

PROGRAM 4. STUDENT FACULTY DATABASE

Consider the following database for student enrolment for course:

STUDENT (snum: integer, sname: string, major: string, level: string, age: integer)

CLASS (name: string, meets at: time, room: string, fid: integer)

ENROLLED (snum: integer, cname: string)

FACULTY (fid: integer, fname: string, deptid: integer)

The meaning of these relations is straightforward; for example, Enrolled has one record per student-class pair such that the student is enrolled in the class. Level is a two character code with 4 different values (example: Junior: JR etc)

Write the following queries in SQL. No duplicates should be printed in any of the answers.

- i. Find the names of all Juniors (level = JR) who are enrolled in a class taught by
- ii. Find the names of all classes that either meet in room R128 or have five or more Students enrolled.
- iii. Find the names of all students who are enrolled in two classes that meet at the same time.
- iv. Find the names of faculty members who teach in every room in which some class is taught.
- v. Find the names of faculty members for whom the combined enrolment of the courses that they teach is less than five.
- vi. Find the names of students who are not enrolled in any class.
- vii. For each age value that appears in Students, find the level value that appears most often. For example, if there are more FR level students aged 18 than SR, JR, or SO students aged 18, you should print the pair (18, FR)

localhost / 127.0.0.1 / lp4_studen

localhost/phpmyadmin/index.php?route=/database/structure&server=1&db=lp4_student

phpMyAdmin

Recent Favorites

New

information_schema

lp3_supplier

lp4_student

New

class

enrolled

faculty

student

mysql

performance_schema

phpmyadmin

test

Server: 127.0.0.1 » Database: lp4_student

StructureSQLSearchQueryExportImportOperationsPrivilegesRoutinesEventsTriggersTrackingDesignerCentral columns

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> class		8	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<input type="checkbox"/> enrolled		10	InnoDB	utf8mb4_general_ci	48.0 KiB	-
<input type="checkbox"/> faculty		5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> student		6	InnoDB	utf8mb4_general_ci	16.0 KiB	-
4 tables	Sum	29	InnoDB	utf8mb4_general_ci	112.0 KiB	0 B

☐ Check all

With selected:

PrintData dictionary

Create table

Name: Number of columns: 4

Go

Console

Search

31°C Partly sunny

16:36 23-05-2021

The screenshot shows the phpMyAdmin web interface. The browser address bar indicates the URL: `localhost/phpmyadmin/index.php?route=/sql&server=1&db=lp4_student&table=faculty&pos=0`. The interface is for the 'lp4_student' database, specifically viewing the 'faculty' table. The table structure is as follows:

fid	fname	deptid
11	Harish	1000
12	MV	1000
13	Mira	1001
14	Shiva	1002
15	Nupur	1000

The interface includes a sidebar on the left with a tree view of databases and tables. The top navigation bar contains tabs for 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', 'Tracking', and 'Triggers'. The bottom status bar shows the current URL: `localhost/phpmyadmin/index.php?route=/database/structure&server=1&db=performance_schema`.

localhost / 127.0.0.1 / lp4_studen

localhost/phpmyadmin/index.php?route=/sql&server=1&db=lp4_student&table=class&pos=0

phpMyAdmin

Recent Favorites

New

information_schema

lp3_supplier

lp4_student

New

class

enrolled

faculty

student

mysql

performance_schema

phpmyadmin

test

Server: 127.0.0.1 » Database: lp4_student » Table: class

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Operations

Tracking

Triggers

Showing rows 0 - 7 (8 total, Query took 0.0006 seconds.)

SELECT * FROM `class`

Profiling

Edit inline

Edit

Explain SQL

Create PHP code

Refresh

Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

+ Options

← T →

				cname	meets_at	room	fid
<input type="checkbox"/>	Edit	Copy	Delete	class1	2012-11-15 10:15:16	R1	14
<input type="checkbox"/>	Edit	Copy	Delete	class10	2012-11-15 10:15:16	R128	14
<input type="checkbox"/>	Edit	Copy	Delete	class2	2012-11-15 10:15:20	R2	12
<input type="checkbox"/>	Edit	Copy	Delete	class3	2012-11-15 10:15:25	R3	11
<input type="checkbox"/>	Edit	Copy	Delete	class4	2012-11-15 20:15:20	R4	14
<input type="checkbox"/>	Edit	Copy	Delete	class5	2012-11-15 20:15:20	R3	15
<input type="checkbox"/>	Edit	Copy	Delete	class6	2012-11-15 13:20:20	R2	14
<input type="checkbox"/>	Edit	Copy	Delete	class7	2012-11-15 10:10:10	R3	14

Check all

With selected:

Edit

Copy

Delete

Export

Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

Query results operations

Print

Copy to clipboard

Export

Display chart

Create view

Bookmark this SQL query

Label:

☐ Let every user access this bookmark

Bookmark this SQL query

Console

Search

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