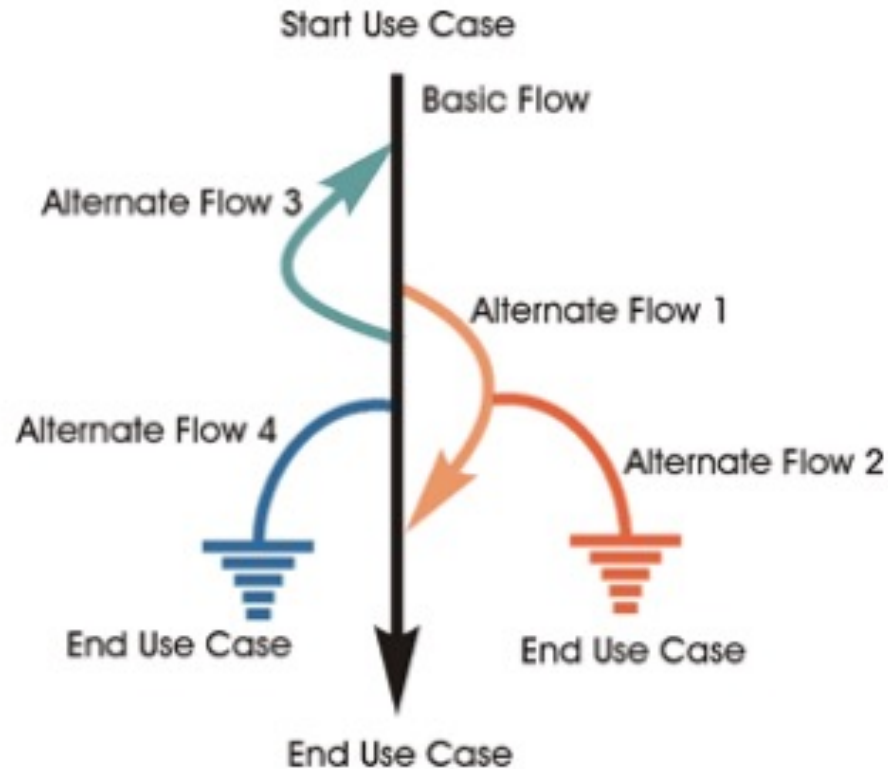# Use Case Testing

Tran Thi Bich Hanh

KHOA CÔNG NGHỆ THÔNG TIN
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN

Use Case Testing

☐ Use Case: a sequence of actions which a user interacts with a system or product

- ☐ Brief description
- ☐ Flow of events
  - ■ Basic flow
  - ■ Alternative flow 1
  - ■ Alternative flow 2
- ☐ Special requirements
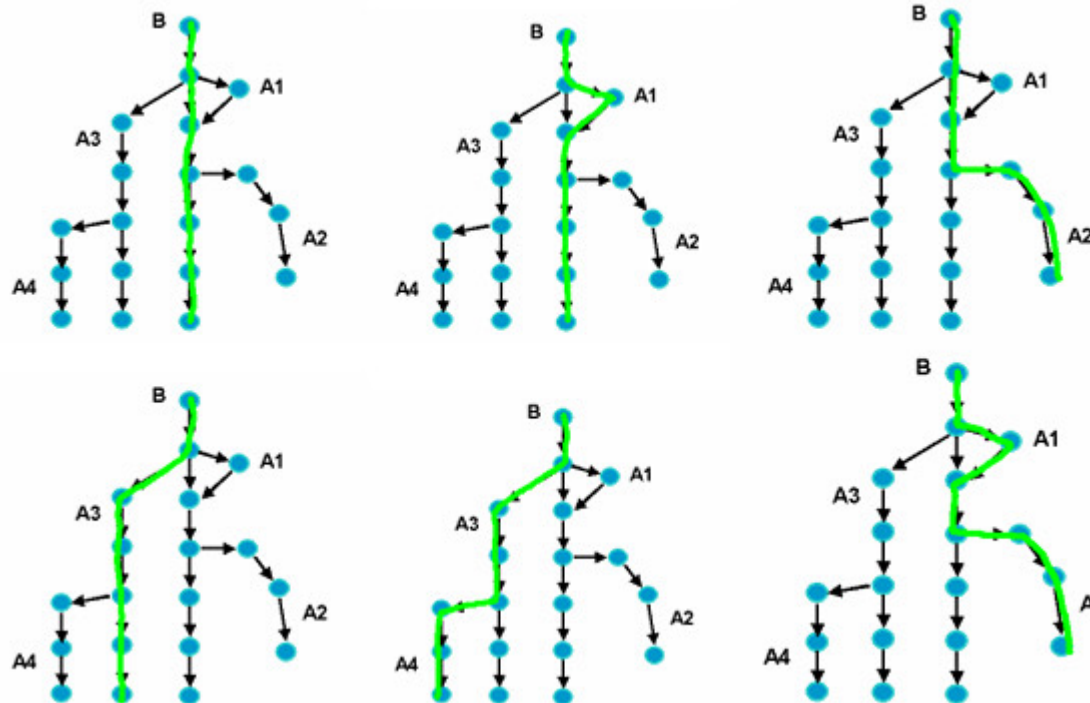- ☐ Preconditions
- ☐ Post-conditions
- ☐ Activity diagram

Flow of Events

Scenario: a sequence of events from the beginning to the end of Use Case

Identify Scenario

☐ Basic Flow

☐ Combination of Basic Flow & Alternate Flows

☐ Combination of Alternate Flows

Scenario

Scenario	Starting Flow	Alternate Flow		
S1	Basic Flow			
S2	Basic Flow	Alternate Flow 1		
S3	Basic Flow	Alternate Flow 1	Alternate Flow 2	
S4	Basic Flow	Alternate Flow 3		
S5	Basic Flow	Alternate Flow 3	Alternate Flow 1	
S6	Basic Flow	Alternate Flow 3	Alternate Flow 1	Alternate Flow 2
S7	Basic Flow	Alternate Flow 4		
S8	Basic Flow	Alternate Flow 3	Alternate Flow 4	

Test Case Design from Use Case

☐ Identify all Scenario from Use Case

☐ For each Scenario, identify at least one Test Case and conditions for the TC to be executed

☐ For each Test Case, identify Test Data for testing
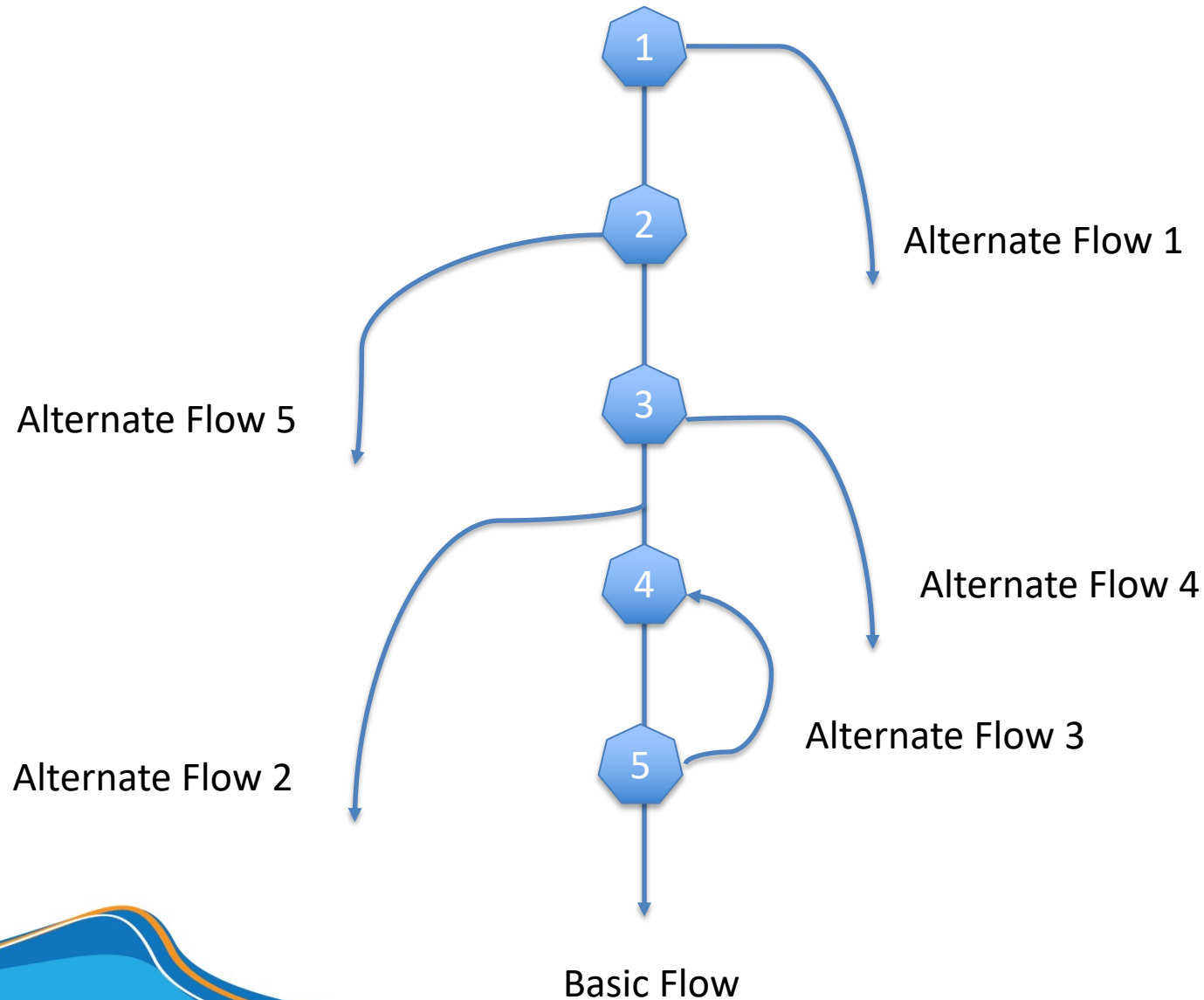
Ex: Course Registration

☐ Basic Flow

1. Logon
2. Select "Create a schedule"
3. Obtain Course Information
4. Select Courses
5. Submit Schedule
6. Display Completed Schedule

Ex: Course Registration

☐ Alternate Flow

1. Unidentified Student

2. Quit

3. Unfulfilled Prerequisites, Course Full or Schedule Conflicts

4. Course Catalog System Unavailable

5. Course Registration Closed

Activity Diagram

Identify Scenario

Scenario Name	Starting Flow	Alternate Flow
Scenario 1 – Successful Registration	Basic Flow	
Scenario 2 – Unidentified Student	Basic Flow	Alternate Flow 1
Scenario 3 – User quits	Basic Flow	Alternate Flow 2
Scenario 4 – Course Catalog System Unavailable	Basic Flow	Alternate Flow 4
Scenario 5 – Registration Closed	Basic Flow	Alternate Flow 5
Scenario 6 – Cannot enroll	Basic Flow	Alternate Flow 3

Identify Test Case

☐ Identify Inputs for each Step of the Use case

☐ Identify Domains for each Input

☐ Generate Test Cases based on selected input values

Identify Inputs for each Step

☐ Step1
- ☐ Student ID
- ☐ Password

☐ Step3
- ☐ Prerequisites Fulfilled
- ☐ Schedule Open
- ☐ Course Open

☐ Step4
- ☐ Course Selected

Test Case ID	Scenario/ Condition	Student ID	Password	Courses selected	Prerequisites fulfilled	Course Open	Schedule Open	Expected Result
RC 1	Scenario 1- successful registration	V	V	V	V	V	V	Schedule and confirmation number displayed
RC 2	Scenario 2- unidentified student	I	N/A	N/A	N/A	N/A	N/A	Error message; back to login screen
RC 3	Scenario 3- valid user quits	V	V	N/A	N/A	N/A	N/A	Login screen appears
RC 4	Scenario 4- course registration system unavailable	V	V	N/A	N/A	N/A	N/A	Error message; back to step 2
RC 5	Scenario 5- registration closed	V	V	N/A	N/A	N/A	N/A	Error message; back to step 2
RC 6	Scenario 6- cannot enroll -- course full	V	V	V	V	I	V	Error message; back to step 3
RC 7	Scenario 6- cannot enroll -- prerequisite not fulfilled	V	V	V	I	V	V	Error message; back to step 4
RC 8	Scenario 6- cannot enroll -- schedule conflict	V	V	V	V	V	I	Error message; back to step 4

Identify Test Data

☐ Select specific value for each input of the Test case

☐ Based on selected inputs, identify expected output for the test case

Test Case ID	Scenario/ Condition	Student ID	Password	Courses selected	Prerequisites fulfilled	Course Open	Schedule Open	Expected Result
RC 1	Scenario 1- successful registration	jheumann	abc123	M101> E201 S101	Yes	Yes	Yes	Schedule and confirmation number displayed
RC 2	Scenario 2- unidentified student	Jheuman1	N/A	N/A	N/A	N/A	N/A	Error message; back to login screen
RC 3	Scenario 3- valid user quits	jheumann	abc123	N/A	N/A	N/A	N/A	Login screen appears
RC 4	Scenario 4- course registration system unavailable	jheumann	abc123	N/A	N/A	N/A	N/A	Error message; back to step 2
RC 5	Scenario 5- registration closed	jheumann	abc123	N/A	N/A	N/A	N/A	Error message; back to step 2
RC 6	Scenario 6- cannot enroll -- course full	jheumann	abc123	M101 E201 S101	Yes	M101 full	Yes	Error message; back to step 3
RC 7	Scenario 6- cannot enroll -- prerequisite not fulfilled	jheumann	abc123	M101 E201 S101	No for E201	Yes	Yes	Error message; back to step 4
RC 8	Scenario 6- cannot enroll -- schedule conflict	jheumann	abc123	M101 E201 S101	Yes	Yes	E202 and S101 conflict	Error message; back to step 4