

rmRegister(bob): libC  
 register(bob): libC  
 register(bob): libB  
 register(bob): pubA  
 intRegister(bob): pubA  
 intRegister(bob): libB  
 intRmRegister(bob): libC

register(alice): libC  
 rmRegister(alice): libB  
 register(alice): libB  
 register(alice): pubA  
 intRegister(alice): pubA  
 intRmRegister(alice): libB  
 intRegister(alice): libC

borrow(bob, book1\_a): libC  
 borrow(bob, book1\_a): libB  
 borrow(bob, book1\_a): pubA  
 viol(borrow(bob, book1\_a)): libC  
 intBorrow(bob, book1\_a): pubA  
 intBorrow(bob, book1\_a): libB

rmRequest(bob, book1\_c): libC  
 rmBorrow(bob, book1\_c): libC  
 rmRequest(bob, book1\_c): libB  
 viol(rmRequest(bob, book1\_c)): libC  
 intRmRequest(bob, book1\_c): libB  
 intBorrow(bob, book1\_c): libC

rmRequest(bob, book2\_c): libC  
 rmBorrow(bob, book2\_c): libC  
 rmRequest(bob, book2\_c): libB  
 viol(rmRequest(bob, book2\_c)): libC  
 intRmRequest(bob, book2\_c): libB  
 intBorrow(bob, book2\_c): libC

S<sub>0</sub>S<sub>1</sub>S<sub>2</sub>S<sub>3</sub>S<sub>4</sub>S<sub>5</sub>

available(book1\_a): pubA  
 available(book1\_b): libB  
 available(book1\_c): libC  
 available(book2\_a): pubA  
 available(book2\_b): libB  
 available(book2\_c): libC  
 available(book3\_a): pubA  
 available(book4\_a): pubA  
 allowance(bob, 1): libC  
 allowance(bob, 2): libB  
 allowance(bob, 2): pubA  
 loans(bob, 0): libB  
 loans(bob, 0): libC  
 loans(bob, 0): pubA

normalUser(bob): libB  
 normalUser(bob): libC  
 normalUser(bob): pubA  
 allowance(alice, 1): libB  
 allowance(alice, 2): libC  
 allowance(alice, 2): pubA  
 loans(alice, 0): libB  
 loans(alice, 0): libC  
 loans(alice, 0): pubA  
 allowance(bob, 1): libC  
 allowance(bob, 2): libB  
 allowance(bob, 2): pubA  
 allowance(bob, 2): pubA  
 available(book1\_a): pubA  
 available(book1\_b): libB  
 available(book1\_c): libC  
 available(book2\_a): pubA  
 available(book2\_b): libB  
 available(book2\_c): libC  
 available(book3\_a): pubA  
 available(book4\_a): pubA  
 loans(bob, 0): libB  
 loans(bob, 0): libC  
 loans(bob, 0): pubA

normalUser(alice): libB  
 normalUser(alice): libC  
 normalUser(alice): pubA  
 borrowed(bob, book1\_a): pubA  
 loans(bob, 1): pubA  
 allowance(alice, 1): libB  
 allowance(alice, 2): libC  
 allowance(alice, 2): pubA  
 allowance(bob, 1): libC  
 allowance(bob, 2): libB  
 allowance(bob, 2): pubA  
 allowance(bob, 2): pubA  
 available(book1\_a): pubA  
 available(book1\_b): libB  
 available(book1\_c): libC  
 available(book2\_a): pubA  
 available(book2\_b): libB  
 available(book2\_c): libC  
 available(book3\_a): pubA  
 available(book4\_a): pubA  
 loans(alice, 0): libB  
 loans(alice, 0): libC  
 loans(alice, 0): pubA  
 loans(bob, 0): libB  
 loans(bob, 0): libC  
 normalUser(bob): libB  
 normalUser(bob): libC  
 normalUser(bob): pubA  
 loans(bob, 0): pubA

borrowed(bob, book1\_c): libC  
 loans(bob, 1): libC  
 allowance(alice, 1): libB  
 allowance(alice, 2): libC  
 allowance(alice, 2): pubA  
 allowance(bob, 1): libC  
 allowance(bob, 2): libB  
 allowance(bob, 2): pubA  
 available(book1\_b): libB  
 available(book1\_c): libC  
 available(book2\_a): pubA  
 available(book2\_b): libB  
 available(book2\_c): libC  
 available(book3\_a): pubA  
 available(book4\_a): pubA  
 borrowed(bob, book1\_a): pubA  
 loans(alice, 0): libB  
 loans(alice, 0): libC  
 loans(alice, 0): pubA  
 loans(bob, 0): libB  
 loans(bob, 1): pubA  
 normalUser(alice): libB  
 normalUser(alice): libC  
 normalUser(alice): pubA  
 normalUser(alice): pubA  
 normalUser(bob): libB  
 normalUser(bob): libC  
 normalUser(bob): pubA  
 loans(bob, 0): libC

allowance(alice, 1): libB  
 allowance(alice, 2): libC  
 allowance(alice, 2): pubA  
 allowance(bob, 1): libC  
 allowance(bob, 2): libB  
 allowance(bob, 2): pubA  
 available(book1\_b): libB  
 available(book2\_a): pubA  
 available(book2\_b): libB  
 available(book2\_c): libC  
 available(book3\_a): pubA  
 available(book4\_a): pubA  
 borrowed(bob, book1\_a): pubA  
 borrowed(bob, book1\_c): libC  
 loans(alice, 0): libB  
 loans(alice, 0): libC  
 loans(alice, 0): pubA  
 loans(bob, 0): libB  
 loans(bob, 1): libC  
 loans(bob, 1): pubA  
 normalUser(alice): libB  
 normalUser(alice): libC  
 normalUser(alice): pubA  
 normalUser(bob): libB  
 normalUser(bob): pubA

inDebt(bob, book1\_a): pubA  
 allowance(alice, 1): libB  
 allowance(alice, 2): libC  
 allowance(alice, 2): pubA  
 allowance(bob, 1): libC  
 allowance(bob, 2): libB  
 allowance(bob, 2): pubA  
 available(book1\_b): libB  
 available(book2\_a): pubA  
 available(book2\_b): libB  
 available(book2\_c): libC  
 available(book3\_a): pubA  
 available(book4\_a): pubA  
 borrowed(bob, book1\_a): pubA  
 borrowed(bob, book1\_c): libC  
 loans(alice, 0): libB  
 loans(alice, 0): libC  
 loans(alice, 0): pubA  
 loans(bob, 0): libB  
 loans(bob, 1): libC  
 loans(bob, 1): pubA  
 normalUser(alice): libB  
 normalUser(alice): libC  
 normalUser(alice): pubA  
 normalUser(bob): libB  
 normalUser(bob): pubA