

# Coursework 2: ER, Normalization, SQL, PHP

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## Task 2 (40 marks):

You are required to submit your PHP code (in *pdf*) that generates the “Student Record Card” for any student id. 30 marks will be awarded if your PHP code works as expected:

Up to 10 marks will be awarded if the generated record cards look as close as possible to the given ones:

a) Provide screenshots of *three* record cards with *different* student ids (see specification in Task2).

b) Clear presentation and formatting (including comments for your code).

## Coursework Submission (please read carefully the instructions)

You should submit the following to the Blackboard assignment collection page:

⇒ a written report (*pdf* only), electronic submission.

Assignment Project Exam Help

<https://powcoder.com>

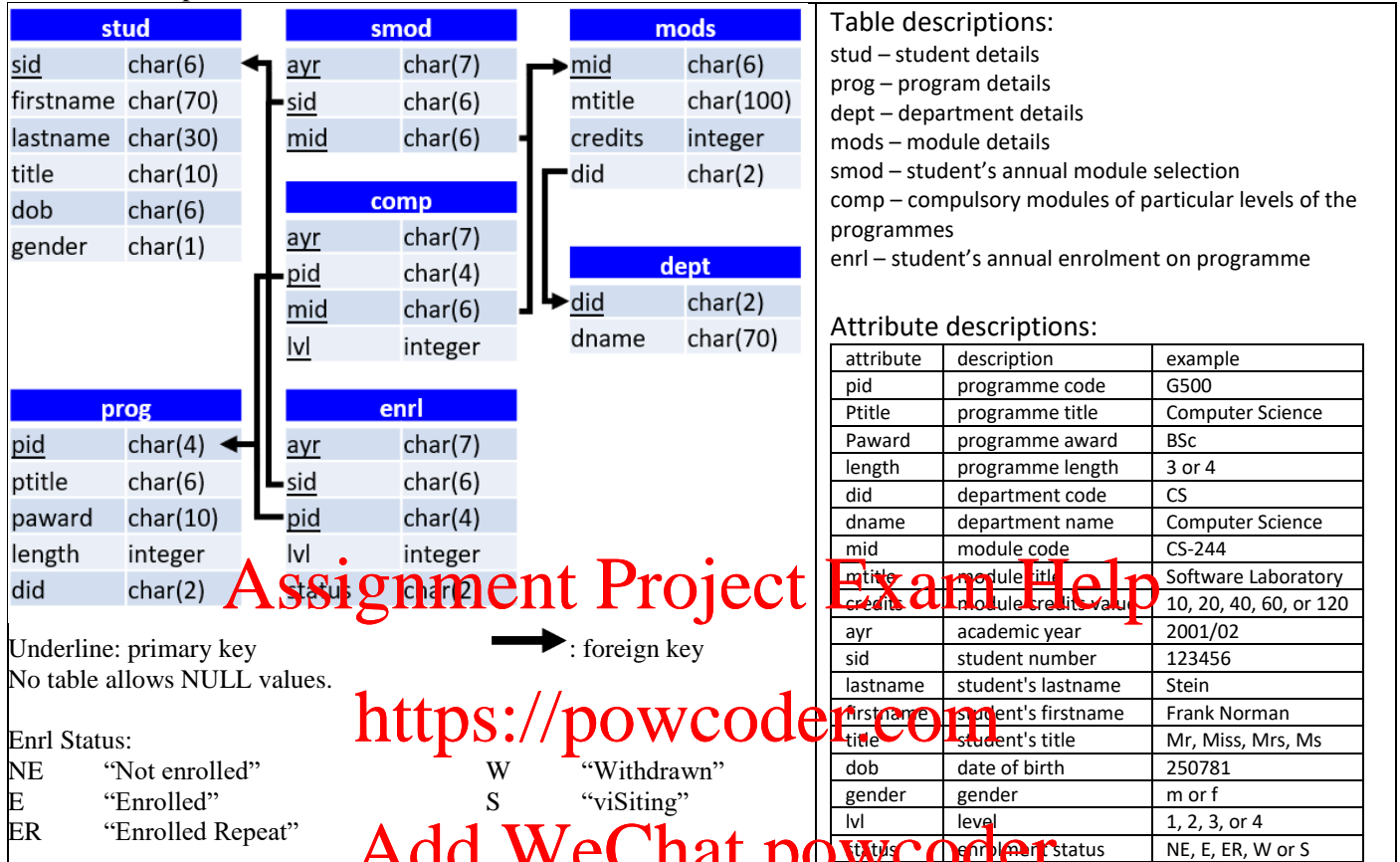
Add WeChat powcoder

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## B. SQL+PHP (worth 10% of CS-250)

There are two tasks in this part B. You will use SQL knowledge to help University to set up and answer some questions regarding their student records database, and to help generate a “Student Record Card” page.

This part gives you practical opportunities to write SQL queries of a large database. Full marks can only be obtained if you demonstrate clearly that you have tested the queries on an actual implementation of the database. All test data is randomly generated, and **all data is fake** - they are for testing purposes only. Data is provided to you in the form of text files, as explained below:



Before you proceed, you are required to create respective tables in MySQL, populate those tables with provided data. You can use the following syntax to load data into MySQL (for example into stud table) via console:

```
load data infile 'stud.txt'
INTO TABLE stud
fields terminated BY ',' enclosed BY '"'
lines terminated BY '\r\n';
```

### Task 1 (SQL):

You are required to give one **single** SQL statement to answer each of the questions. Present your answer concisely:

- Show the SQL statement(s) you used and
- The results obtained from your database (e.g., copy results or screenshots from console / PHPMyAdmin).

#### Important Notes:

- you **must** use an SQL formatter to tidy up your SQL statements (<http://www.dpriver.com/pp/sqlformat.htm>)
  - you **must** observe the font size limit. This applies to all screenshots, figures and tables.
- Otherwise, marks will be deducted for poor presentation, or no marks will be given if it is incomprehensible.

You are **NOT** allowed to use **natural join** keyword. Otherwise, **no** marks will be given.

**Question 1.** For each department, get the department name and how many modules they have available. **(15 marks)**

**Question 2.** How many students in 2001/02 have not selected a module which is compulsory for their programme and level? Count the student only once if he/she has multiple such modules. You are **NOT** allowed to use **IN** or **Left/Right (Outer) Join** for this question. Otherwise, 50% marks will be deducted. **(15 marks)**

**Question 3.** Find the student(sid) who have ever enrolled on 2 or more programmes offered by different departments. You are **NOT** allowed to use group by / having in this question. Otherwise, 50% marks will be deducted. **(20 marks)**

## Task 2 (SQL + PHP):

Your final task is to generate an “Student Record Card” that looks as close as possible to the ones below using PHP, *given a student id* (to be submitted from a form textbox). See the two figures below.

- 1) The card should show the personal, course, enrolment and module selection details.
- 2) In the module detail section, all modules should be listed and grouped in descending order of academic year.
- 3) The order of modules in each academic year does not matter.
- 4) The student record card should show the **total credits** taken per academic year (if there are any).

To show that you have done this part, you should submit (in the pdf) the following:

- 1) Syntax highlighted PHP code that you wrote (only one php file, called sustudent.php)
- 2) Screenshots of *three* receipts with different student ids.

- **All student ids** must be students who have selected modules and enrolled for **at least two years**.

**Strong Tips:** Don't waste time on fancy CSS styles or layout. **Nested HTML tables** are all you need!

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Student Record Card

Query by Student ID #: 166296

Personal Details

Student ID	166296
Title	Mr
Full Name:	Peter Matthews
Date of Birth:	030379
Gender	Male

Course Details

UCAS Code	G500
Degree Scheme	BSc Computer Science 3yr
Department	Computer Science

Enrolment and Progress

Academic Year	Enrolment Status	Programme	Course Year
2001/02	Enrolled	Comput	3
2000/01	Enrolled	Comput	2
1999/00	Enrolled	Comput	1

Module Selection

2001/02		
MAP421	Logic and Foundations	10
CS-376	Programming with Abstract Data Types	10
CS-372	Numerical Algorithms and Computation	10
CS-344	Project Implementation and Dissertation	20
CS-338	Internet Computing	10
CS-335	Foundations of Artificial Intelligence	10
CS-334	Project Specification and Development	10
CS-329	Scientific Modelling and Simulation	10
CS-323	High Performance Microprocessors	10
CS-321	Functional Programming II	10
CS-307	Computer Graphics II:Modelling and Rendering	10
Total Credits:		120
2000/01		
CS-244	Software Laboratory	10
CS-238	Data Communications and Computer Networks	10
CS-232	Algorithms and Complexity	10
CS-228	Operating Systems	10
CS-226	Computability Theory	10
CS-221	Functional Programming I	10
CS-219	Database Systems	10
CS-218	Compilers	10
CS-217	Computer Graphics I: Image Processing and Synthesis	10
CS-216	Theory of Programming Languages	10
CS-214	Object Technology	10
CS-213	System Specification	10
Total Credits:		120
1999/00		
MAM111	Logic & Foundations of Mathematics	10
MAG132	Basic Mathematics for Scientists	20
MAA151	Numerical Methods	10
CS-125	Logic Programming	10
CS-122	Algorithms and Automata	10
CS-121	Data Structures	10
CS-116	Modelling Computing Systems	10
CS-114	The Process of Software Engineering	10
CS-113	From Languages to Hardware	10
CS-111	Program Design	10
Total Credits:		110

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Student Record Card

Query by Student ID #: 163119

Personal Details

Student ID	163119
Title	Ms
Full Name:	Denise Duncan
Date of Birth:	051180
Gender	Female

Course Details

UCAS Code	RQ2N
Degree Scheme	BA German 3yr
Department	German

Enrolment and Progress

Academic Year	Enrolment Status	Programme	Course Year
2000/01	Enrolled	German	2
1999/00	Enrolled	German	1

Module Selection

2001/02		
GR-301	German General Language I	20
CY-351	Ymarfer Iaith (Practical Language)	20
CY-336	Traethawd Estynedig (Dissertation)	30
CY-326	Cyfieithu Proffesiynol	10
CY-324	Y Nofel	10
CY-313	Cyfieithu	10
Total Credits:		120
2000/01		
GRW205	Cyfieithiad (Almaeneg)	10
GRW203	Iaith Wyddonol (Almaeneg)	10
GR-201	German General Language II	20
CY-214	Ymchwilio a Dadansoddi	10
CY-210	Ymarfer Iaith	20
CY-202	Cyfieithu	10
CS-238	Data Communications and Computer Networks	10
CS-219	Database Systems	10
CS-217	Computer Graphics I: Image Processing and Synthesis	10
CS-132	Algorithms and Computation	10
Total Credits:		120
1999/00		
GRW121	Yr Almaen fodern	10
GRW114	Gramadeg Almaeneg	10
GRW112	Iaith Gwyddonol (Almaeneg)	10
GR-110	German General Language I	20
CY-106	Cyflwyniad i Gymru	10
CY-105	Cyfieithu	10
CY-101	Iaith	10
CS-121	Data Structures	10
CS-114	The Process of Software Engineering	10
CS-113	From Languages to Hardware	10
CS-111	Program Design	10
Total Credits:		120

Swansea University