



Exercise Sheet 7: Query Optimization 2

Exercise I

Assume the relations given below.

- Draw an canonical operator tree for the following query:
SELECT a.aliasName, pt.label
FROM persons p, aliases a, superPowers sp, powerType pt, powerOrigin po
WHERE pt.id=sp.powerType_id **AND** p.id=sp.persons_id **AND** po.id=p.powerOrigin_id
AND p.id=a.persons_id **AND** po.label='Mutation' **AND** sp.powerStrength=>7
AND NOT a.aliasName='Magneto'
- Apply the Hill-Climbing-Heuristic-Optimization Algorithm to the query tree of a). Draw a new query tree and a relational algebra expression for each step.
- Discuss the quality of the output of the hill-climbing algorithm (Is it optimal? Could it be better? How and why?).

