



## 程序代写代做 CS编程辅导



3 SQL

WeChat: cstutorcs

SEQUEL (Structured English QUEry Language)  
**Assignment Project Exam Help**

Email: [tutors@163.com](mailto:tutors@163.com)

SQL (Structured Query Language)

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程序代写代做 CS编程辅导  
**Housekeeping**



- 1 Assignment 1 on SQ [REDACTED] available on Wattle at 11:59pm on 16 Aug (Tuesday) and due at 11:59pm on 30 Aug (Tuesday).

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QQ: 749389476

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程序代写代做 CS编程辅导  
**Housekeeping**



- 1 Assignment 1 on SQ [REDACTED] available on Wattle at 11:59pm on 16 Aug (Tuesday) and due at 11:59pm on 30 Aug (Tuesday).

- This assessment should be done individually and no group work is allowed.
- You should not post any solutions/results/ideas/interpretations related to assessment items on the Wattle discussion forum.
- Additional drop-in sessions will be available in Week 4 and Week 5 if you need any further clarification for Assignment 1.

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**Housekeeping**



- ① Assignment 1 on SQ [REDACTED] available on Wattle at 11:59pm on 16 Aug (Tuesday) and due at 11:59pm on 30 Aug (Tuesday).
  - This assessment should be done individually and no group work is allowed.
  - You should not post any solutions/results/ideas/interpretations related to assessment items on the Wattle discussion forum.
  - Additional drop-in sessions will be available in Week 4 and Week 5 if you need any further clarification for Assignment 1.
- ② An optional exercise website is available for our course

[https://cs.anu.edu.au/dal/bench/db\\_exercises/](https://cs.anu.edu.au/dal/bench/db_exercises/)



# 程序代写代做 CS编程辅导

## Outline



- ① Insert, Update, Delete Statements  
v.s. Relational Database State

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- ② Select Statements Assignment Project Exam Help

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- ③ A Bunch of Tables QQ: 749389476

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程序代写代做 CS编程辅导  
**Insert, Update, Delete Statements**

- Insert, Delete, Update Statements  
v.s. Relational Data



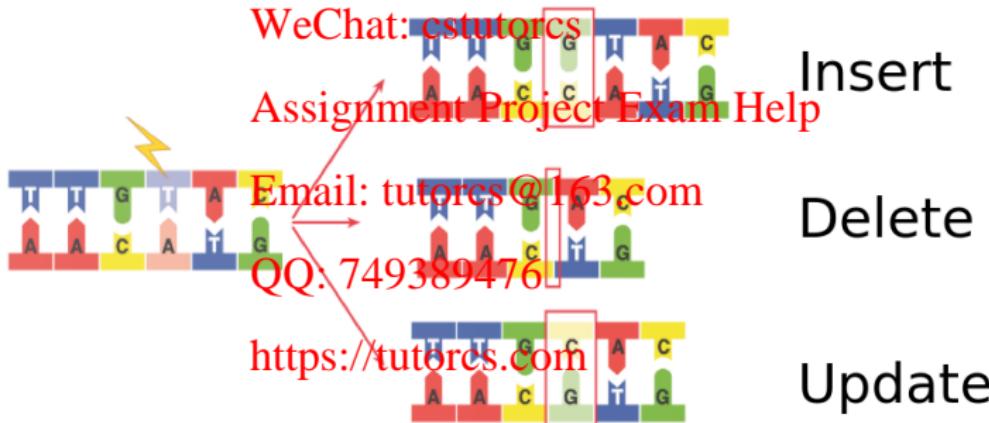
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## 程序代写代做 CS编程辅导 Relational Database State – Example

- A **relational database**



$S$  is a set of relations such that

- there is just one relation schema per each relation schema in  $S$ , and
- all the relations in  $S$  satisfy integrity constraints  $IC$ .

STUDENT				
StudentID	Name	Date	DOB	Email
456	Tom	25/01/1988		tom@gmail.com
458	Peter	23/05/1993		peter@gmail.com
459	Frank	11/09/1987		frankk@gmail.com

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COURSE		
No	Cname	Unit
COMP1130	Introduction to Advanced Computing I	6
COMP2400	Relational Databases	6

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QQ: 749389476

ENROL				
StudentID	CourseNo	Semester	Status	EnrolDate
456	COMP2400	2016 S2	active	25/05/2016
458	COMP1130	2016 S1	active	20/02/2016
459	COMP2400	2016 S2	active	11/06/2016



## 程序代写代做 CS编程辅导 Insert Statement – Example



```
CREATE TABLE STUDENT (StudentID INT PRIMARY KEY, Name VARCHAR(50),  
DoB DATE, Email VARCHAR(50));
```

- Will the following Insert statements work?
- INSERT INTO STUDENT

```
VALUES (456, 'Tom', '25/01/1988', 'tom@gmail.com');
```

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## 程序代写代做 CS编程辅导 Insert Statement – Example



```
CREATE TABLE STUDENT (StudentID INT PRIMARY KEY, Name VARCHAR(50),  
DoB DATE, Email VARCHAR(50));
```

- Will the following Insert statements work?
- INSERT INTO STUDENT

```
VALUES (456, 'Tom', '25/01/1988', 'tom@gmail.com');
```

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Yes.

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## 程序代写代做 CS编程辅导 Insert Statement – Example



```
CREATE TABLE STUDENT (StudentID INT PRIMARY KEY, Name VARCHAR(50),  
DoB DATE, Email VARCHAR(50));
```

- Will the following Insert statements work?

• INSERT INTO STUDENT

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```
VALUES (456, 'Tom', '25/01/1988', 'tom@gmail.com');
```

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Yes.

- INSERT INTO STUDENT (StudentID)

```
VALUES (459);
```

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## 程序代写代做 CS编程辅导 Insert Statement – Example



```
CREATE TABLE STUDENT (StudentID INT PRIMARY KEY, Name VARCHAR(50),  
DoB DATE, Email VARCHAR(50));
```

- Will the following Insert statements work?

• INSERT INTO STUDENT

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```
VALUES (456, 'Tom', '25/01/1988', 'tom@gmail.com');
```

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Yes.

• INSERT INTO STUDENT (StudentID)

```
VALUES (459);
```

Email: tutorcs@163.com

Yes. The values for Name, DoB and Email will be NULL.

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## 程序代写代做 CS编程辅导 Insert Statement – Example



```
CREATE TABLE STUDENT (StudentID INT PRIMARY KEY, Name VARCHAR(50),  
DoB DATE, Email VARCHAR(50));
```

- Will the following Insert statements work?

• INSERT INTO STUDENT

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```
VALUES (456, 'Tom', '25/01/1988', 'tom@gmail.com');
```

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Yes.

- INSERT INTO STUDENT(StudentID)

```
VALUES (459);
```

Email: tutorcs@163.com  
Yes. The values for Name, DoB and Email will be NULL.

- INSERT INTO STUDENT(Name, DoB, Email)

```
VALUES ('John', '15/11/1998', 'john@gmail.com');
```



## 程序代写代做 CS编程辅导 Insert Statement – Example



```
CREATE TABLE STUDENT (StudentID INT PRIMARY KEY, Name VARCHAR(50),  
DoB DATE, Email VARCHAR(50));
```

- Will the following Insert statements work?

• INSERT INTO STUDENT

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```
VALUES (456, 'Tom', '25/01/1988', 'tom@gmail.com');
```

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Yes.

- INSERT INTO STUDENT(StudentID)

```
VALUES (459);
```

Email: tutorcs@163.com  
Yes. The values for Name, DoB and Email will be NULL.

- INSERT INTO STUDENT(Name, DoB, Email)

```
VALUES ('John', '15/11/1998', 'john@gmail.com');
```

No. The primary key value cannot be NULL.



## 程序代写代做 CS编程辅导 Update Statement – Example



STUDENT			
StudentID	DoB	Email	
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1997	frankk@gmail.com

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- What is the resulting table after executing the following statement?

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```
UPDATE STUDENT SET Name='Tom Lee', Email='tom.lee@yahoo.com'  
WHERE StudentID=456; Email: tutorcs@163.com
```

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## 程序代写代做 CS编程辅导 Update Statement – Example



STUDENT			
StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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- What is the resulting table after executing the following statement?

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UPDATE STUDENT SET Name='Tom Lee', Email='tom.lee@yahoo.com'  
WHERE StudentID=456; Email: tutorcs@163.com

STUDENT			
StudentID	Name	DoB	Email
456	Tom Lee	25/01/1988	tom.lee@yahoo.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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程序代写代做 CS编程辅导  
**Delete Statement – Example**



STUDENT			
StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	28/05/1992	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

- What is the resulting table after executing the following statement?

DELETE FROM STUDENT WHERE StudentID=456;  
Email: [tutorcs@163.com](mailto:tutorcs@163.com)

QQ: 749389476

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程序代写代做 CS编程辅导  
**Delete Statement – Example**



STUDENT			
StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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- What is the resulting table after executing the following statement?

DELETE FROM STUDENT WHERE StudentID=456;  
Email: tutorcs@163.com

STUDENT			
StudentID	Name	DoB	Email
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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## 程序代写代做 CS编程辅导 Delete Statement – Example



Student ID	STUDENT		
	DoB	Email	
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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- What is the resulting table after executing the following statement?  
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DELETE FROM STUDENT;

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## 程序代写代做 CS编程辅导 Delete Statement – Example



STUDENT			
StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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- What is the resulting table after executing the following statement?  
**Assignment Project Exam Help**  
DELETE FROM STUDENT;

STUDENT			
StudentID	Name	DoB	Email

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## 程序代写代做 CS编程辅导 Delete Statement – Example



STUDENT			
StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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- What is the resulting table after executing the following statement?  
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DELETE FROM STUDENT;

STUDENT			
StudentID	Name	DoB	Email
			Email: tutorcs@163.com

DROP TABLE STUDENT;  
**QQ: 749389476**

<https://tutorcs.com> The Table STUDENT is deleted.



## 程序代写代做 CS编程辅导 Delete Statement – Example



STUDENT			
StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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- What is the resulting table after executing the following statement?  
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DELETE FROM STUDENT;

STUDENT			
StudentID	Name	DoB	Email
			Email: tutors@163.com

DROP TABLE STUDENT;  
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<https://tutors.com> The Table STUDENT is deleted.

- Note the difference between the Delete and Drop Table statements.



## 程序代写代做 CS编程辅导 Delete Statement – Example

- Consider the following statement defined on ENROL:

FOREIGN KEY (StudentID) REFERENCES STUDENT(StudentID)

ON DELETE CASCADE ACTION

ENROL				
StudentID	CourseNo	Semester	Status	EnrolDate
456	COMP1130	2016 S1	active	25/02/2016
458	COMP1130	2016 S1	active	25/02/2016
456	COMP2400	2016 S2	active	09/03/2016

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STUDENT				
StudentID	Name	Dob	Email	
456	Tom	25/01/1988	tom@gmail.com	
458	Peter	20/02/1991	peter@hotmail.com	

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- What will happen if we execute the following statement?

DELETE FROM STUDENT WHERE StudentID=456;

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## 程序代写代做 CS编程辅导 Delete Statement – Example

- Consider the following statement defined on ENROL:

FOREIGN KEY (StudentID) REFERENCES STUDENT(StudentID)

ON DELETE CASCADE ACTION

ENROL				
StudentID	CourseNo	Semester	Status	EnrolDate
456	COMP1130	2016 S1	active	25/02/2016
458	COMP1130	2016 S1	active	25/02/2016
456	COMP2400	2016 S2	active	09/03/2016

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STUDENT				
StudentID	Name	Dob	Email	
456	Tom	25/01/1988	tom@gmail.com	
458	Peter	20/02/1991	peter@hotmail.com	

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- What will happen if we execute the following statement?

DELETE FROM STUDENT WHERE StudentID=456;

- The deletion of a student who has enrolled at least one course will throw out an error concerning the foreign key.



## 程序代写代做 CS编程辅导 Delete Statement – Example

- Consider the following entity defined on ENROL:

FOREIGN KEY REFERENCES STUDENT(StudentID)

ON DELETE CASCADE

ENROL

StudentID	CourseNo	Semester	Status	EnrolDate
456	COMP1130	2016 S1	active	25/02/2016
458	COMP1130	2016 S1	active	25/02/2016
456	COMP2400	2016 S2	active	09/03/2016

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STUDENT

StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	20/02/1991	peter@hotmail.com

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## 程序代写代做 CS编程辅导 Delete Statement – Example

- Consider the following statement defined on ENROL:

FOREIGN KEY (StudentID) REFERENCES STUDENT(StudentID)

ON DELETE CASCADE

ENROL

StudentID	CourseNo	Semester	Status	EnrolDate
456	COMP1130	2016 S1	active	25/02/2016
458	COMP1130	2016 S1	active	25/02/2016
456	COMP2400	2016 S2	active	09/03/2016

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Email: tutorcs@163.com

STUDENT

StudentID	Name	Dob	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	20/02/1991	peter@hotmail.com

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- What will happen if we execute the following statement?

DELETE FROM STUDENT WHERE StudentID=456;

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## 程序代写代做 CS编程辅导 Delete Statement – Example

- Consider the following statement defined on ENROL:

FOREIGN KEY (StudentID) REFERENCES STUDENT(StudentID)

ON DELETE CASCADE



ENROL				
StudentID	CourseNo	Semester	Status	EnrolDate
456	COMP1130	2016 S1	active	25/02/2016
458	COMP1130	2016 S1	active	25/02/2016
456	COMP2400	2016 S2	active	09/03/2016

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STUDENT			
StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	20/02/1991	peter@hotmail.com

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- What will happen if we execute the following statement?

DELETE FROM STUDENT WHERE StudentID=456;

- We would have ENROL below after deleting the student 456.

StudentID	CourseNo	Semester	Status	EnrolDate
458	COMP1130	2016 S1	active	25/02/2016



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**Select Statement**



- Select Statement

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SELECT \*  
FROM World163.com  
WHERE "Someone"  
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LIKE "%You%"  
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## 程序代写代做 CS编程辅导 Select Statement



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- The **SELECT** statement has the following basic form:

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```
SELECT attribute_list
      FROM table_list
      [WHERE condition]
      [GROUP BY attribute_list [HAVING group_condition]]
      [ORDER BY attribute_list];
```

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## 程序代写代做 CS编程辅导 Select Statement



STUDENT		
Student ID	DoB	Email
4123	25/01/1988	tom@hotmail.com
4567	23/05/1993	peter@gmail.com
459	Fran	frankk@gmail.com

- What is the result for the following SELECT statement?

SELECT \* FROM STUDENT WHERE Email like '%@gmail.com';

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## 程序代写代做 CS编程辅导 Select Statement



STUDENT			
StudentID	Name	DoB	Email
458	Peter	25/01/1988	tom@hotmail.com
459	Fran	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

- What is the result for the following SELECT statement?

SELECT \* FROM STUDENT WHERE Email like '%@gmail.com';

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StudentID	Name	DoB	Email
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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## 程序代写代做 CS编程辅导 Select Statement



STUDENT			
StudentID	Name	DoB	Email
458	Peter	25/01/1988	tom@hotmail.com
459	Fran	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

- What is the result for the following SELECT statement?

SELECT \* FROM STUDENT WHERE Email like '%@gmail.com';

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StudentID	Name	DoB	Email
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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SELECT StudentID FROM STUDENT WHERE Email like '%@gmail.com';

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## 程序代写代做 CS编程辅导 Select Statement



STUDENT			
StudentID	Name	DoB	Email
458	Peter	25/01/1988	tom@hotmail.com
459	Fran	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

- What is the result for the following SELECT statement?

SELECT \* FROM STUDENT WHERE Email like '%@gmail.com';  
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StudentID	Name	DoB	Email
458	Peter	23/05/1993	peter@gmail.com
459	Fran	11/09/1987	frankk@gmail.com

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SELECT StudentID FROM STUDENT WHERE Email like '%@gmail.com';

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StudentID
458
459



## 程序代写代做 CS编程辅导 Select Statement



STUDENT		
StuID	DoB	Email
4	25/01/1988	tom@hotmail.com
4	23/05/1993	peter@gmail.com
4	11/09/1987	frankk@gmail.com
460	Peter	Peter@Github.com

- What is the result for the following Select statement?

SELECT \* FROM STUDENT WHERE Name = 'Peter';

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## 程序代写代做 CS编程辅导 Select Statement



STUDENT			
StudentID	Name	DoB	Email
4		25/01/1988	tom@hotmail.com
4		23/05/1993	peter@gmail.com
4		11/09/1987	frankk@gmail.com
460	Peter	03/09/1992	Peter@Github.com

- What is the result for the following Select statement?

SELECT \* FROM STUDENT WHERE Name = 'Peter';

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STUDENT			
StudentID	Name	DoB	Email
460	Peter	03/09/1992	Peter@Github.com

QQ: 749389476

<https://tutorcs.com>



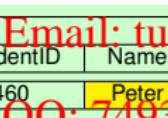
## 程序代写代做 CS编程辅导 Select Statement



STUDENT			
StudentID	Name	DoB	Email
4		25/01/1988	tom@hotmail.com
4		23/05/1993	peter@gmail.com
4		11/09/1987	frankk@gmail.com
460	Peter	03/09/1992	Peter@Github.com

- What is the result for the following Select statement?

SELECT \* FROM STUDENT WHERE Name = 'Peter';  
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STUDENT			
StudentID	Name	DoB	Email
460	Peter	03/09/1992	Peter@Github.com

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SELECT \* FROM STUDENT WHERE lower(Name) = 'peter' ;

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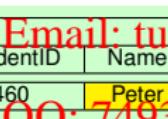
## 程序代写代做 CS编程辅导 Select Statement



STUDENT			
StudentID	Name	DoB	Email
458	Tom	25/01/1988	tom@hotmail.com
459	Jerry	23/05/1993	peter@gmail.com
460	Peter	11/09/1987	frankk@gmail.com
461	Mike	03/09/1992	Peter@Github.com

- What is the result for the following Select statement?

SELECT \* FROM STUDENT WHERE Name = 'Peter';  
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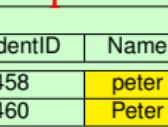


STUDENT			
StudentID	Name	DoB	Email
460	Peter	03/09/1992	Peter@Github.com

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SELECT \* FROM STUDENT WHERE lower(Name) = 'peter';

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STUDENT			
StudentID	Name	DoB	Email
458	peter	23/05/1993	peter@gmail.com
460	Peter	03/09/1992	Peter@Github.com



程序代写代做 CS编程辅导  
**Select + Group By**



- **GROUP BY** *attribute\_list*:  
 roles for each value combination in the  
*attribute\_list*.

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## 程序代写代做 CS编程辅导 Select + Group By



- **GROUP BY** *attribute\_list* creates roles for each value combination in the *attribute\_list*.
- Aggregate functions can be applied to aggregate a group of attribute values into a single value, e.g.

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- **COUNT** returns the total number of argument values

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- **AVG** returns the average of argument values

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- **MIN** returns the minimum value of the arguments

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- **MAX** returns the maximum value of the arguments

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- **SUM** returns the sum of the argument values



## 程序代写代做 CS编程辅导 Select + Group By



- **GROUP BY** *attribute\_list* creates roles for each value combination in the *attribute\_list*.
- Aggregate functions can be applied to aggregate a group of attribute values into a single value, e.g.,
  - **COUNT** returns the total number of argument values
  - **AVG** returns the average of argument values
  - **MIN** returns the minimum value of the arguments
  - **MAX** returns the maximum value of the arguments
  - **SUM** returns the sum of the argument values
- We can use **HAVING condition** to add the condition on the groups.

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程序代写代做 CS编程辅导  
**Aggregate Functions – Example**



- List the total number of courses, the sum of the units of courses, the minimum unit in Column

COURSE			
No	WeChat: cstutors	Course Name	Unit
COMP1130		Introduction to Advanced Computing I	6
COMP2400		Relational Databases	6
COMP3600		Algorithms	4

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## 程序代写代做 CS编程辅导 Aggregate Functions – Example



- List the total number of courses, the sum of the units of courses, the minimum unit in Column No.

COURSE			
No	WeChat: cstutors	Course Name	Unit
COMP1130	Introduction to Advanced Computing I	6	
COMP2400	Relational Databases	6	
COMP3600	Algorithms	4	

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT COUNT(unit), MAX(unit) FROM COURSE;

QQ: 749389476

<https://tutorcs.com>



## 程序代写代做 CS编程辅导 Aggregate Functions – Example



- List the total number of courses, the sum of the units of courses, the minimum unit in Column Unit.

COURSE			
No	WeChat: cstutors	Course Name	Unit
COMP1130		Introduction to Advanced Computing I	6
COMP2400		Relational Databases	6
COMP3600		Algorithms	4

Email: tutorcs@163.com

SELECT COUNT(unit), MAX(unit) FROM COURSE;

- The query result will be:

QQ: 749389476

COUNT	INT	MAX
3		6



## 程序代写代做 CS编程辅导 Select + Group By – Example



STUDY		
	CourseNo	Hours
111	COMP2400	120
222	COMP2400	115
333	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	130

WeChat: csututorcs  
Assignment Project Exam Help

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What would happen for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT ...

FROM STUDY

<https://tutorcs.com>

Group By StudentID;



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Gr	Stud	STUDY		
		StudentID	CourseNo	Hours
111	111	111	COMP2400	120
	111	111	BUSN2011	110
	111	111	ECON2102	120
222	222	222	COMP2400	115
	333	333	STAT2001	120
	333	333	BUSN2011	130

111 WeChat: cstutorcs  
222 Assignment Project Exam Help  
333 Email: tutorcs@163.com

- What would happen for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT ...

FROM STUDY

<https://tutorcs.com>

Group By StudentID;



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	StudentID	CourseNo	Hours
111	111	COMP2400	120
	111	BUSN2011	110
	111	ESCON2102	120
222	222	COMP2400	115
	333	STAT2001	120
333	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

```
SELECT StudentID  
FROM STUDY  
Group By StudentID;
```

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	StudentID	CourseNo	Hours
111	111	COMP2400	120
	111	BUSN2011	110
	111	ESCON2102	120
222	222	COMP2400	115
333	333	STAT2001	140
	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID

FROM STUDY

Group By StudentID;

<https://tutorcs.com>

StudentID
111
222
333



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Gr	STUDY		
Stud	StudentID	CourseNo	Hours
111	111	COMP2400	120
	111	BUSN2011	110
	111	ESCON2102	120
222	222	COMP2400	115
333	333	STAT2001	140
333	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, COUNT(\*)  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Gr	STUDY		
Stud	StudentID	CourseNo	Hours
111	111	COMP2400	120
	111	BUSN2011	110
	111	ECON2102	120
222	222	COMP2400	115
333	333	STAT2001	140
333	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, COUNT(\*)  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>

StudentID	COUNT
111	3
222	1
333	2



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Gr	STUDY		
Stud	StudentID	CourseNo	Hours
111	111	COMP2400	120
	111	BUSN2011	110
	111	ESCON2102	120
222	222	COMP2400	115
333	333	STAT2001	140
333	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, MAX(hours)  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	StudentID	CourseNo	Hours
111	111	COMP2400	120
111	111	BUSN2011	110
111	111	ECON2102	120
222	222	COMP2400	115
333	333	STAT2001	120
333	333	BUSN2011	130

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Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, MAX(hours)  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>

StudentID	MAX
111	120
222	115
333	130



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Gr	STUDY		
Stud	StudentID	CourseNo	Hours
111	111	COMP2400	120
	111	BUSN2011	110
	111	ECON2102	120
222	222	COMP2400	115
333	333	STAT2001	140
333	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, COUNT(StudentID)  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



StudentID	CourseNo	Hours
111	COMP2400	120
111	BUSN2011	110
111	ECON2102	120
222	COMP2400	115
333	STAT2001	140
333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, COUNT(StudentID)  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>

StudentID	COUNT
111	3
222	1
333	2



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	StudentID	CourseNo	Hours
111	111	COMP2400	120
111	111	BUSN2011	110
111	111	ECON2102	120
222	222	COMP2400	115
333	333	STAT2001	120
333	333	BUSN2011	130

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, CourseNo  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	STUDY		
StudentID	CourseNo	Hours	
111	111	COMP2400	120
	111	BUSN2011	110
	111	ECON2102	120
222	222	COMP2400	115
	333	STAT2001	120
333	333	BUSN2011	130

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Assignment Project Exam Help  
Email: tutorcs@163.com

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT StudentID, CourseNo

FROM STUDY

<https://tutorcs.com>

Error Message.

Group By StudentID;



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	StudentID	STUDY		
StudentID		CourseNo	Hours	
111	111	COMP2400	120	
	111	BUSN2011	110	
	111	ECON2102	120	
222	222	COMP2400	115	
	333	STAT2001	120	
333	333	BUSN2011	130	

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Assignment Project Exam Help  
Email: tutorcs@163.com

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

```
SELECT *
FROM STUDY
Group By StudentID;
```

<https://tutorcs.com>



## 程序代写代做 CS编程辅导 Select + Group By – Example



Group By	StudentID	CourseNo	Hours
111	111	COMP2400	120
111	111	BUSN2011	110
111	111	ECON2102	120
222	222	COMP2400	115
333	333	STAT2001	120
333	333	BUSN2011	130

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Assignment Project Exam Help  
Email: tutorcs@163.com

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

```
SELECT *\nFROM STUDY\nGroup By StudentID;
```

<https://tutorcs.com> Error Message.



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	StudentID	CourseNo	Hours
111	111	COMP2400	120
111	111	BUSN2011	110
111	111	ESCON2102	120
222	222	COMP2400	115
333	333	STAT2001	140
333	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

SELECT COUNT(\*)  
FROM STUDY  
Group By StudentID;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Gr	STUDY		
Stud	StudentID	CourseNo	Hours
111	111	COMP2400	120
	111	BUSN2011	110
	111	ECON2102	120
222	222	COMP2400	115
333	333	STAT2001	120
333	333	BUSN2011	130

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By StudentID?

QQ: 749389476

```
SELECT COUNT(*)  
FROM STUDY  
Group By StudentID;
```

<https://tutorcs.com>

COUNT
3
1
2



## 程序代写代做 CS编程辅导 Select + Group By – Example



STUDY		
	CourseNo	Hours
111	COMP2400	120
222	COMP2400	115
333	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	130

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Assignment Project Exam Help  
Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What would happen for the following SELECT + Group By CourseNo?

QQ: 749389476

SELECT ...

FROM STUDY

Group By CourseNo;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



GroupBy	CourseNo	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110	
	333	BUSN2011	130	
COMP2400	111	COMP2400	120	
	222	COMP2400	115	
ECON2102	111	ECON2102	120	
STAT2001	333	STAT2001	120	

- What would happen for the following SELECT + Group By CourseNo?  
**QQ: 749389476**

SELECT ...

FROM STUDY

Group By CourseNo;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	STUDY		
CourseNo	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2102	111	ECON2102	120
STAT2001	333	STAT2001	120

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By CourseNo?

QQ: 749389476

```
SELECT CourseNo, COUNT(*)
FROM STUDY
Group By CourseNo;
```



程序代写代做 CS编程辅导  
**Select + Group By – Example**



Group By	STUDY		
CourseNo	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2102	111	ECON2102	120
STAT2001	333	STAT2001	120

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

- What is the result for the following SELECT + Group By CourseNo?

QQ: 749389476

SELECT CourseNo, COUNT(\*)  
FROM STUDY  
Group By CourseNo;

<https://tutorcs.com>

CourseNo	COUNT
BUSN2011	2
COMP2400	2
ECON2102	1
STAT2001	1



程序代写代做 CS编程辅导  
**Select + Group By – Example**



CourseNo	STUDY		
	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2102	111	ECON2102	120
STAT2001	333	STAT2001	120

- What is the result for the following SELECT + Group By CourseNo?

QQ: 749389476

SELECT CourseNo, Hours  
FROM STUDY  
Group By CourseNo;

<https://tutorcs.com>



程序代写代做 CS编程辅导  
**Select + Group By – Example**



CourseNo	STUDY		
	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2102	111	ECON2102	120
STAT2001	333	STAT2001	120

- What is the result for the following SELECT + Group By CourseNo?

QQ: 749389476

SELECT CourseNo, Hours  
FROM STUDY  
Group By CourseNo;

<https://tutorcs.com>

Error Message.



程序代写代做 CS编程辅导

## Select + Group By + Having – Example



Group By	STUDY		
CourseNo	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2102	111	ECON2102	120
STAT2001	333	STAT2001	120

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- What is the result for the following SELECT + Group By + Having?

QQ: 749389476

SELECT CourseNo

FROM STUDY

<https://tutorcs.com>

Group By CourseNo

Having MAX(Hours) > 120;



程序代写代做 CS编程辅导

## Select + Group By + Having – Example



Group By	STUDY		
CourseNo	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2102	111	ECON2102	120
STAT2001	333	STAT2001	120

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Email: tutorcs@163.com

- What is the result for the following SELECT + Group By + Having?

QQ: 749389476

SELECT CourseNo

FROM STUDY

<https://tutorcs.com>

Group By CourseNo

Having MAX(Hours) > 120;

CourseNo
BUSN2011



程序代写代做 CS编程辅导

## Select + Group By + Having – Example



Group By	STUDY		
CourseNo	StudentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2002	111	ECON2002	120
STAT2001	333	STAT2001	120

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Email: tutorcs@163.com

- What is the result for the following SELECT + Group By + Having?

QQ: 749389476

SELECT CourseNo

FROM STUDY

<https://tutorcs.com>

Group By CourseNo

Having COUNT(\*) > 1;



程序代写代做 CS编程辅导  
**Select + Group By + Having – Example**



Gr	STUDY		
Cour	IdentID	CourseNo	Hours
BUSN2011	111	BUSN2011	110
	333	BUSN2011	130
COMP2400	111	COMP2400	120
	222	COMP2400	115
ECON2102	111	ECON2102	120
STAT2001	333	STAT2001	120

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Assignment Project Exam Help

Email: tutorcs@163.com

- What is the result for the following SELECT + Group By + Having?

QQ: 749389476

SELECT CourseNo

FROM STUDY

<https://tutorcs.com>

Group By CourseNo

Having COUNT(\*) > 1;

CourseNo
BUSN2011
COMP2400



程序代写代做 CS编程辅导  
**A Bunch of Tables**



- A Bunch of Tables

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Assignment Project Exam Help  
**A SQL query walks up to two  
tables in a restaurant and asks:  
“Mind if I join you?”**

<https://tutorcs.com>



## 程序代写代做 CS编程辅导 Set Operations



- SQL incorporates several set operations: UNION (set union) and INTERSECT (set intersection), and sometimes EXCEPT (set difference / minus).

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- Set operations result in return of a relation of tuples (no duplicates).

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QQ: 749389476

- Set operations apply to relations that have the same attribute types appearing in the same order.



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
233	COMP2400	115
111	STAT2001	120
111	BUSN2011	110
33	ECON2102	120
33	BUSN2011	130

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Assignment Project Exam Help

- What is the result for the following SQL query?  
**Email: tutorcs@163.com**

SELECT StudentID FROM STUDY

**QQ: 740389476**

WHERE CourseNo='COMP2400'

**UNION**

<https://tutorcs.com>

SELECT StudentID FROM STUDY

WHERE CourseNo='ECON2102' ;



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
222	COMP2400	115
333	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	130

WeChat: estutorcs  
Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT StudentID FROM STUDY  
WHERE CourseNo='COMP2400'

**UNION**

QQ: 740389476

<https://tutorcs.com>

SELECT StudentID FROM STUDY  
WHERE CourseNo='ECON2102' ;

StudentID
111
222

**UNION**

StudentID
111



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
222	COMP2400	115
333	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	130

WeChat: estutorcs  
Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT StudentID FROM STUDY

QQ: 740389476

WHERE CourseNo='COMP2400'

**UNION**

<https://tutorcs.com>

SELECT StudentID FROM STUDY

WHERE CourseNo='ECON2102' ;

StudentID
111
222



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
333	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	100

WeChat: cstutuors

Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT CourseNo FROM STUDY

QQ: 749389476

WHERE StudentID=111

**EXCEPT**

<https://tutorcs.com>

SELECT CourseNo FROM STUDY

WHERE StudentID=222;



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
333	COMP2400	115
111	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	100

WeChat: cstutu  
Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT CourseNo FROM STUDY

QQ: 749389476

WHERE StudentID=111

**EXCEPT**

<https://tutorcs.com>

SELECT CourseNo FROM STUDY

WHERE StudentID=222;

CourseNo
COMP2400
BUSN2011
ECON2102

CourseNo
COMP2400



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
333	COMP2400	115
111	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	130

WeChat: cstutors  
Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT CourseNo FROM STUDY

WHERE StudentID=111

**EXCEPT**

<https://tutorcs.com>

SELECT CourseNo FROM STUDY

WHERE StudentID=222;

CourseNo
BUSN2011
ECON2102



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
333	COMP2400	115
111	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	100

WeChat: cstutorgo

Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT CourseNo FROM STUDY

QQ: 749389476

WHERE StudentID=111

**EXCEPT**

<https://tutorcs.com>

SELECT StudentID FROM STUDY

WHERE CourseNo='ECON2102' ;



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	CourseNo	Hours
222	COMP2400	120
333	COMP2400	115
111	STAT2001	120
111	BUSN2011	110
111	ECON2102	120
333	BUSN2011	100

WeChat: cstutu  
Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT CourseNo FROM STUDY

QQ: 749389476

WHERE StudentID=111

**EXCEPT**

<https://tutorcs.com>

SELECT StudentID FROM STUDY

WHERE CourseNo='ECON2102' ;

CourseNo
COMP2400
BUSN2011
ECON2102

StudentID
111



## 程序代写代做 CS编程辅导 Set Operations



STUDY		
	<u>CourseNo</u>	Hours
222	COMP2400	120
333	COMP2400	115
111	STAT2001	120
111	ECON2101	110
111	ECON2102	120
333	BUSN2011	100

WeChat: cstutorcs

Assignment Project Exam Help

- What is the result for the following SQL query?

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

SELECT CourseNo FROM STUDY

QQ: 749389476

WHERE StudentID=111

**EXCEPT**

<https://tutorcs.com> ERROR MESSAGE

SELECT StudentID FROM STUDY

WHERE CourseNo='ECON2102' ;



## 程序代写代做 CS编程辅导 Join Operations



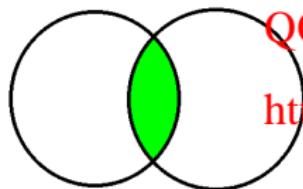
- When we want to retrieve data from [tutorcs.com](http://tutorcs.com) *more than one relations*, we often need to use **join** operation
- Inner Join**: tuples are included in the result only if there is at least one matching in both relations  
**WeChat: cstutorcs**
- Left/Right Join**: all tuples of the left/right table are included in the result, even if there are no matches in the relations.

Assignment Project Exam Help

Inner Join

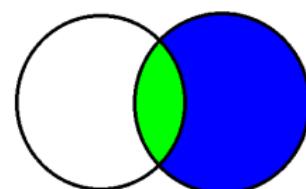
Email: [tutorcs@163.com](mailto:tutorcs@163.com)

Right Join



QQ: 749389476

<https://tutorcs.com>

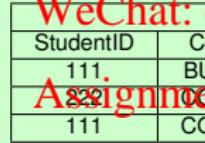




## 程序代写代做 CS编程辅导 Inner Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6



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Assignment Project Exam Help

StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What would happen for the following INNER JOIN statement?

SELECT ...

QQ: 749389476

FROM COURSE INNER JOIN ENROL ON COURSE.No=ENROL.CourseNo;

<https://tutorcs.com>



## 程序代写代做 CS编程辅导 Inner Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6

WeChat: cstutorcs

ENROL			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

Email: tutorcs@163.com

- What would happen for the following INNER JOIN statement?

SELECT ...

QQ: 749389476

FROM COURSE INNER JOIN ENROL ON COURSE.No=ENROL.CourseNo;

<https://tutorcs.com>

COURSE			ENROL			
No	Cname	Unit	StudentID	CourseNo	Semester	Status
COMP2400	Relational Databases	6	222	COMP2400	2016 S1	active
COMP2400	Relational Databases	6	111	COMP2400	2016 S2	active
BUSN2011	Management Accounting	6	111	BUSN2011	2016 S1	active



## 程序代写代做 CS编程辅导 Inner Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6

WeChat: cstutorcs

ENROL			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

Email: tutorcs@163.com

- What is the result for the following INNER JOIN statement?

SELECT COURSE.No QQ: 749389476

FROM COURSE INNER JOIN ENROL ON COURSE.No=ENROL.CourseNo;

<https://tutorcs.com>

No	Cname	Unit	ENROL			
			StudentID	CourseNo	Semester	Status
COMP2400	Relational Databases	6	222	COMP2400	2016 S1	active
COMP2400	Relational Databases	6	111	COMP2400	2016 S2	active
BUSN2011	Management Accounting	6	111	BUSN2011	2016 S1	active



## 程序代写代做 CS编程辅导 Inner Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6

WeChat: cstutorcs

Assignment Project Exam Help

ENROL			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

Email: tutorcs@163.com

- What is the result for the following INNER JOIN statement?

SELECT COURSE.No QQ: 749389476

FROM COURSE INNER JOIN ENROL ON COURSE.No=ENROL.CourseNo;

<https://tutorcs.com>

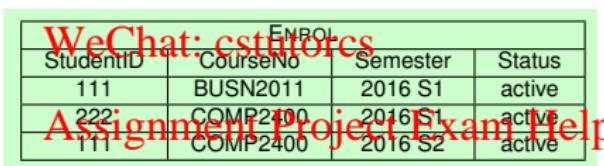
No
COMP2400
COMP2400
BUSN2011



## 程序代写代做 CS编程辅导 Left Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6



WeChat: cstutorcs

StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
333	COMP2400	2016 S2	active

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- What would happen for the following LEFT JOIN statement?

SELECT ...

FROM COURSE LEFT JOIN ENROL ON COURSE.No=ENROL.CourseNo;

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## 程序代写代做 CS编程辅导 Left Join – Example



COURSE		
Cname	Unit	
Relational Databases	6	
Management Accounting	6	
Macroeconomics	6	



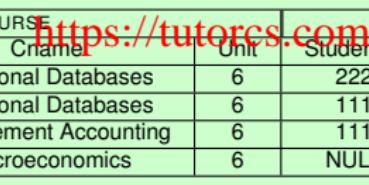
WeChat: cstutorcsemail: tutors@163.com  
Assignment Project Exam Help

ENROL			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What would happen for the following LEFT JOIN statement?

SELECT ...

FROM COURSE LEFT JOIN ENROL ON COURSE.No=ENROL.CourseNo;



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COURSE		ENROL				
No	Cname	Unit	StudentID	CourseNo	Semester	Status
COMP2400	Relational Databases	6	222	COMP2400	2016 S1	active
COMP2400	Relational Databases	6	111	COMP2400	2016 S2	active
BUSN2011	Management Accounting	6	111	BUSN2011	2016 S1	active
ECON2102	Macroeconomics	6	NULL	NULL	NULL	NULL



## 程序代写代做 CS编程辅导 Left Join – Example



COURSE		
Cname	Unit	
Relational Databases	6	
Management Accounting	6	
Macroeconomics	6	



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StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What is the result for the following LEFT JOIN statement?

SELECT Course.No

FROM COURSE LEFT JOIN ENROL ON COURSE.No=ENROL.CourseNo;



<https://tutorcs.com>

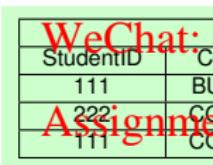
COURSE		ENROL				
No	Cname	Unit	StudentID	CourseNo	Semester	Status
COMP2400	Relational Databases	6	222	COMP2400	2016 S1	active
COMP2400	Relational Databases	6	111	COMP2400	2016 S2	active
BUSN2011	Management Accounting	6	111	BUSN2011	2016 S1	active
ECON2102	Macroeconomics	6	NULL	NULL	NULL	NULL



## 程序代写代做 CS编程辅导 Left Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6



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StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What is the result for the following LEFT JOIN statement?

[Email: tutors@100.com](mailto:tutors@100.com)  
QQ: 749389476

```
SELECT Course.No
FROM COURSE LEFT JOIN ENROL ON COURSE.No=ENROL.CourseNo;
```

<https://tutores.com>



No
COMP2400
COMP2400
BUSN2011
ECON2102



## 程序代写代做 CS编程辅导 Natural Join



- A natural join is considered as one kind of inner join.

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- In a natural join, two relations are joined implicitly by comparing all attributes of the same names in both relations

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QQ: 749389476

- A natural join retains all the data of the two tables for only the matched rows, without duplication.

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## 程序代写代做 CS编程辅导 Natural Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6

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StudentID CourseNo Semester Status

111 BUSN2011 2016 S1 active

822 COMP2400 2016 S1 active

111 COMP2400 2016 S2 active

- What would happen for the following NATURAL JOIN statement?

SELECT ...

QQ: 749389476

FROM COURSE NATURAL JOIN ENROL;

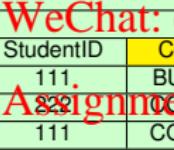
<https://tutorcs.com>



## 程序代写代做 CS编程辅导 Natural Join – Example



COURSE		
	Cname	Unit
	Relational Databases	6
	Management Accounting	6
	Macroeconomics	6

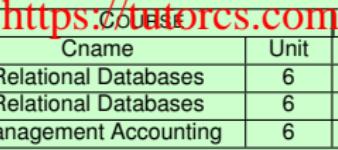


ENROL			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What would happen for the following NATURAL JOIN statement?

SELECT ...  
FROM COURSE NATURAL JOIN ENROL;

QQ: 749389476



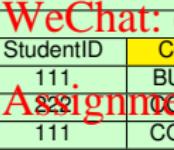
CourseNo	Cname	Unit	StudentID	Semester	Status
COMP2400	Relational Databases	6	222	2016 S1	active
COMP2400	Relational Databases	6	111	2016 S2	active
BUSN2011	Management Accounting	6	111	2016 S1	active



## 程序代写代做 CS编程辅导 Natural Join – Example



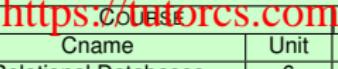
COURSE		
	Cname	Unit
	Relational Databases	6
	Management Accounting	6
	Macroeconomics	6



ENROL			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What is the result for the following NATURAL JOIN statement?

SELECT CourseNo **QQ: 749389476**  
FROM COURSE NATURAL JOIN ENROL;



CourseNo	Cname	Unit	StudentID	Semester	Status
COMP2400	Relational Databases	6	222	2016 S1	active
COMP2400	Relational Databases	6	111	2016 S2	active
BUSN2011	Management Accounting	6	111	2016 S1	active



## 程序代写代做 CS编程辅导 Natural Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6

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StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
822	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What is the result for the following NATURAL JOIN statement?

SELECT CourseNo  
FROM COURSE NATURAL JOIN ENROL;

QQ: 749389476  
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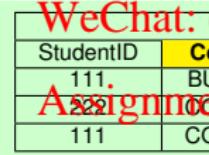
CourseNo
COMP2400
COMP2400
BUSN2011



## 程序代写代做 CS编程辅导 Natural Join – Example



COURSE	
Cname	Unit
Relational Databases	6
Management Accounting	6
Macroeconomics	6



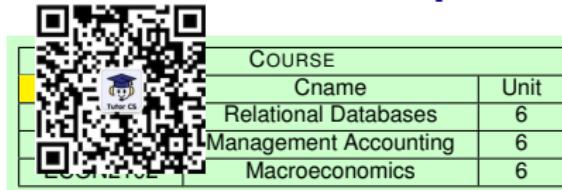
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ENROL			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

- What is the result for the following NATURAL JOIN statement?

SELECT \*  
FROM COURSE NATURAL JOIN ENROL;  
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## 程序代写代做 CS 编程辅导 Natural Join – Example



ENR01			
StudentID	CourseNo	Semester	Status
111	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

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- What is the result for the following NATURAL JOIN statement?

SELECT \* QQ: 749389476

FROM COURSE NATURAL JOIN ENROL;

If there are no matching attributes in the two tags, then the browser will ignore the style rule.

If there are no matching attributes in two tables for NATURAL JOIN,

**SELECT \***

FROM COURSE, ENROL;



## 程序代写代做 CS编程辅导 Natural Join – Example



COURSE		
	Cname	Unit
	Relational Databases	6
BUSN201	Management Accounting	6
ECON2102	Macroeconomics	6

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ENROL			
StudentID	CourseNo	Semester	Status
	BUSN201	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

Email: tutorcs@163.com

- What is the result for the following NATURAL JOIN statement?

QQ: 749389476

SELECT \*

FROM COURSE NATURAL JOIN ENROL ON COURSE.CourseNo=ENROL.CourseNo;

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## 程序代写代做 CS编程辅导 Natural Join – Example



COURSE		
	Cname	Unit
	Relational Databases	6
BUSN2011	Management Accounting	6
ECON2102	Macroeconomics	6

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ENROL			
StudentID	CourseNo	Semester	Status
	BUSN2011	2016 S1	active
222	COMP2400	2016 S1	active
111	COMP2400	2016 S2	active

Email: tutorcs@163.com

- What is the result for the following NATURAL JOIN statement?

QQ: 749389476

SELECT \*

FROM COURSE NATURAL JOIN ENROL ON COURSE.CourseNo=ENROL.CourseNo;

**ERROR MESSAGE** because a NATURAL JOIN **implicitly** compares all attributes of the same names in two table.



## 程序代写代做 CS编程辅导 Join – More Examples



STUDENT

Name	DoB	Email
------	-----	-------

COURSE

WeChat: cstutorcs

No.	Course	Unit
-----	--------	------

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ENROL
-------

StudentID	CourseNo	Status
-----------	----------	--------

Email: [tutorcs@163.com](mailto:tutorcs@163.com)

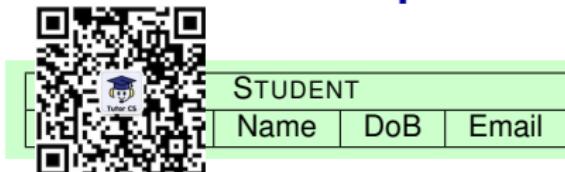
- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.

- 1 Use SELECT + FROM (Cartesian Product) + WHERE
- 2 Use SELECT + FROM (INNER JOIN) + ON
- 3 Use SELECT + FROM (INNER JOIN) + ON + WHERE
- 4 Use SELECT + FROM (NATURAL JOIN) + WHERE

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## 程序代写代做 CS编程辅导 Join – More Examples



WeChat contact information: tutorcs

WeChat contact information		
StudentID	CourseNo	Status

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (1) Use SELECT + FROM (Cartesian Product) + WHERE

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## 程序代写代做 CS编程辅导 Join – More Examples



STUDENT

Name	DoB	Email
------	-----	-------

ENROL

StudentID	CourseNo	Status
-----------	----------	--------

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- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (1) Use SELECT + FROM (Cartesian Product) + WHERE

SELECT STUDENT.\* , ENROL.CourseNo  
FROM STUDENT, ENROL  
WHERE (STUDENT.StudentID=ENROL.StudentID)  
AND (ENROL.CourseNo = 'X');

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Email: tutorcs@163.com

<https://tutorcs.com>



## 程序代写代做 CS编程辅导 Join – More Examples



STUDENT		
Name	DoB	Email

ENROL		
StudentID	CourseNo	Status

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (2) Use SELECT + FROM (INNER JOIN) + ON

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## 程序代写代做 CS编程辅导 Join – More Examples



STUDENT

Name	DoB	Email
------	-----	-------

ENROL

StudentID	CourseNo	Status
-----------	----------	--------

WeChat: cstutors

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (2) Use SELECT + FROM (INNER JOIN) + ON

SELECT STUDENT.\* , ENROL.CourseNo  
FROM STUDENT INNER JOIN ENROL  
ON (STUDENT.StudentID=ENROL.StudentID)  
AND (ENROL.CourseNo = 'X');

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[Https://tutors.com](https://tutors.com)



程序代写代做 CS编程辅导  
**Join – More Examples**



STUDENT

Name	DoB	Email
------	-----	-------

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ENROL

StudentID	CourseNo	Status
-----------	----------	--------

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (3) Use SELECT + FROM (INNER JOIN) + ON + WHERE

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程序代写代做 CS编程辅导  
**Join – More Examples**



STUDENT

Name	DoB	Email
------	-----	-------

ENROL

StudentID	CourseNo	Status
-----------	----------	--------

WeChat: estutores

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (3) Use SELECT + FROM (INNER JOIN) + ON + WHERE

QQ: 710389476  
SELECT STUDENT.\* , ENROL.CourseNo  
FROM STUDENT INNER JOIN ENROL  
ON STUDENT.StudentID=ENROL.StudentID  
WHERE ENROL.CourseNo = 'X';  
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## 程序代写代做 CS编程辅导 Join – More Examples



STUDENT		
Name	DoB	Email

ENROL		
StudentID	CourseNo	Status

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (4) Use SELECT + FROM (NATURAL JOIN) + WHERE

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程序代写代做 CS编程辅导  
**Join – More Examples**



STUDENT		
Name	DoB	Email

ENROL		
StudentID	CourseNo	Status

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (4) Use SELECT + FROM (NATURAL JOIN) + WHERE

SELECT STUDENT.\* , ENROL.CourseNo  
FROM STUDENT NATURAL JOIN ENROL  
WHERE ENROL.CourseNo = 'X'

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<https://tutores.com>



## 程序代写代做 CS编程辅导 Subqueries



- Subqueries can be used with temporary tables (usually in conjunction with aliases and renaming for the query).
- Subqueries can be specified within the FROM-clause.
- Subqueries can also be specified within the WHERE-clause, e.g.,

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- IN subquery tests if tuple occurs in the temporary table of the subquery.
- EXISTS subquery tests whether the temporary table of the subquery is empty or not.
- using ALL, SOME or ANY before a subquery makes subqueries usable in comparison formulae (SOME and ANY are interchangeable).
- in all these cases the condition involving the subquery can be negated using a preceding NOT.

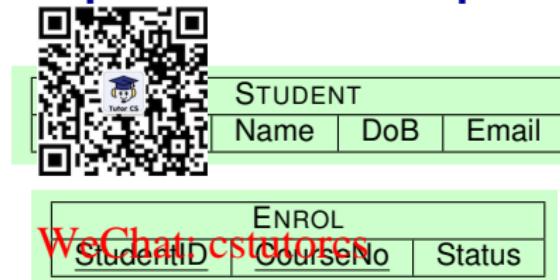
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QQ: 749389476

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses, we have:

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```
SELECT STUDENT.* , ENROL.CourseNo
FROM STUDENT NATURAL JOIN ENROL
WHERE ENROL.CourseNo = 'X';
```

- Now if we want to list all information of students who have enrolled in a course *that has less than 10 students enrolled* and the CourseNo of these courses.

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## 程序代写代做 CS编程辅导 **Subqueries IN – Example**



- List all information of students who have enrolled in a course *that has less than 10 students enrolled*. List the CourseNo of these courses.

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of  who have enrolled in a course *that has less than 10 students enrolled*. List the CourseNo of these courses.
  - List the CourseNo of the courses in Enrol *that have less than 10 students enrolled*.

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of  who have enrolled in a course *that has less than 10 students enrolled*.  
• List the CourseNo of the courses in Enrol *that have less than 10 students enrolled*.

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GROUP BY CourseNo  
HAVING count(\*) < 10

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of students who have enrolled in a course *that has less than 10 students enrolled*.  
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SELECT CourseNo

FROM ENROL Assignment Project Exam Help

GROUP BY CourseNo

HAVING COUNT(\*) < 10  
Email: tutorcs@163.com

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses  
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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of students who have enrolled in a course *that has less than 10 students enrolled*.  
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SELECT CourseNo

FROM ENROL Assignment Project Exam Help

GROUP BY CourseNo

HAVING COUNT(\*) < 10 Email: tutorcs@163.com

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses  
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SELECT Student.\* , Enrol.CourseNo

FROM STUDENT NATURAL JOIN ENROL

WHERE Enrol.CourseNo = 'X';



## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of student who have enrolled in a course *that has less than 10 students enrolled*. Give CourseNo of these courses.

```
SELECT STUDENT *, CourseNo
FROM STUDENT NATURAL JOIN ENROL
WHERE CourseNo IN (SELECT CourseNo
                    FROM ENROL
```

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Assignment Project Exam Help

Email: tutorcs@163.com  
HAVING COUNT(\*)<10);

QQ: 749389476

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of student who have enrolled in a course *that has less than 10 students enrolled*. Give CourseNo of these courses.

```
SELECT STUDENT *, CourseNo
FROM STUDENT NATURAL JOIN ENROL
WHERE CourseNo IN (SELECT CourseNo
                     FROM ENROL
                     GROUP BY CourseNo
                     HAVING COUNT(*)<10);
```

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- Does the above query look confusing?

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of student who have enrolled in a course *that has less than 10 students enrolled*. Give CourseNo of these courses.

```
SELECT STUDENT *, CourseNo
FROM STUDENT NATURAL JOIN ENROL
WHERE CourseNo IN (SELECT CourseNo
                     FROM ENROL
                     GROUP BY CourseNo
                     HAVING COUNT(*)<10);
```

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- Does the above query look confusing?  
It is better to distinguish two ENROL tables.

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of students who have enrolled in a course *that has less than 10 students enrolled*. List the CourseNo of these courses.

```
SELECT STUDENT.* , e1.CourseNo
FROM STUDENT NATURAL JOIN ENROL e1
WHERE e1.CourseNo IN (SELECT e2.CourseNo
                      FROM ENROL e2
                      GROUP BY e2.CourseNo
                      HAVING COUNT(*) < 10);
```

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of student who have enrolled in a course *that has less than 10 students enrolled*. List the CourseNo of these courses.

```
SELECT STUDENT.* , e1.CourseNo  
FROM STUDENT NATURAL JOIN ENROL e1  
WHERE e1.CourseNo IN (SELECT e2.CourseNo  
FROM ENROL e2  
GROUP BY e2.CourseNo  
HAVING COUNT(*) < 10);
```

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- Why do we use aliases e1 and e2 for ENROL?

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of ~~STUDENT~~ who have enrolled in a course *that has less than 10 students enrolled*. List the CourseNo of these courses.

```
SELECT STUDENT.* , e1.CourseNo  
FROM STUDENT NATURAL JOIN ENROL e1  
WHERE e1.CourseNo IN (SELECT e2.CourseNo  
FROM ENROL e2  
GROUP BY e2.CourseNo  
HAVING COUNT(*) < 10);
```

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- Why do we use aliases e1 and e2 for ENROL?

Distinguish two ENROL tables.  
<https://tutorcs.com>



## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of student who have enrolled in a course *that has less than 10 students enrolled*. List the CourseNo of these courses.

```
SELECT STUDENT *, e1.CourseNo
FROM STUDENT NATURAL JOIN ENROL e1
WHERE e1.CourseNo IN (SELECT e2.CourseNo, COUNT(*)
                      FROM ENROL e2
                      GROUP BY e2.CourseNo
                      HAVING COUNT(*)<10);
```

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QQ: 749389476

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of student who have enrolled in a course *that has less than 10 students enrolled*. List the CourseNo of these courses.

```
SELECT STUDENT *, e1.CourseNo
FROM STUDENT NATURAL JOIN ENROL e1
WHERE e1.CourseNo IN (SELECT e2.CourseNo, COUNT(*)
FROM ENROL e2
GROUP BY e2.CourseNo
HAVING COUNT(*)<10);
```

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- Is the above query correct?

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## 程序代写代做 CS编程辅导 Subqueries IN – Example



- List all information of student who have enrolled in a course *that has less than 10 students enrolled*. Give CourseNo of these courses.

```
SELECT STUDENT *, e1.CourseNo
FROM STUDENT NATURAL JOIN ENROL e1
WHERE e1.CourseNo IN (SELECT e2.CourseNo, COUNT(*)
FROM ENROL e2
GROUP BY e2.CourseNo
HAVING COUNT(*)<10);
```

QQ: 749389476

- Is the above query correct?

No. **IN** subquery tests if tuple occurs in the temporary table of the subquery.



## 程序代写代做 CS编程辅导 Subqueries EXISTS – Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

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## 程序代写代做 CS编程辅导 Subqueries EXISTS – Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

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SELECT COUNT(\*)

FROM STUDENT s

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WHERE EXISTS (SELECT \*

FROM ENROL e

WHERE s.StudentID=e.StudentID);

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## 程序代写代做 CS编程辅导 Subqueries EXISTS – Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

WeChat: cstutorcs

```
SELECT COUNT(*)
```

```
FROM STUDENT s
```

```
WHERE EXISTS (SELECT *
```

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```
FROM ENROL e
```

```
WHERE s.StudentID=e.StudentID);
```

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1st tuple of STUDENT, EXISTS

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2st tuple of STUDENT, EXISTS

StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
111	COMP2400	2016 S2

StudentID	CourseNo	Semester
222	COMP2400	2016 S1

- The above query (returning 2) is correct!



## 程序代写代做 CS编程辅导 Subqueries EXISTS – Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

WeChat: cstutorcs

SELECT COUNT(\*)

FROM ENROL e  
WHERE EXISTS (SELECT \*

FROM STUDENT s

WHERE e.StudentID=s.StudentID);

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## 程序代写代做 CS编程辅导 Subqueries EXISTS – Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

WeChat: cstutorcs

SELECT COUNT(\*)

FROM ENROL e  
WHERE EXISTS (SELECT \*

FROM STUDENT s

WHERE e.StudentID=s.StudentID);

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1st tuple in ENROL, EXISTS

2nd tuple in ENROL, EXISTS

3rd tuple in ENROL, EXISTS

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StudentID	Name
111	Tom
222	Emily
111	Tom

- The above query (returning 3 instead of 2) is incorrect!



## 程序代写代做 CS编程辅导 Subqueries EXISTS – Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

WeChat: cstutorcs

```
SELECT COUNT(*)
```

```
FROM STUDENT s  
WHERE EXISTS (SELECT *
```

```
FROM ENROL e
```

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```
WHERE s.StudentID=e.StudentID);
```

```
SELECT COUNT(*)
```

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```
FROM STUDENT s
```

```
WHERE EXISTS (SELECT StudentID
```

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```
FROM ENROL e
```

```
WHERE s.StudentID=e.StudentID);
```



## 程序代写代做 CS编程辅导 Subqueries EXISTS – Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

WeChat: cstutorcs

```
SELECT COUNT(*)
```

```
FROM STUDENT s  
WHERE EXISTS (SELECT *
```

```
FROM ENROL e
```

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```
WHERE s.StudentID=e.StudentID);
```

```
SELECT COUNT(*)
```

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```
FROM STUDENT s
```

```
WHERE EXISTS (SELECT StudentID
```

```
FROM ENROL e
```

```
WHERE s.StudentID=e.StudentID);
```

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- Both queries are correct! EXISTS subquery tests whether the temporary table of the subquery is empty or not.



程序代写代做 CS编程辅导  
**Using Cartesian Product – Same Example**

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

SELECT COUNT(\*)

FROM STUDENT, ENROL

WHERE STUDENT.StudentID=ENROL.StudentID;

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**QQ: 749389476**

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## 程序代写代做 CS编程辅导 Using Cartesian Product – Same Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

WeChat: cstudies

```
SELECT COUNT(*)
```

FROM STUDENT, ENROL

WHERE STUDENT.StudentID=ENROL.StudentID;

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STUDENT		ENROL		
StudentID	Name	StudentID	CourseNo	Semester
111	Tom	111	BUSN2011	2016 S1
111	Tom	111	COMP2400	2016 S2
222	Emily	222	COMP2400	2016 S1

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## 程序代写代做 CS编程辅导 Using Cartesian Product – Same Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

SELECT COUNT(\*)  
FROM STUDENT , ENROL

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WHERE STUDENT.StudentID=ENROL.StudentID;  
Email: [tutorcs@163.com](mailto:tutorcs@163.com)

STUDENT		ENROL		
StudentID	Name	StudentID	CourseNo	Semester
111	Tom	111	BUSN2011	2016 S1
111	Tom	111	COMP2400	2016 S2
222	Emily	222	COMP2400	2016 S1

- The above query is incorrect!



## 程序代写代做 CS编程辅导 Using Cartesian Product – Same Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

SELECT COUNT(\*)  
FROM STUDENT , ENROL

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WHERE STUDENT.StudentID=ENROL.StudentID;  
Email: [tutorcs@163.com](mailto:tutorcs@163.com)

STUDENT		ENROL		
StudentID	Name	StudentID	CourseNo	Semester
111	Tom	111	BUSN2011	2016 S1
111	Tom	111	COMP2400	2016 S2
222	Emily	222	COMP2400	2016 S1

- The above query is incorrect!

We should use COUNT(DISTINCT StudentID) instead of COUNT(\*).



## 程序代写代做 CS编程辅导 Using INNER JOIN – Same Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

SELECT COUNT(\*)

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FROM STUDENT s INNER JOIN ENROL e

ON s.StudentID=e.StudentID;

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## 程序代写代做 CS编程辅导 Using INNER JOIN – Same Example



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

SELECT COUNT(\*)  
FROM STUDENT s INNER JOIN ENROL e  
ON s.StudentID=e.StudentID

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s		e		
StudentID	Name	StudentID	CourseNo	Semester
111	Tom	111	BUSN2011	2016 S1
111	Tom	111	COMP2400	2016 S2
222	Emily	222	COMP2400	2016 S1

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## 程序代写代做 CS编程辅导 Using INNER JOIN – Same Example

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

SELECT COUNT(\*)  
FROM STUDENT s INNER JOIN ENROL e  
ON s.StudentID=e.StudentID  
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**Email: tutorcs@163.com**

s		e		
StudentID	Name	StudentID	CourseNo	Semester
111	Tom	111	BUSN2011	2016 S1
111	Tom	111	COMP2400	2016 S2
222	Emily	222	COMP2400	2016 S1

- The above query is incorrect!



程序代写代做 CS编程辅导  
**Using INNER JOIN – Same Example**



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

- Count the number of students who have enrolled in at least one course?

SELECT COUNT(\*)  
FROM STUDENT s INNER JOIN ENROL e  
ON s.StudentID=e.StudentID  
Email: [tutorgs@163.com](mailto:tutorgs@163.com)

s		e		
StudentID	Name	StudentID	CourseNo	Semester
111	Tom	111	BUSN2011	2016 S1
111	Tom	111	COMP2400	2016 S2
222	Emily	222	COMP2400	2016 S1

- The above query is incorrect!

We should use COUNT(DISTINCT StudentID) instead of COUNT(\*).



程序代写代做 CS编程辅导  
**Using NATURAL JOIN – Same Example**



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

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- Count the number of students who have enrolled in at least one course?

**Assignment Project Exam Help**

SELECT COUNT(\*)  
FROM STUDENT NATURAL JOIN ENROL;

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程序代写代做 CS编程辅导  
**Using NATURAL JOIN – Same Example**



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

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- Count the number of students who have enrolled in at least one course?

**Assignment Project Exam Help**

SELECT COUNT(\*)

FROM STUDENT NATURAL JOIN ENROL;

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	STUDENT	ENROL
StudentID	Name	CourseNo
111	Tom	BUSN2011
111	Tom	COMP2400
222	Emily	COMP2400

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## 程序代写代做 CS编程辅导 Using NATURAL JOIN – Same Example



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

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- Count the number of students who have enrolled in at least one course?

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SELECT COUNT(\*)

FROM STUDENT NATURAL JOIN ENROL;

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	STUDENT	ENROL
StudentID	Name	CourseNo
111	Tom	BUSN2011
111	Tom	COMP2400
222	Emily	COMP2400

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- The above query is incorrect!



## 程序代写代做 CS编程辅导 Using NATURAL JOIN – Same Example



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

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- Count the number of students who have enrolled in at least one course?

Assignment Project Exam Help

SELECT COUNT(\*)

FROM STUDENT NATURAL JOIN ENROL;

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	STUDENT	ENROL
StudentID	Name	CourseNo
111	Tom	BUSN2011
111	Tom	COMP2400
222	Emily	COMP2400

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- The above query is incorrect!

We should use COUNT(DISTINCT StudentID) instead of COUNT(\*).



## 程序代写代做 CS编程辅导 A Simple Solution – Same Example



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

WeChat: cstutorcs

- Count the number of students who have enrolled in at least one course?

Assignment Project Exam Help  
SELECT COUNT(DISTINCT StudentID)  
FROM ENROL;  
Email: tutorcs@163.com

QQ: 749389476

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## 程序代写代做 CS编程辅导 A Simple Solution – Same Example



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

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- Count the number of students who have enrolled in at least one course?

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SELECT COUNT(DISTINCT StudentID)  
FROM ENROL;  
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- The above query is correct. The answer is 4.

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## 程序代写代做 CS编程辅导 A Simple Solution – Same Example



STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S1
222	COMP2400	2016 S1
111	COMP2400	2016 S2

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- Count the number of students who have enrolled in at least one course?

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SELECT COUNT(DISTINCT StudentID)  
FROM ENROL;  
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- The above query is ~~Correct~~ 19389476

- Is this the shortest query to answer the above question?  
Refer to the last slide on “[Credit Cookie] The Shortest Code/Program?”.



程序代写代做 CS编程辅导  
**Subqueries – More Examples**

- List the courses that Semester 2 2016



ggest number of students enrolled in

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程序代写代做 CS编程辅导  
**Subqueries – More Examples**

- List the courses that Semester 2 2016



ggest number of students enrolled in

- List the CourseNo and the corresponding number of students enrolled for all courses in Semester 2 2016

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## 程序代写代做 CS编程辅导 Subqueries – More Examples

- List the courses that



gest number of students enrolled in

Semester 2 2016

- List the CourseNo and the corresponding number of students enrolled for all courses in Semester 2 2016

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```
SELECT CourseNo, COUNT(*) AS NoOfStudents  
FROM ENROL  
WHERE Semester = '2016 S2'  
GROUP BY CourseNo;
```

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## 程序代写代做 CS编程辅导 Subqueries – More Examples

- List the courses that have the largest number of students enrolled in Semester 2 2016



- List the CourseNo and the corresponding number of students enrolled for all courses in Semester 2 2016

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```
SELECT CourseNo, COUNT(*) AS NoOfStudents
FROM ENROL
WHERE Semester = '2016 S2'
GROUP BY CourseNo;
```

- List **the largest number of students enrolled** in a course in Semester 2 2016

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## 程序代写代做 CS编程辅导 Subqueries – More Examples

- List the courses that Semester 2 2016



largest number of students enrolled in

- List the CourseNo and the corresponding number of students enrolled for all courses in Semester 2 2016

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```
SELECT CourseNo, COUNT(*) AS NoOfStudents
FROM ENROL
WHERE Semester = '2016 S2'
GROUP BY CourseNo;
```

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- List the largest number of students enrolled in a course in Semester 2 2016

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```
SELECT MAX(NoOfStudents)
FROM (SELECT CourseNo, COUNT(*) AS NoOfStudents
      FROM ENROL
      WHERE Semester = '2016 S2'
      GROUP BY CourseNo);
```

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## 程序代写代做 CS编程辅导 Subqueries – Combination and Aliases

- List the courses that Semester 2 2016



largest number of students enrolled in

```
SELECT CourseNo
FROM (SELECT CourseNo, COUNT(*) AS NoOfStudents
      FROM ENROL
      WHERE Semester = '2016 S2'
    GROUP BY CourseNo)
WHERE NoOfStudents = (SELECT MAX(NoOfStudents)
                      FROM (SELECT CourseNo, COUNT(*) AS NoOfStudents
                            FROM ENROL
                            WHERE Semester = '2016 S2'
                          GROUP BY CourseNo));
```



## 程序代写代做 CS编程辅导 Subqueries – Combination and Aliases

- List the courses that Semester 2 2016



largest number of students enrolled in

SELECT CourseNo  
FROM (SELECT CourseNo, COUNT(\*) AS NoOfStudents  
 FROM ENROL  
 WHERE Semester = '2016 S2'  
 GROUP BY CourseNo)  
WHERE NoOfStudents =  
 (SELECT MAX(NoOfStudents)  
 FROM (SELECT CourseNo, COUNT(\*) AS NoOfStudents  
 FROM ENROL  
 WHERE Semester = '2016 S2'  
 GROUP BY CourseNo));

- ERROR:** Subqueries specifying a derived table must be enclosed in parentheses and must be assigned a table alias name.



## 程序代写代做 CS编程辅导 Subqueries – Combination and Aliases

- List the courses that Semester 2 2016



largest number of students enrolled in

SELECT e.CourseNo  
FROM (SELECT e1.CourseNo, COUNT(\*) AS NoOfStudents  
 FROM ENROL e1  
 WHERE e1.Semester = '2016 S2'  
 GROUP BY e1.CourseNo) e  
WHERE e.NoOfStudents =  
 (SELECT MAX(e2.NoOfStudents)  
 FROM (SELECT e4.CourseNo, COUNT(\*) AS NoOfStudents  
 FROM ENROL e4  
 WHERE e4.Semester = '2016 S2'  
 GROUP BY e4.CourseNo) e2);

- Which alias(es) are essential in the above query?



## 程序代写代做 CS编程辅导 Subqueries – Combination and Aliases

- List the courses that Semester 2 2016



largest number of students enrolled in

SELECT e.CourseNo  
FROM (SELECT e1.CourseNo, COUNT(\*) AS NoOfStudents  
 FROM ENROL e1  
 WHERE e1.Semester = '2016 S2'  
 GROUP BY e1.CourseNo) e  
WHERE e.NoOfStudents =  
 (SELECT MAX(e2.NoOfStudents)  
 FROM (SELECT e4.CourseNo, COUNT(\*) AS NoOfStudents  
 FROM ENROL e4  
 WHERE e4.Semester = '2016 S2'  
 GROUP BY e4.CourseNo) e2);

- Which alias(es) are essential in the above query?  
The aliases e and e2 are essential but e1 is not.



## 程序代写代做 CS编程辅导 **Subqueries – Use “With”**

- List the courses that Semester 2 2016



largest number of students enrolled in

Use “WITH” to break complicated queries into simpler parts.<sup>1</sup>

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<sup>1</sup><https://www.postgresql.org/docs/current/static/queries-with.html> 75/85



## 程序代写代做 CS编程辅导 Subqueries – Use “With”

- List the courses that Semester 2 2016



largest number of students enrolled in

Use “WITH” to break complicated queries into simpler parts.<sup>1</sup>

```
WITH Sem2Students AS
  (SELECT e1.CourseNo, COUNT(*) AS NoOfStudents
   FROM ENROL e1
   WHERE e1.Semester = 2016 S2
   GROUP BY e1.CourseNo)
```

SELECT e.CourseNo

FROM Sem2Students e
WHERE e.NoOfStudents =

(**SELECT MAX(e2.NoOfStudents)**
 FROM Sem2Students e2);

- Which alias(es) are essential in the above query?

<sup>1</sup><https://www.postgresql.org/docs/current/static/queries-with.html> 75/85



## 程序代写代做 CS编程辅导 Subqueries – Use “With”

- List the courses that Semester 2 2016



largest number of students enrolled in

Use “WITH” to break complicated queries into simpler parts.<sup>1</sup>

```
WITH Sem2Students AS
  (SELECT e1.CourseNo, COUNT(*) AS NoOfStudents
   FROM ENROL e1
   WHERE e1.Semester = 2016 S2
   GROUP BY e1.CourseNo)
SELECT e.CourseNo
  FROM Sem2Students e
 WHERE e.NoOfStudents =
    (SELECT MAX(e2.NoOfStudents)
     FROM Sem2Students e2);
```

- Which alias(es) are essential in the above query?  
None of the aliases e, e1 and e2 are essential.

<sup>1</sup><https://www.postgresql.org/docs/current/static/queries-with.html> 75/85



程序代写代做 CS编程辅导  
**Subqueries – Result**



- List the courses that Semester 2 2016

largest number of students enrolled in

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Input:

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ENROL		
StudentID	Courseno	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2001	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2000	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

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## 程序代写代做 CS编程辅导 Subqueries – Result

- List the courses that Semester 2 2016



largest number of students enrolled in

WeChat: cstutorcs

Input:

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ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2001	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2000	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

CourseNo
COMP2400
BUSN2011

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## 程序代写代做 CS编程辅导 **Subqueries – More Examples**



- List all students' IDs and names who are under-enrolled (< 4 courses) in Semester 2 2016.

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程序代写代做 CS编程辅导  
**Subqueries – More Examples**



- List all students' IDs and names who are under-enrolled (< 4 courses) in Semester 2 2016.

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- List the students' IDs and the corresponding number of enrolled courses in Semester 2 2016

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程序代写代做 CS编程辅导  
**Subqueries – More Examples**



- List all students' IDs and names who are under-enrolled (< 4 courses) in Semester 2 2016.

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- List the students' IDs and the corresponding number of enrolled courses in Semester 2 2016

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```
SELECT e.StudentID, COUNT(*) AS NoOfEnrols
```

```
FROM ENROL e
```

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```
WHERE e.Semester = '2016 S2'
```

```
GROUP BY e.StudentID;
```

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## 程序代写代做 CS编程辅导 **Subqueries – More Examples**

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



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程序代写代做 CS编程辅导  
**Subqueries – More Examples**

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



```
SELECT s.StudentID, s.Name
FROM (SELECT e.StudentID, COUNT(*) AS NoOfEnrols
      FROM ENROL e
      WHERE e.Semester = '2016 S2'
      GROUP BY e.StudentID) ne
INNER JOIN STUDENT s
ON (s.StudentID = ne.StudentID) AND (ne.NoOfEnrols < 4);
```

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WHERE e.Semester = '2016 S2'

GROUP BY e.StudentID

ON (s.StudentID = ne.StudentID) AND (ne.NoOfEnrols < 4);

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## 程序代写代做 CS编程辅导 Subqueries – More Examples

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



```
SELECT s.StudentID, s.Name
FROM (SELECT e.StudentID, COUNT(*) AS NoOfEnrols
      FROM ENROL e
      WHERE e.Semester = '2016 S2'
      GROUP BY e.StudentID) ne
INNER JOIN STUDENT s
ON (s.StudentID = ne.StudentID) AND (ne.NoOfEnrols < 4);
WITH StudEnrols AS (
  SELECT e.StudentID, COUNT(*) AS NoOfEnrols
  FROM ENROL e
  WHERE e.Semester = '2016 S2'
  GROUP BY e.StudentID)
SELECT s.StudentID, s.Name
FROM STUDENT s INNER JOIN StudEnrols ne
ON (s.StudentID = ne.StudentID) AND (ne.NoOfEnrols < 4);
```

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程序代写代做 CS编程辅导

## Subqueries – Is The Previous Query Correct?

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2400	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2400	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

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STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

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程序代写代做 CS编程辅导

## Subqueries – Is The Previous Query Correct?

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2400	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2400	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

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StudentID	Name
222	Emily
333	John

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John

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程序代写代做 CS编程辅导

## Subqueries – What About The Following Scenario?

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2400	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2400	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

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STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John
444	Ana

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程序代写代做 CS编程辅导

## Subqueries – What About The Following Scenario?

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2400	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2400	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

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Assignment Project Exam Help Result (still correct?):

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QQ: 749389476

StudentID	Name
222	Emily
333	John

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STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John
444	Ana



程序代写代做 CS编程辅导

## Subqueries – Use LEFT/RIGHT JOIN?

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



```
SELECT s.StudentID, s.Name
FROM (SELECT e.StudentID, COUNT(*) AS NoOfEnrols
      FROM ENROL e
      WHERE e.Semester = '2016 S2'
      GROUP BY e.StudentID) ne
      RIGHT JOIN STUDENT s
ON (s.StudentID = ne.StudentID) AND (ne.NoOfEnrols < 4);
WITH StudEnrols AS (
  SELECT e.StudentID, COUNT(*) AS NoOfEnrols
  FROM ENROL e
  WHERE e.Semester = '2016 S2'
  GROUP BY e.StudentID)
SELECT s.StudentID, s.Name
FROM STUDENT s LEFT JOIN StudEnrols ne
ON (s.StudentID = ne.StudentID) AND (ne.NoOfEnrols < 4);
```

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程序代写代做 CS编程辅导

## Subqueries – Using LEFT/RIGHT JOIN Is Still Incorrect!

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



who are under-enrolled (< 4 courses) in

ENROLLED		
StudentID	Course	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2400	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2400	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

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QQ: 749389476

<https://tutorcs.com>

StudentID	Name
111	Tom
222	Emily
333	John
444	Ana

STUDENT

StudentID	Name
111	Tom
222	Emily
333	John
444	Ana

- The reason why "111, Tom" is incorrectly included in the final result is due to "Query Processing and Optimisation", which will be discussed in Week 8.



## 程序代写代做 CS编程辅导 Subqueries – Use Set Operations

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



The set of all students EXCEPT the set of students enrolled in at least 4 courses in Semester 2 2016.

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```
SELECT s.StudentID, s.Name
FROM (SELECT StudentID
      FROM STUDENT
      EXCEPT Email: tutorcs@163.com
      SELECT e.StudentID
      FROM ENROL QQ: 749389476
      WHERE e.Semester = '2016 S2'
      GROUP https://tutorcs.com
      HAVING COUNT(*) > 3) e4 INNER JOIN Student s
ON (e4.StudentID = s.StudentID);
```



程序代写代做 CS编程辅导  
**Subqueries – Using Set Operations Works.**

- List all students' IDs who are under-enrolled (< 4 courses) in Semester 2 2016.



who are under-enrolled (< 4 courses) in

ENROL		
StudentID	CourseNo	Semester
111	BUSN2011	2016 S2
111	COMP1100	2016 S2
111	COMP2400	2016 S2
111	ECON2102	2016 S2
222	BUSN2011	2016 S2
222	COMP2400	2016 S2
333	BUSN2011	2016 S2
333	COMP2400	2016 S2
333	ECON2102	2016 S2

WeChat: cstutorcs

Assignment Project Exam Help

Email: tutorcs@163.com

QQ: 749389476

StudentID	Name
222	Emily
333	John
444	Ana

STUDENT	
StudentID	Name
111	Tom
222	Emily
333	John
444	Ana

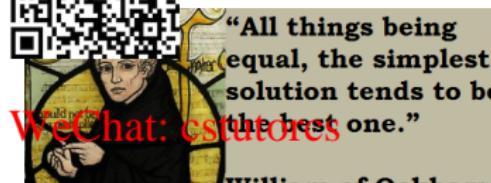
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程序代写代做 CS编程辅导

## [Credit Cookie] The Shortest Code/Program?

- Occam's razor is the solving principle that “entities should not be multiplied beyond ne-



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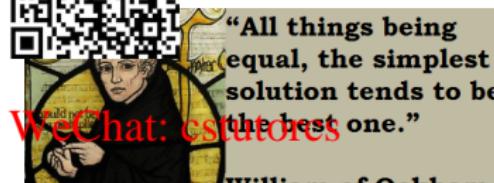
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程序代写代做 CS编程辅导

## [Credit Cookie] The Shortest Code/Program?

- Occam's razor is the solving principle that “entities should not be multiplied beyond ne-



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- The minimum description length of a data set (i.e., Kolmogorov complexity) cannot be computed.



[https://en.wikipedia.org/wiki/Andrey\\_Kolmogorov](https://en.wikipedia.org/wiki/Andrey_Kolmogorov)