



**SUMMERPRIT  
SINGH  
2K19/SE/129**

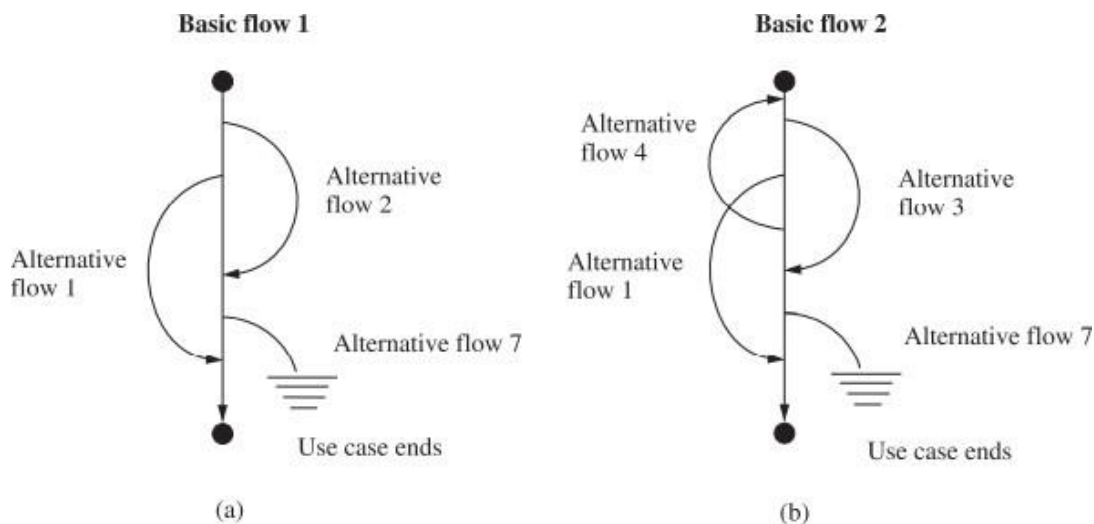
## **SE301: OOSE Assignment 6**

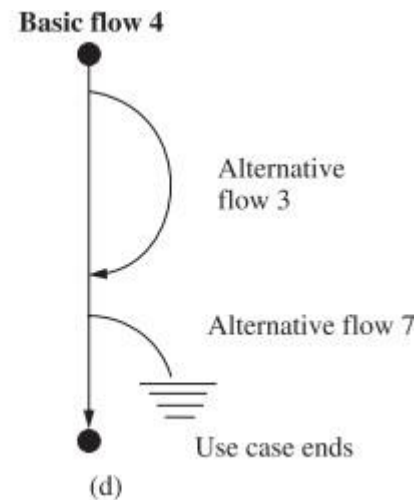
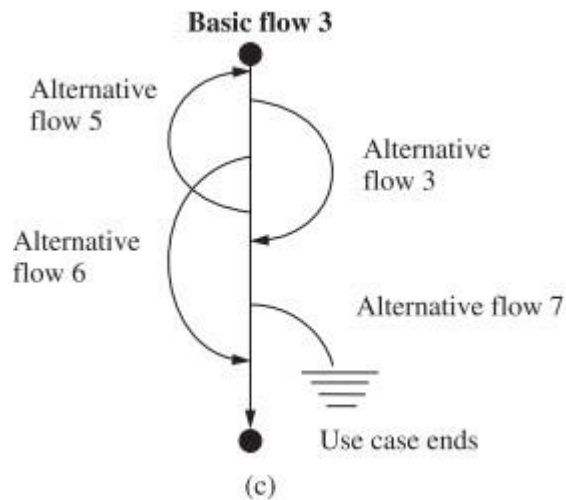
**QUE:** Consider the problem statement of the LMS. Construct scenario diagram and generate test cases from maintain book details use case.

**ANS:**

A use case scenario is an instance of a use case. This is nothing but a path through a use case. A use case may have many paths. A basic flow is a path which is expected to be traversed most of the time and becomes a scenario of the use case. Every alternative path also generates a scenario. We may have various combinations of basic and/or alternative flows and every combination leads to a path in a use case. The basic and alternative flows for a use case are shown in Figure 3.8. The basic flow is represented by a straight arrow and the alternative flows by the curves. Some alternative flows return to the basic flow, while others end the use case. Preconditions and postconditions are checked at start and end points of a use case, respectively.

Many scenarios are generated using the use case scenario diagram due to basic flow(s), alternative flows and various combinations of basic and alternative flows. A scenario matrix represents all scenarios of the use case scenario diagram.





### Maintain Book Details

Alternative flow 1: Invalid entry  
 Alternative flow 2: Book already exists  
 Alternative flow 3: Book not found  
 Alternative flow 4: Update cancelled  
 Alternative flow 5: Delete cancelled  
 Alternative flow 6: Deletion not allowed  
 Alternative flow 7: User exits

Scenario 1—Add a book	Basic flow 1	
Scenario 2—Add a book alternative flow: Invalid entry	Basic flow 1	Alternative flow 1
Scenario 3—Add a book alternative flow: Book code already exists	Basic flow 1	Alternative flow 2
Scenario 4—Add a book alternative flow: User exits	Basic flow 1	Alternative flow 7
Scenario 5—Update a book	Basic flow 2	
Scenario 6—Update a book alternative flow: Invalid entry	Basic flow 2	Alternative flow 1
Scenario 7—Update a book alternative flow: Book not found	Basic flow 2	Alternative flow 3
Scenario 8—Update a book alternative flow: Update cancelled	Basic flow 2	Alternative flow 4
Scenario 9—Update a book alternative flow: User exits	Basic flow 2	Alternative flow 7
Scenario 10—Delete a book	Basic flow 3	
Scenario 11—Delete a book alternative flow: Book not found	Basic flow 3	Alternative flow 3
Scenario 12—Delete a book alternative flow: Delete cancelled	Basic flow 3	Alternative flow 5
Scenario 13—Delete a book alternative flow: Deletion not allowed	Basic flow 3	Alternative flow 6
Scenario 14—Delete a book alternative flow: User exits	Basic flow 3	Alternative flow 7
Scenario 15—View a book	Basic flow 4	
Scenario 16—View a book alternative flow: Book not found	Basic flow 4	Alternative flow 3
Scenario 17—View a book alternative flow: User exits	Basic flow 4	Alternative flow 7

Test case ID	Scenario and description	Input 1 Accession number	Input 2 Subject descriptor	Input 3 ISBN	Input 4 title	Input 5 language	Input 6 author	Input 7 publisher	Update confirmed	Deletion confirmed	Expected result	Remarks (if any)
TC <sub>1</sub>	Scenario 1—Add a book	Valid input	Valid input	Valid input	Valid input	Valid input	Valid input	Valid input	n/a	n/a	Book is added successfully	—
TC <sub>2</sub>	Scenario 2—Add a book alternative flow: Invalid entry	Invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	n/a	n/a	Invalid book code	Book code is not in the specified format. Book name becomes 'do not care'.
TC <sub>3</sub>		Valid input	Invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	n/a	n/a	Invalid subject descriptor	Subject descriptor is not in the specified format.
TC <sub>4</sub>		Valid input	Valid input	Invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	n/a	n/a	Invalid ISBN	ISBN is not in the specified format.
TC <sub>5</sub>		Valid input	Valid input	Valid input	Invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	n/a	n/a	Invalid title	Book title is not in the specified format.
TC <sub>6</sub>		Valid input	Valid input	Valid input	Valid input	Invalid input	Valid/invalid input	Valid/invalid input	n/a	n/a	Invalid language	Language is not in the specified format.
TC <sub>7</sub>		Valid input	Valid input	Valid input	Valid input	Valid input	Invalid input	Valid/invalid input	n/a	n/a	Invalid author name	Author name is not in the specified format.
TC <sub>8</sub>		Valid input	Valid input	Valid input	Valid input	Valid input	Valid input	Invalid input	n/a	n/a	Invalid publisher	Publisher is not in the specified format.
TC <sub>9</sub>	Scenario 3—Add a book alternative flow: Book code already exists	Valid input	Valid input	Valid input	Valid input	Valid input	Valid input	Valid input	n/a	n/a	Book accession number already exists	The book with the same code is already present in the database.
TC <sub>10</sub>	Scenario 4—Add a book alternative flow: User exits	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	Valid/invalid input	n/a	n/a	User is allowed to exit and returns to the Main menu	—

Figure 1 Scenario matrix

Figure 2 Test Cases