

Problem 1: Plagiarism in Assignments

Problem Statement: As per the school policy, it is considered cheating if a student copies assignments from others. Student A copied an assignment from Student B, and Student B copied it from an online source. Student A is a registered student at the school.

Prove that 'Student A is involved in cheating.'

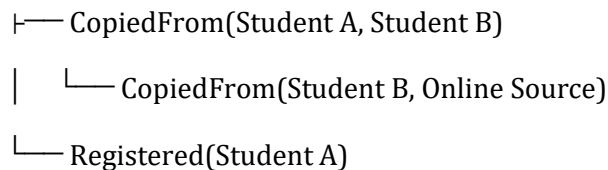
Step-by-step Solution:

1. If a student copies assignments, they are involved in cheating.
2. Student B copied from an online source (proof of copying).
3. Student A copied from Student B.
4. Student A is registered in the school (necessary condition for applying the rule).

Conclusion: Student A is involved in cheating.

Logical Tree Structure:

Cheating(Student A)



Problem 2: Library Fine for Late Returns

Problem Statement: As per library rules, a student is fined if they return a book after the due date. Student C borrowed a book from the library and returned it 5 days late. Student C is registered as a library member.

Prove that 'Student C will be fined.'

Step-by-step Solution:

1. If a student returns a book late, they will be fined.
2. Student C returned the book 5 days late (proof of late return).

3. Student C is a library member (necessary condition for applying the rule).

****Conclusion****: Student C will be fined.

****Logical Tree Structure****:

Fined(Student C)

└─ ReturnedLate(Student C)

└─ LibraryMember(Student C)

Problem 3: Eligibility for Sports Team

****Problem Statement****: To be eligible for the school sports team, a student must attend at least 80% of practices. Student D attended only 60% of the practices and is enrolled in the school.

****Prove that 'Student D is not eligible for the sports team.'****

****Step-by-step Solution****:

1. A student must attend at least 80% of practices to be eligible.

2. Student D attended only 60% (proof of insufficient attendance).

3. Student D is enrolled in the school (necessary condition for applying the rule).

****Conclusion****: Student D is not eligible for the sports team.

****Logical Tree Structure****:

NotEligible(Student D)

└─ AttendedPractices(60%, Student D)

└─ Enrolled(Student D)