

COMP 3111

SOFTWARE ENGINEERING

LECTURE 13

TESTING

BASIS PATH TESTING EXERCISE

EXERCISE: MOVIE SHOP BASIS PATH TESTING

The following procedure is used for reserving a physical copy of a movie in the shop.

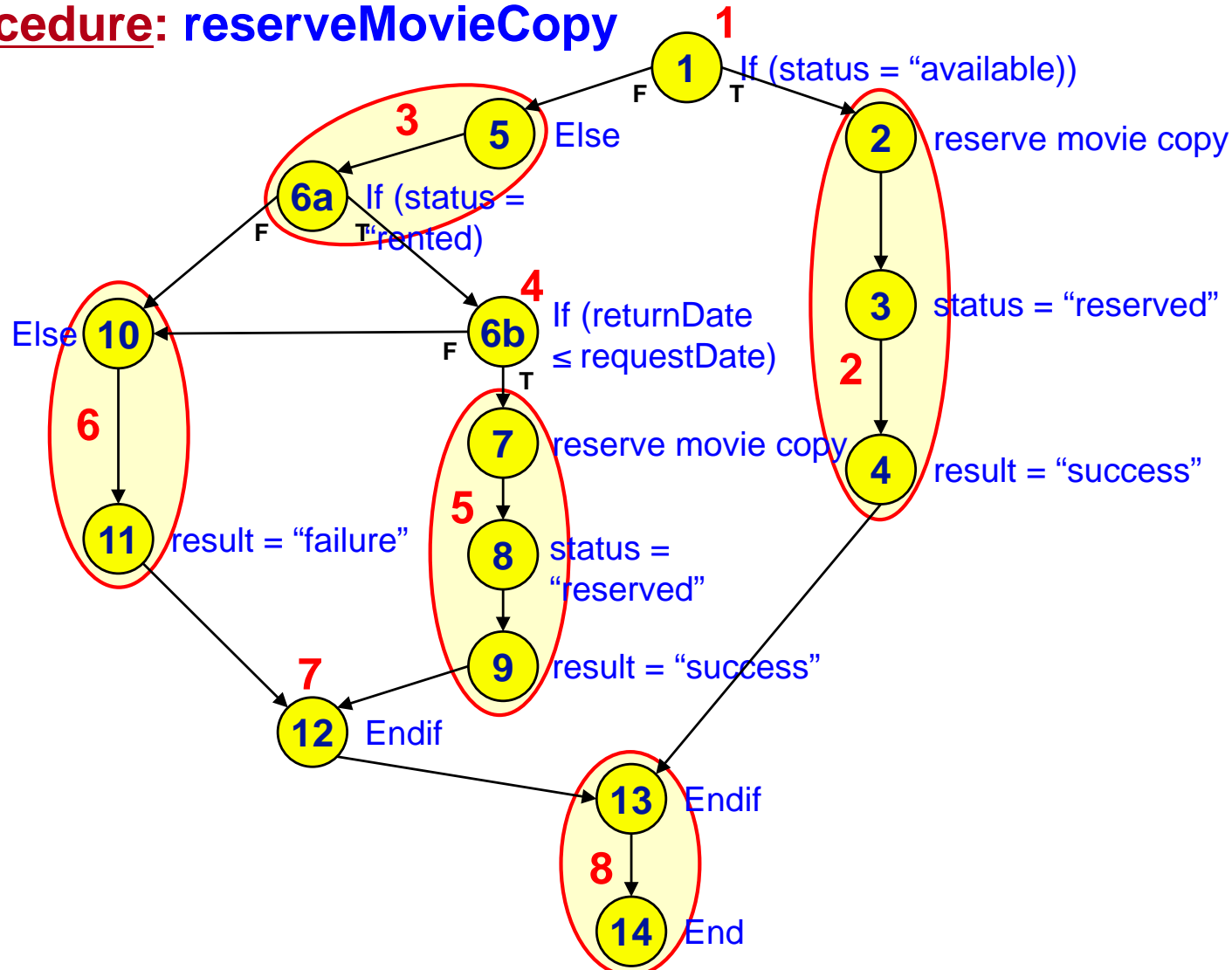
Procedure: reserveMovieCopy return(result)

1. If status = “available”
2. reserve movie copy
3. status = “reserved”
4. result = “success”
5. Else
6. If (status = “rented”) AND (returnDate ≤ requestDate)
7. reserve movie copy
8. status = “reserved”
9. result = “success”
10. Else
11. result = “failure”
12. Endif
13. Endif
14. End

1. Draw the flow graph for the reserveMovieCopy procedure.
2. Clearly label the regions of the flow graph.
3. Show the flow graph node to program statement mapping.

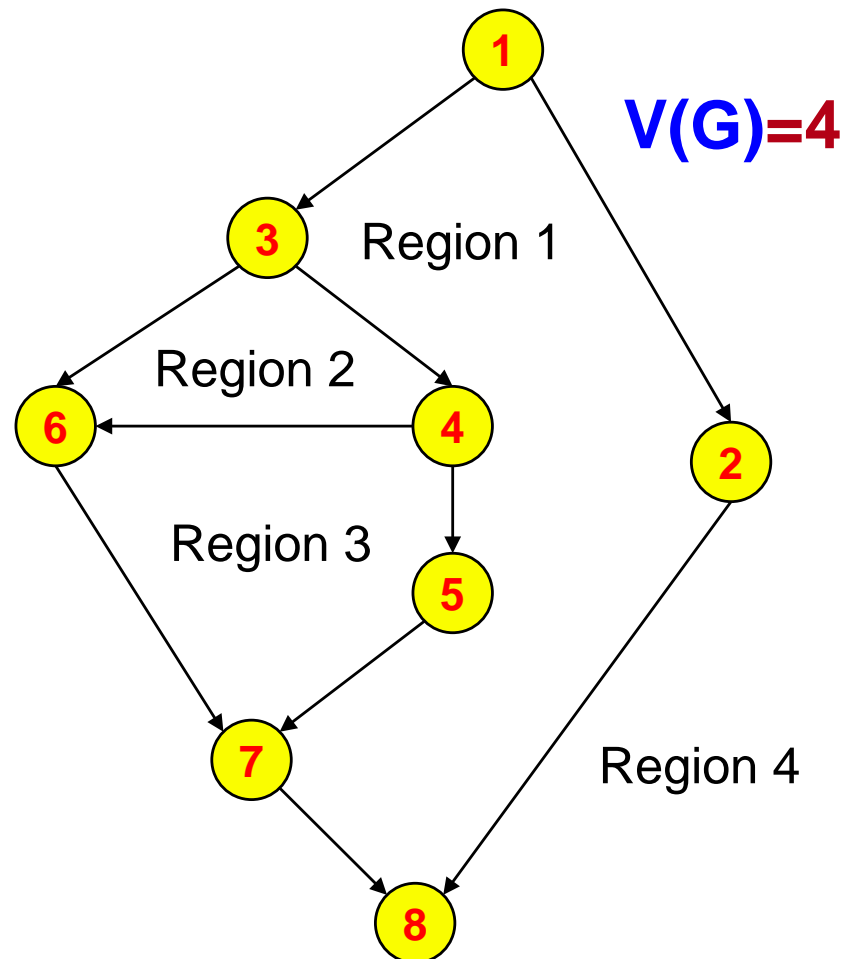
EXERCISE: MOVIE SHOP BASIS PATH TESTING— FLOW GRAPH

Procedure: reserveMovieCopy



EXERCISE: MOVIE SHOP BASIS PATH TESTING— FLOW GRAPH

Procedure: reserveMovieCopy



Flow graph node to program
statement mapping:

<u>Node</u>	<u>Statement</u>
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- | | |
|----|---------|
| 1. | 1 |
| 2. | 2, 3, 4 |
| 3. | 5, 6a |
| 4. | 6b |
| 5. | 7, 8, 9 |
| 6. | 10, 11 |
| 7. | 12 |
| 8. | 13, 14 |

Basis set (statement numbers):

- | | |
|----|--------------------------|
| 1. | 1 2 3 4 13 14 |
| 2. | 1 5 6a 6b 7 8 9 12 13 14 |
| 3. | 1 5 6a 6b 10 11 12 13 14 |
| 4. | 1 5 6a 10 11 12 13 14 |

EXERCISE: MOVIE SHOP BASIS PATH TESTING— COMMON ERRORS

- Missing the outside region
- Missing a node for the last statement(s)
- Having a condition with only one out-going branch
- Not understanding what is a flow graph