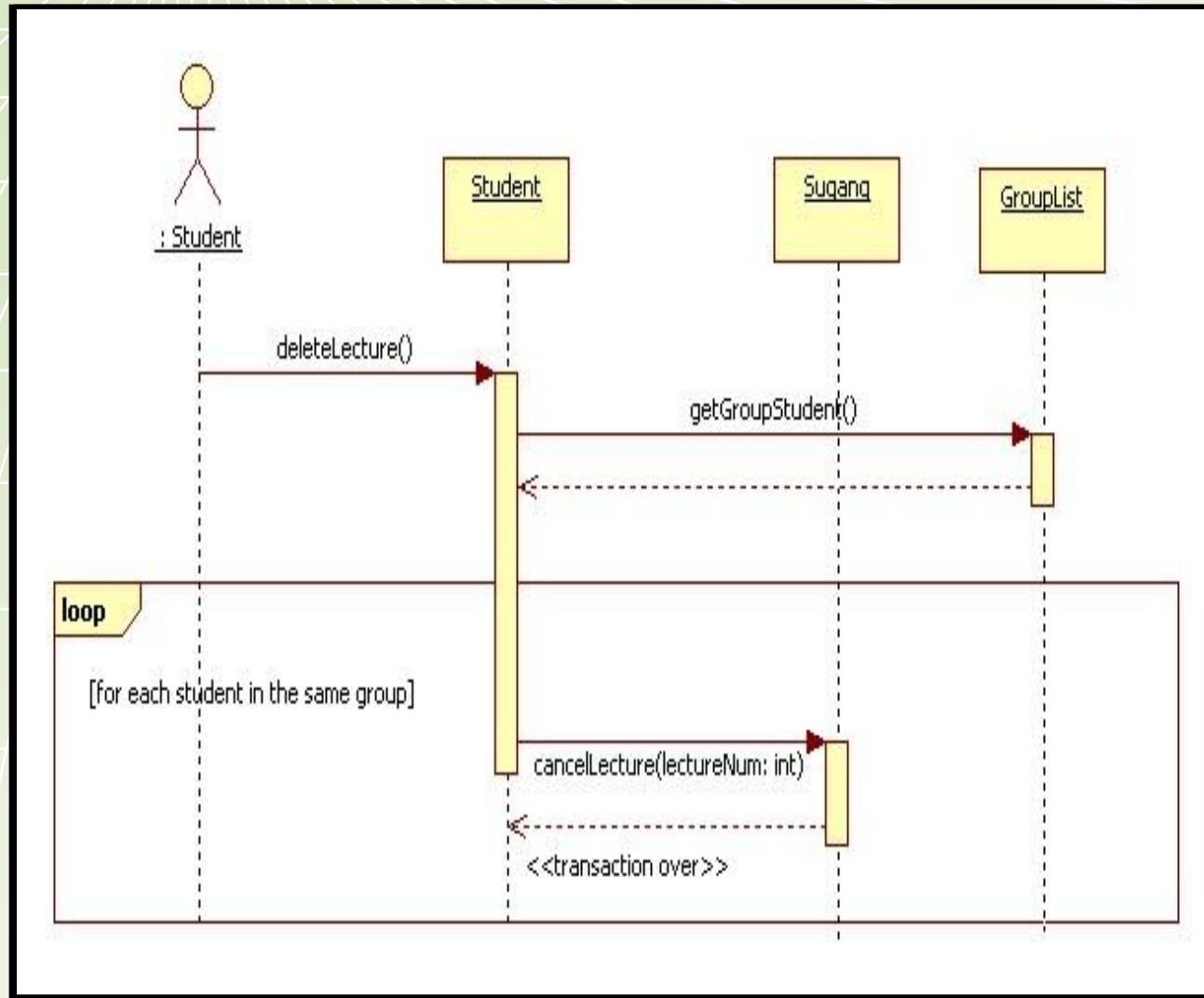
6.1.15 Add Lecture Group



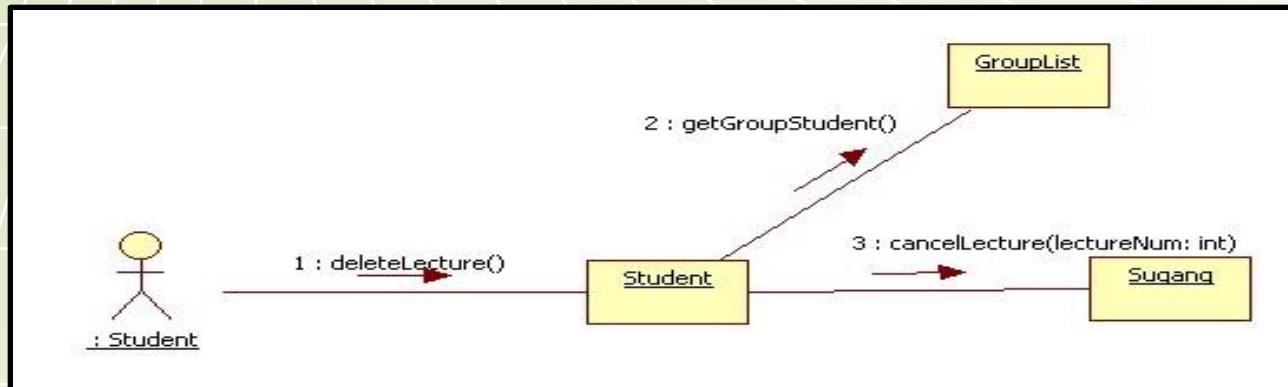
6.1.16 Delete Lecture Group



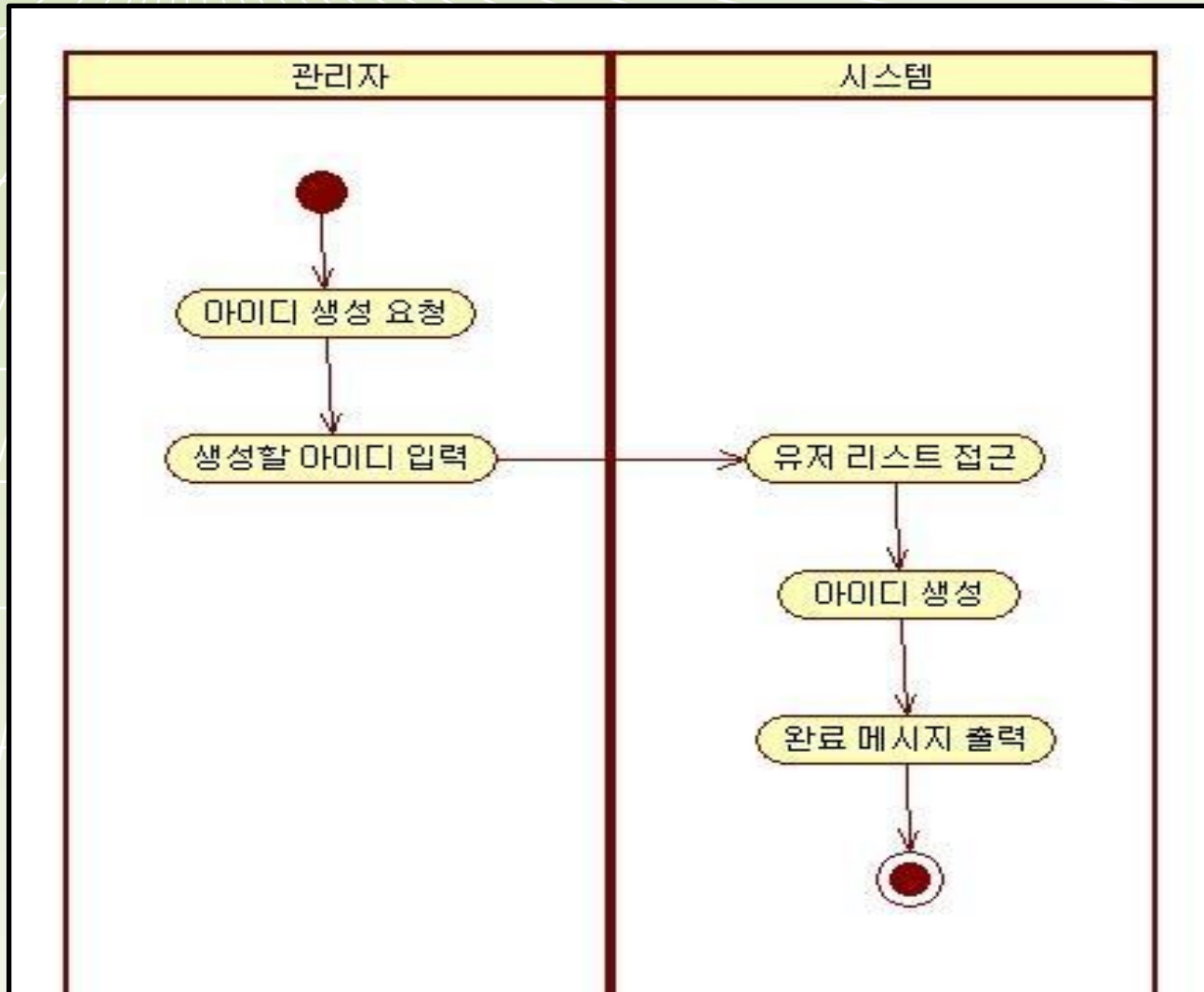
6.1.16 Delete Lecture Group



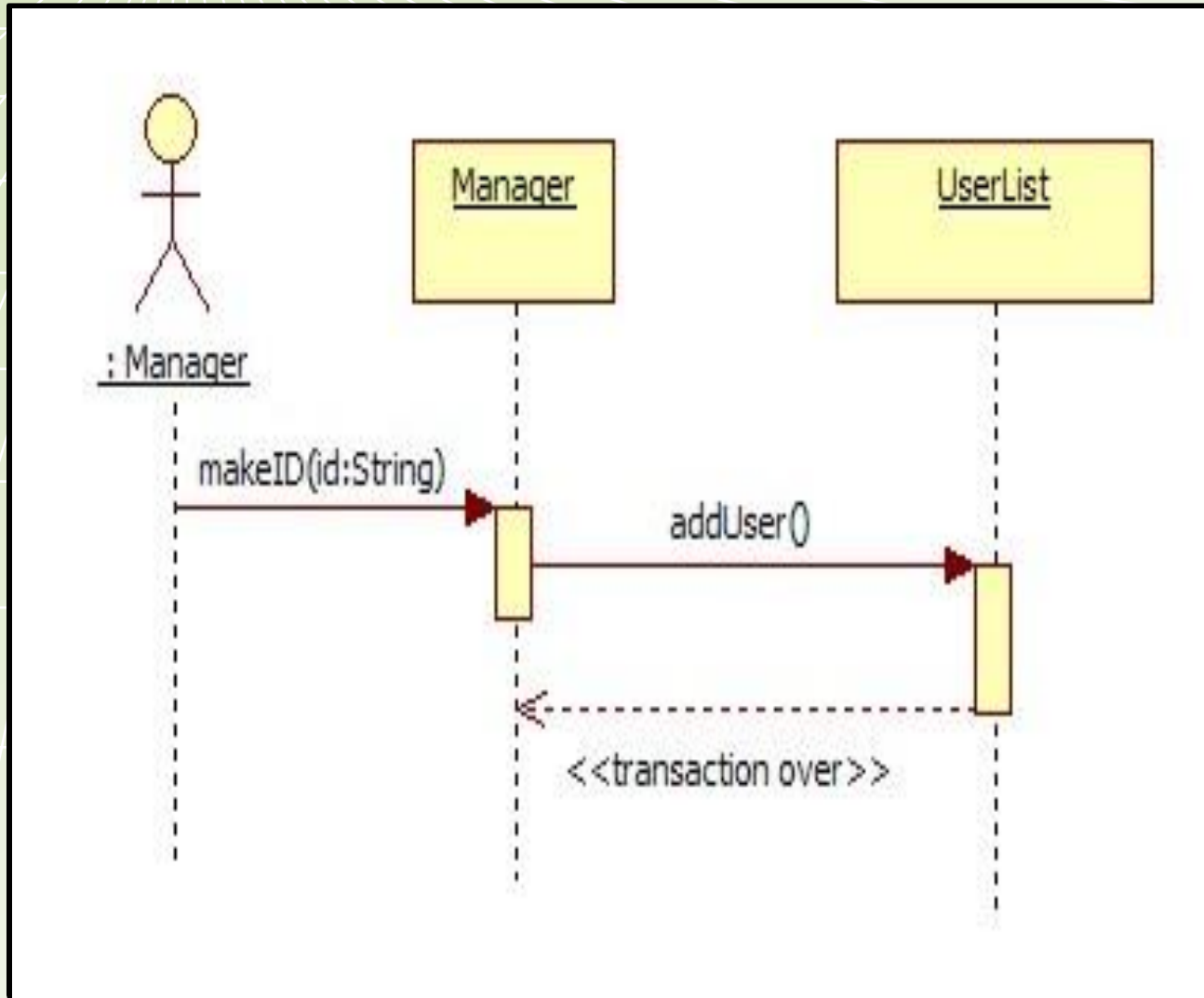
6.1.16 Delete Lecture Group



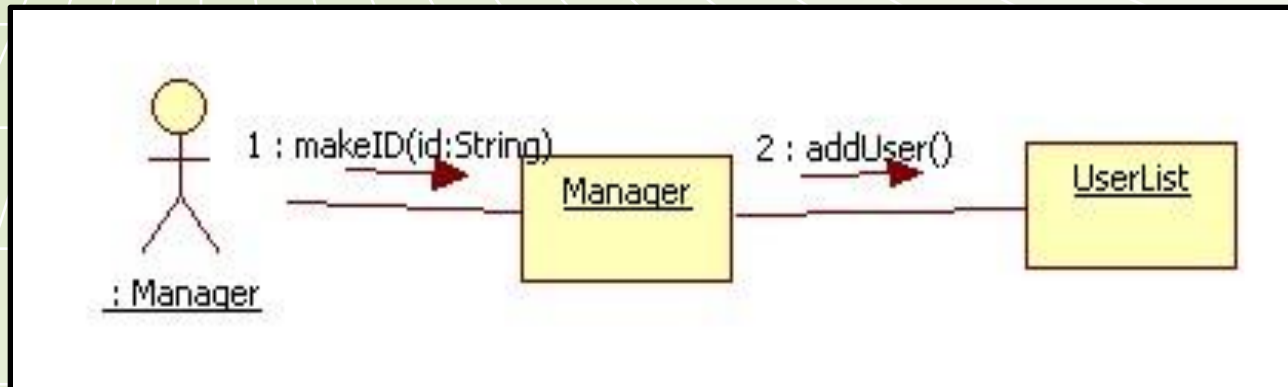
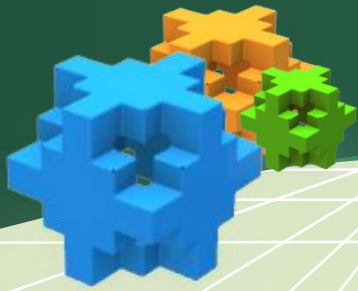
6.1.17 Make ID



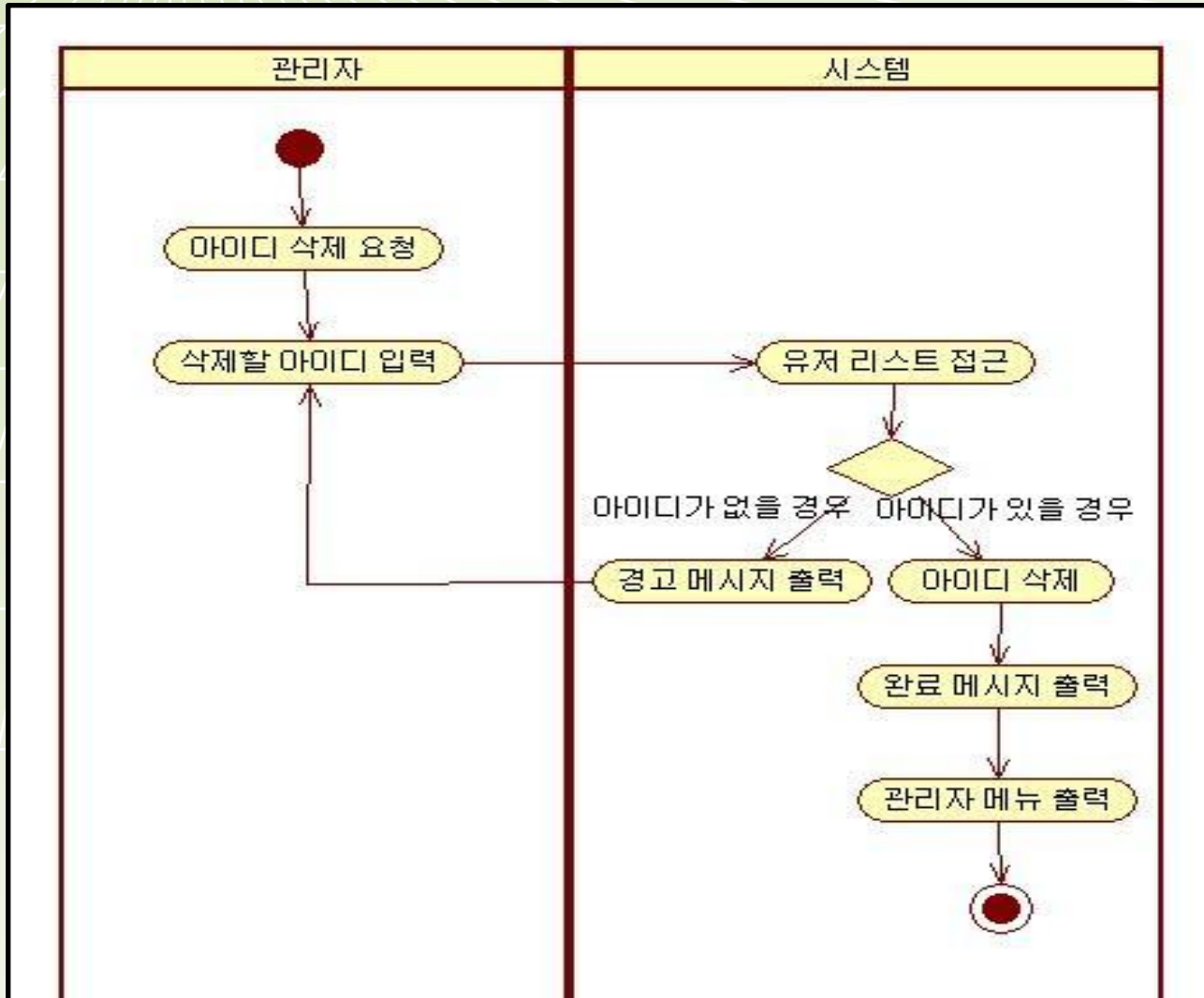
6.1.17 Make ID



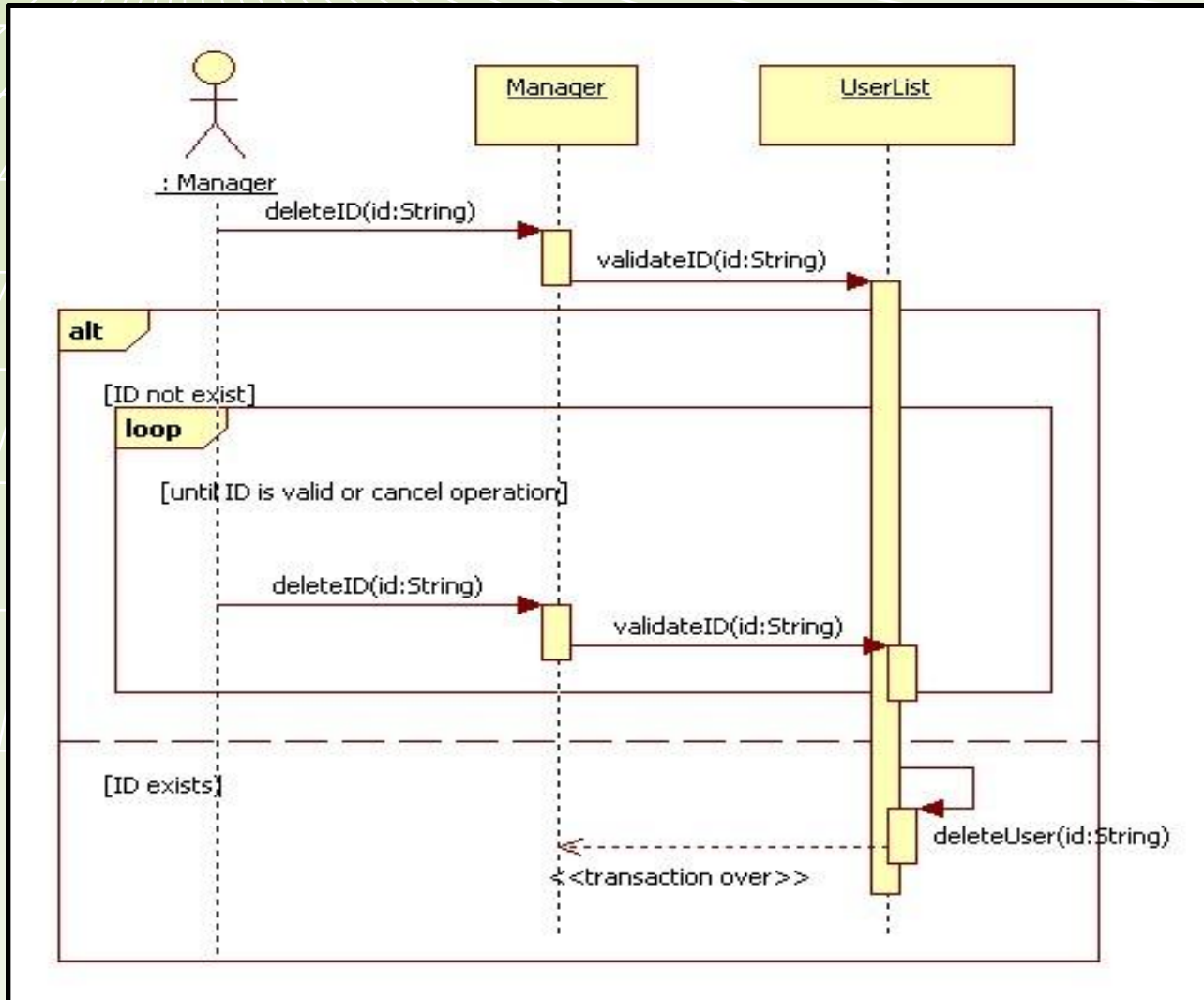
6.1.17 Make ID



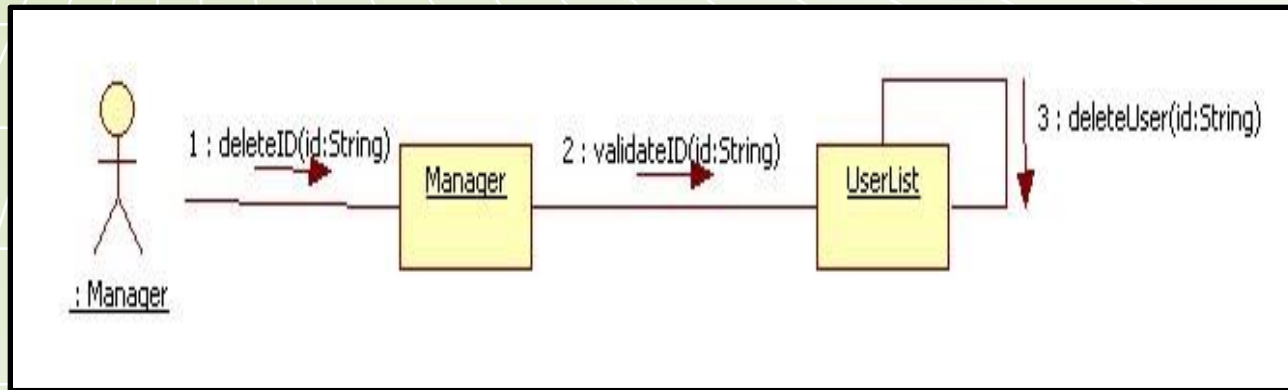
6.1.18 Delete ID



6.1.18 Delete ID

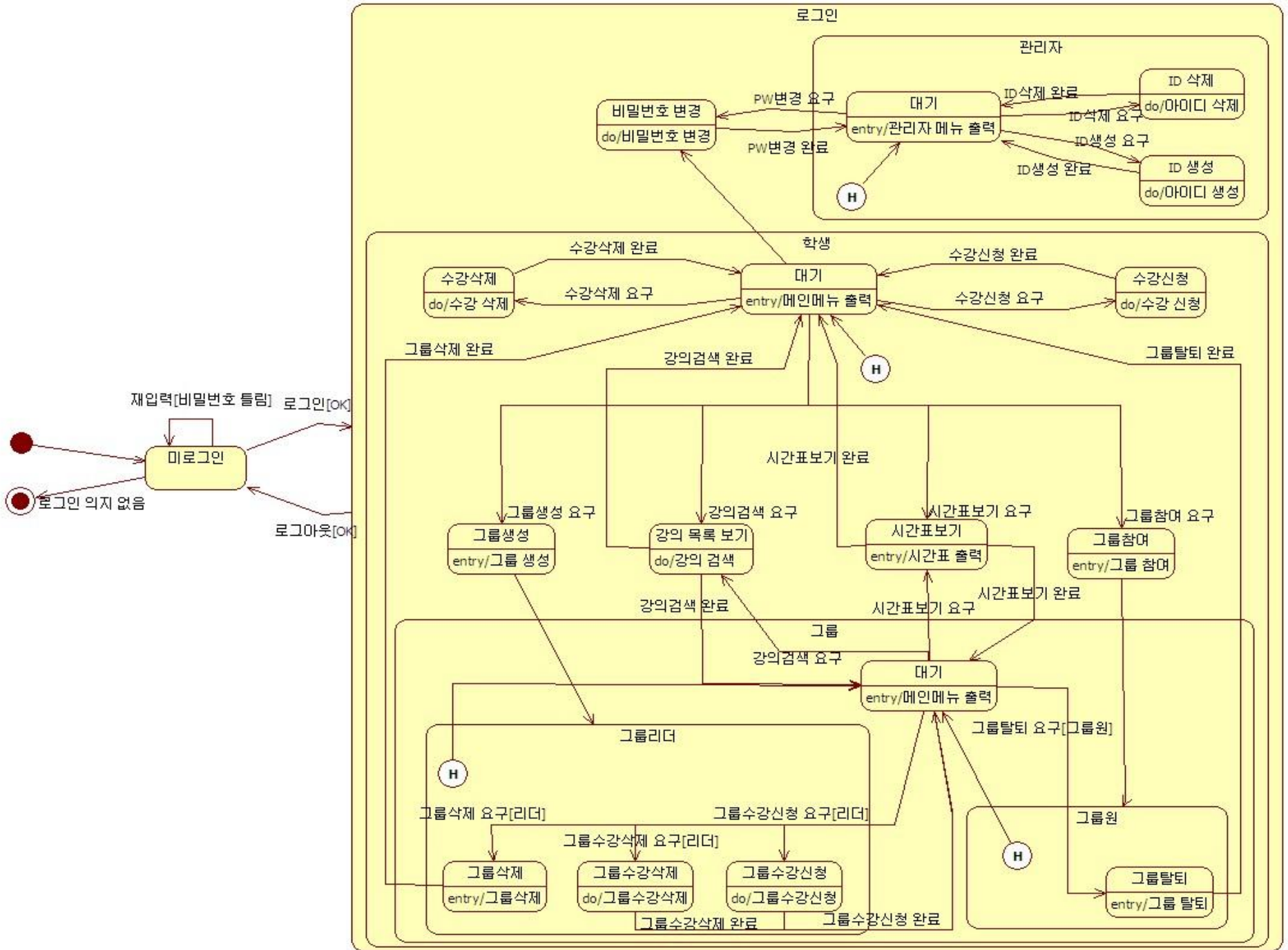


6.1.18 Delete ID



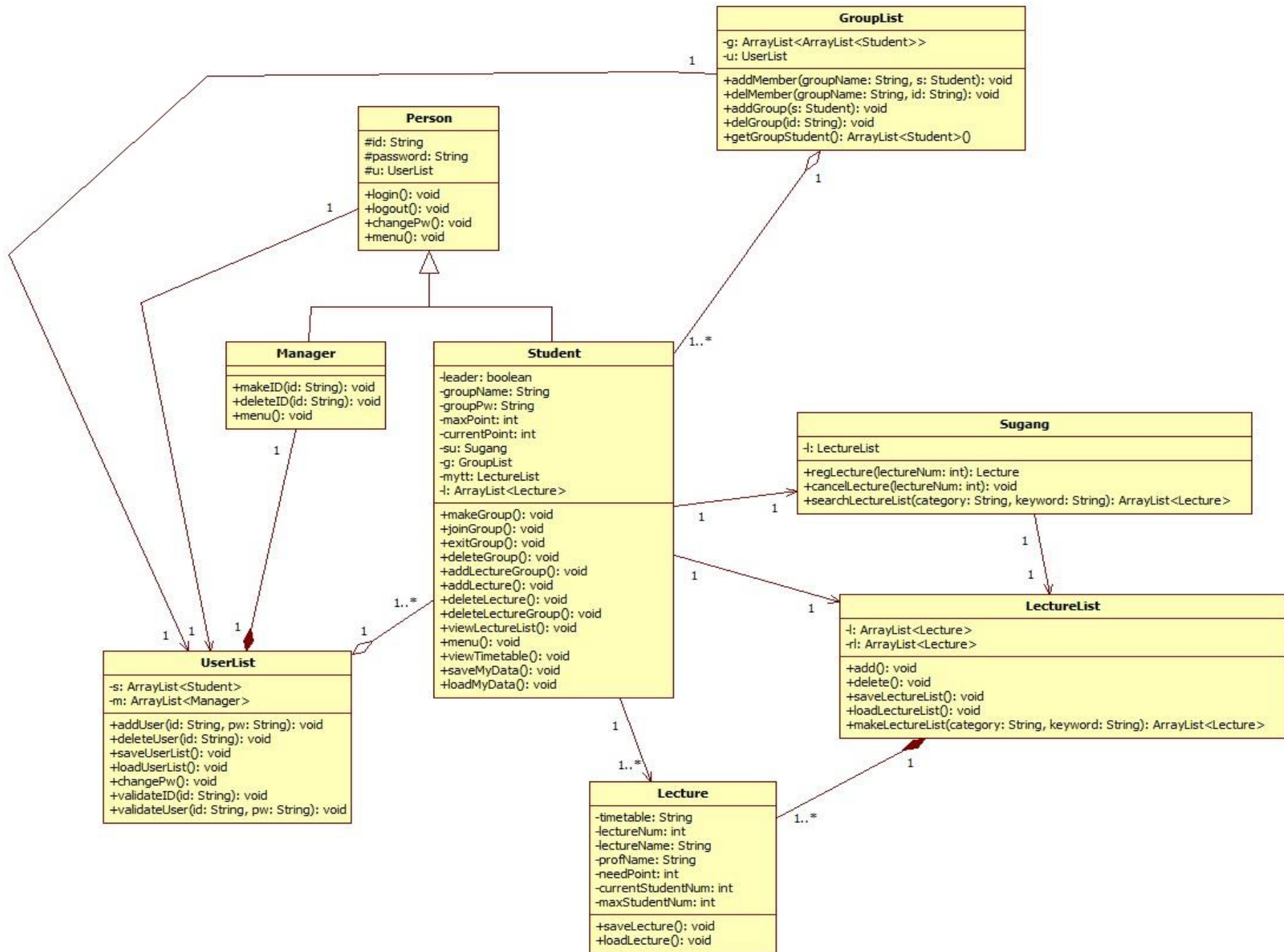


6.2 State Chart Diagram





6.3 Class Diagram



Team4

Thank You !

