

A SAMPLE DATABASE AND SAMPLE QUERIES

A SAMPLE DATABASE

ENTITIES

company =

{ibm,sybase,oracle,ford,gm,cognos,etc...}

employee =

{john,dave,steve,mary,nadia,diane,etc...}

occupation =

{"engineer","programmer","analyst",etc...}

location =

{toronto,ottawa,windsor,detroit,tokyo,etc...}

age = {n | 0 < n < 65}

salary = {n | 30000 < n < 1000000}

RELATIONS

employee-company::{(employee,company)}

company-rel::{(company,location)}

employee-rel::{(employee,occupation,age,salary)}

A SAMPLE DATABASE

employee-company = { (john, ibm),
(mary, cognos),
(dave, sybase),
etc... }

company-rel = { (ibm, toronto),
(cognos, ottawa),
etc... }

employee-rel = { (john, engineer, 32,40000),
(dave, programmer, 27, 55000),
(mary, analyst, 31, 50000),
etc...
}

QUERIES

1. Get the names of all engineers
2. How many people work in Ottawa?
3. What is the average salary of all engineers
4. What is the average age of those that work at ibm?

1. project-1st-of-4 (select-on-2nd-of-4 isEngineer employee-rel)
2. #(join-on-2nd-of-2-and-1st-of-2 employee-company (select-on-2nd-of-2 inOttawa company-rel))
3. (sum (project-on-4th-of-4 allEngineers)) / (#allEngineers)
 where allEngineers = (select-on-2nd-of-4 isEngineer employee-rel)
4. (sum (project-on-4th-of-5 allAtIBM)) / (#allAtIBM)
 where allAtIBM =
 (join-on-1st-of-2-and-1st-of-4 (select-on-2nd-of-2 atIBM employee-company) employee-rel)