

Software House SQL DDL & DML Queries

Consider the following relational schema:

Staff	(staffNo , name, dept, skillCode)
Skill	(skillCode , description, chargeOutRate)
Project	(projectNo , startDate, endDate, budget, projectManagerStaffNo)
Booking	(staffNo , projectNo , dateWorkedOn, timeWorkedOn)

where:

Staff	contains staff details and staffNo is the key.
Skill	contains descriptions of skill codes (e.g. Programmer, Analyst, Manager, etc.) and the charge out rate per hour for that skill; the key is skillCode .
Project	contains project details and projectNo is the key.
Booking	contains details of the date and the number of hours that a member of staff worked on a project and the key is staffNo/projectNo .

(a) Formulate the SQL DDL language statement to create and suitably populate the relational schema above, selecting appropriate data types and attribute names.

Formulate the following queries using SQL:

- (b)
- (1) List all skills with a charge out rate greater than £60 per hour, in alphabetical order of description.
 - (2) List all staff with the skill description 'Database administration' who work in the 'DB Management' department.
 - (3) For all projects that were active in August 2018, list the staff name, project number and the date and number of hours worked on the project, ordered by staff name, within staff name by the project number and within project number by date.
 - (4) How many staff have the skill 'DB Management'?
 - (5) List all projects that have at least two staff booking to it.

(6) *List the average charge out rate.*

(7) *List all staff with a charge out rate greater than the average charge out rate.*

(c) *Create a view of staff details giving the staff number, staff name, skill description, and department, but excluding the skill number and charge out rate.*

(d) *Discuss the fundamental flaw in the database design.*