

# Advanced Data Modeling

Summer Semester 2009

- Exercises VI -

*To be handed in before 2009-06-29, 23:59 via e-mail to  
bercovici@uni-koblenz.de And dividino@uni-koblenz.de, subject line: [ADM] ...*

1. Victor has been murdered, and Arthur, Bertram, and Carleton are the only suspects (meaning exactly one of them is the murderer). Arthur says that Bertram was the victim's friend, but that Carleton hated the victim. Bertram says that he was out of the town the day of the murder, and besides, he didn't even know the guy. Carleton says that he saw Arthur and Bertram with the victim just before the murder. You may assume that everyone – except possibly the murder- is telling the truth.(5 points)

1. Use Resolution to find the murder. In other words, formalize the facts as a set of clauses, prove that there is a murder, and extract his identity from the derivation

2. Consider the program (5 points)

$p(X,Z) \leftarrow q(X,Y), p(Y,Z)$   
 $p(X,X) \leftarrow$   
 $q(a,b) \leftarrow$

and the goal  $\leftarrow p(X,b)$ .

Show two SLD-trees for this program: R and R'. R is the computation rule which always select the leftmost atom, and R' the computation rule which always select the rightmost atom.