

I will provide a set of logical rules L1 to L28 and facts F1 to F59. Please select one single logical rule from L1 to L28 and a few facts from F1 to F59 to explain the following statement.

Rules:

- L1:  $\forall A, B, C : r1(B, A) \wedge r1(B, C) \wedge r44(A) \rightarrow r2(A, C)$   
 L2:  $\forall A, B, C : r1(B, A) \wedge r1(B, C) \wedge r43(A) \rightarrow r3(A, C)$   
 L3:  $\forall A, B : r1(A, B) \wedge r44(A) \rightarrow r4(A, B)$   
 L4:  $\forall A, B : r1(A, B) \wedge r43(A) \rightarrow r5(A, B)$   
 L5:  $\forall A, B, C : r1(A, B) \wedge r1(B, C) \wedge r44(A) \rightarrow r6(A, C)$   
 L6:  $\forall A, B, C : r1(A, B) \wedge r1(B, C) \wedge r43(A) \rightarrow r7(A, C)$   
 L7:  $\forall A, B, C, D : r1(A, B) \wedge r1(B, C) \wedge r1(C, D) \wedge r44(A) \rightarrow r8(A, D)$   
 L8:  $\forall A, B, C, D : r1(A, B) \wedge r1(B, C) \wedge r1(C, D) \wedge r43(A) \rightarrow r9(A, D)$   
 L9:  $\forall A, B, C, D : r1(B, A) \wedge r1(B, C) \wedge r1(C, D) \wedge r44(A) \rightarrow r10(A, D)$   
 L10:  $\forall A, B, C, D : r1(B, A) \wedge r1(B, C) \wedge r1(C, D) \wedge r43(A) \rightarrow r11(A, D)$   
 L11:  $\forall A, B, C, D, E : r1(B, A) \wedge r1(B, C) \wedge r1(C, D) \wedge r1(D, E) \wedge r44(A) \rightarrow r12(A, E)$   
 L12:  $\forall A, B, C, D, E : r1(B, A) \wedge r1(B, C) \wedge r1(C, D) \wedge r1(D, E) \wedge r43(A) \rightarrow r13(A, E)$   
 L13:  $\forall A, B, C, D, E, F : r1(B, A) \wedge r1(C, B) \wedge r1(C, D) \wedge r1(D, E) \wedge r1(E, F) \wedge r44(A) \rightarrow r14(A, F)$   
 L14:  $\forall A, B, C, D, E, F : r1(B, A) \wedge r1(C, B) \wedge r1(C, D) \wedge r1(D, E) \wedge r1(E, F) \wedge r43(A) \rightarrow r15(A, F)$   
 L15:  $\forall A, B, C, D, E : r1(B, A) \wedge r1(C, B) \wedge r1(C, D) \wedge r1(D, E) \wedge r44(A) \rightarrow r16(A, E)$   
 L16:  $\forall A, B, C, D, E : r1(B, A) \wedge r1(C, B) \wedge r1(C, D) \wedge r1(D, E) \wedge r43(A) \rightarrow r17(A, E)$   
 L17:  $\forall A, B, C, D, E, F, G : r1(B, A) \wedge r1(C, B) \wedge r1(D, C) \wedge r1(D, E) \wedge r1(E, F) \wedge r1(F, G) \wedge r44(A) \rightarrow r18(A, G)$   
 L18:  $\forall A, B, C, D, E, F, G : r1(B, A) \wedge r1(C, B) \wedge r1(D, C) \wedge r1(D, E) \wedge r1(E, F) \wedge r1(F, G) \wedge r43(A) \rightarrow r19(A, G)$   
 L19:  $\forall A, B, C, D, E, F : r1(B, A) \wedge r1(C, B) \wedge r1(D, C) \wedge r1(D, E) \wedge r1(E, F) \wedge r44(A) \rightarrow r20(A, F)$   
 L20:  $\forall A, B, C, D, E, F : r1(B, A) \wedge r1(C, B) \wedge r1(D, C) \wedge r1(D, E) \wedge r1(E, F) \wedge r43(A) \rightarrow r21(A, F)$   
 L21:  $\forall A, B : r1(B, A) \wedge r44(A) \rightarrow r22(A, B)$   
 L22:  $\forall A, B : r1(B, A) \wedge r43(A) \rightarrow r23(A, B)$   
 L23:  $\forall A, B, C : r1(B, A) \wedge r1(C, B) \wedge r44(A) \rightarrow r24(A, C)$   
 L24:  $\forall A, B, C : r1(B, A) \wedge r1(C, B) \wedge r43(A) \rightarrow r25(A, C)$   
 L25:  $\forall A, B, C, D : r1(B, A) \wedge r1(C, B) \wedge r1(D, C) \wedge r44(A) \rightarrow r26(A, D)$

L26:  $\forall A, B, C, D : r1(B, A) \wedge r1(C, B) \wedge r1(D, C) \wedge r43(A) \rightarrow r27(A, D)$

L27:  $\forall A, B, C, D : r1(B, A) \wedge r1(C, B) \wedge r1(C, D) \wedge r44(A) \rightarrow r28(A, D)$

L28:  $\forall A, B, C, D : r1(B, A) \wedge r1(C, B) \wedge r1(C, D) \wedge r43(A) \rightarrow r29(A, D)$

Facts:

F1:  $r1(\text{angelina}, \text{michael})$

F2:  $r1(\text{angelina}, \text{jan})$

F3:  $r1(\text{angelina}, \text{jonathan})$

F4:  $r1(\text{emily}, \text{katharina})$

F5:  $r1(\text{emily}, \text{adam})$

F6:  $r1(\text{nora}, \text{theodor})$

F7:  $r1(\text{jan}, \text{lea})$

F8:  $r1(\text{magdalena}, \text{angelina})$

F9:  $r1(\text{matthias}, \text{angelina})$

F10:  $r1(\text{nico}, \text{sebastian})$

F11:  $r1(\text{claudia}, \text{sebastian})$

F12:  $r1(\text{emil}, \text{michael})$

F13:  $r1(\text{emil}, \text{jan})$

F14:  $r1(\text{emil}, \text{jonathan})$

F15:  $r1(\text{alina}, \text{lea})$

F16:  $r1(\text{patrick}, \text{theodor})$

F17:  $r1(\text{theodor}, \text{leon})$

F18:  $r1(\text{vanessa}, \text{leon})$

F19:  $r1(\text{jonathan}, \text{katharina})$

F20:  $r1(\text{jonathan}, \text{adam})$

F21:  $r1(\text{valentina}, \text{nora})$

F22:  $r1(\text{valentina}, \text{emil})$

F23:  $r1(\text{stefan}, \text{nora})$

F24:  $r1(\text{stefan}, \text{emil})$

F25:  $r1(\text{selina}, \text{nico})$

F26:  $r1(\text{selina}, \text{jonas})$

F27:  $r1(\text{selina}, \text{stefan})$

F28:  $r1(\text{marko}, \text{nico})$

F29:  $r1(\text{marko}, \text{jonas})$

F30:  $r1(\text{marko}, \text{stefan})$

F31:  $r1(\text{helga}, \text{selina})$

F32:  $r1(\text{simon}, \text{selina})$

F33:  $r43(\text{michael})$

F34:  $r44(\text{angelina})$

F35:  $r43(\text{emil})$

F36:  $r43(\text{jonathan})$

F37:  $r44(\text{valentina})$

F38:  $r43(\text{stefan})$

F39:  $r44(\text{selina})$

F40:  $r43(\text{marko})$

F41:  $r44(\text{helga})$

F42:  $r43(\text{simon})$

F43:  $r44(\text{emily})$

F44:  $r44(\text{katharina})$

F45:  $r44(\text{nora})$

F46:  $r43(\text{jan})$

F47:  $r44(\text{magdalena})$

F48:  $r43(\text{matthias})$

F49:  $r43(\text{nico})$

F50:  $r43(\text{adam})$

F51:  $r44(\text{claudia})$

F52:  $r43(\text{sebastian})$

F53:  $r44(\text{alina})$

F54:  $r44(\text{lea})$

F55:  $r43(\text{patrick})$

F56:  $r43(\text{theodor})$

F57:  $r43(\text{jonas})$

F58:  $r44(\text{vanessa})$

F59:  $r43(\text{leon})$

Statement:  $r8(\text{selina}, \text{jan})$

Answer with the numbers of the selected rule and facts. The selected rule and facts are (There may be multiple explanations for the statement, please provide one):