

# Week 3 Workshop Assignment Project Exam Help

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### Assignment Project Exam Help

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CECS teaching pause.

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CECS teaching pause.

Assessment on SQL (Assignment 1) will be available on Wattle at 11:59pm on Aug 20 (Friday) and due at 11:59pm on Sep 3 (Friday).
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Thank you again for providing us with your valuable feedback!

The providing us with your valuable feedback!

CECS teaching pause.

- 3 Assessment on SQL (Assignment 1) will be available on Wattle at 11:59pm on Aug 20 (Friday) and due at 11:59pm on Sep 3 (Friday).

  This is sympet should be only in the total yang to group work is
  - You should not post any solutions/results/ideas/interpretations related to assessment items (including assignments, quizzes, tests) on the Wattle discussion for m. Additional drop in ressions with a variable MWCRG in the day further clarification for this assignment.



## Thank you again for providing us with your valuable feedback! The part of Wattle News Explosion have up in order in for the CPC teaching pause.

- Assessment on SQL (Assignment 1) will be available on Wattle at 11:59pm on Aug 20 (Friday) and due at 11:59pm on Sep 3 (Friday).
  This is sessment should be done in the following and folder work is
  - allowed.
    You should not post any solutions/results/ideas/interpretations related
  - to assessment items (including assignments, quizzes, tests) on the Wattle discussion for m. Additional drop in ressions with a validable MWCkG it before any further clarification for this assignment.
- 4 Here are our course representatives for COMP2400/6240 in S2 2021
  - Julian Crosby, Julian.Crosby@anu.edu.au
  - Yixin Liu, Yixin.Liu@anu.edu.au
  - Navdeep Gill, u7275100@anu.edu.au
  - Xueqi Lin, Xueqi.Lin@anu.edu.au



#### **Outline**

### Assignment Project Exam Help

Insert, Update, Delete Statements
ν.s. Relational Database State

### https://powcoder.com

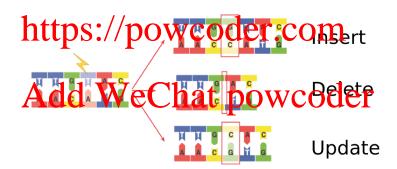
Select Statements

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### Insert, Update, Delete Statements

### Assisting the Control of the Control





### Relational Database State - Example

## Assaire that the partial of the part of the partial of the partial

Studerfill Name Dog Engil Com May Com



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						



## Assignment Project Exam Help Dob Date, Email VARCHAR(100));

- Will the following Insert statements work?



## Assignment Project Exam Help Dob Date, Email VARCHAR(100));

- Will the following Insert statements work?
- INSETTING STODENT POWCO der COMPANION Yes.



## Assignment Project Exam Help Dob Date, Email VARCHAR(100));

- Will the following Insert statements work?
- INSERT TWO STODENT POWCO COME COM YES.
- INSERT INTO STUDENT (StudentID)

  VALVAS (SE): WeChat powcoder



## Assignment Project Exam Help DOB DATE, Email VARCHAR(100));

- Will the following Insert statements work?
- IN THE TWO STODENT POWCO DET. COMPY Yes.
- INSERT INTO STUDENT (StudentID)

  VALVAS (450); We Chat now coder

  Yes. The values for Name, Dob and Emailwill be NULL.



## Assignment Project Exam Help DOB DATE, Email VARCHAR(100));

- Will the following Insert statements work?
- INSERT TWO STODENT POWCO COME COM YOR. VALUES (4 po , 5 fom , P25701) 1988 Que to tome gmail.com ), Yes.
- INSERT INTO STUDENT (StudentID)

  VALVES (450); We hat powcoder

  Yes. The values for Name, DOB and Emailwill be NULL.
- INSERT INTO STUDENT(Name, DoB, Email)
   VALUES ('John', '15/11/1998', 'john@gmail.com');



## Assignment Project Exam Help DOB DATE, Email VARCHAR (100));

- Will the following Insert statements work?
- INSERT TWO STODENT POWCO COME COM YOR. VALUES (400, STOM , P25701) 1988 O COME GRAPT COM YES.
- INSERT INTO STUDENT (StudentID)

  VALUES (150); We Chat powcoder

  Yes. The values for Name, Dob and Emailwill be NULL.
- INSERT INTO STUDENT(Name, DoB, Email)

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

  No. The primary key value cannot be NULL.



### **Update Statement – Example**

Assignment Project Exam Help

	O TODENI									
	StudentID	Name	DoB	Email						
	456	Tom	25/01/1988	tom@gmail.com						
	458	Peter	23/05/1993	peter@gmail.com						
ı	459	Fran	14/09/1987	frankk@gmeil.com						

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

UPDATE STUDENT SET Name='Tom Lee', Email='tom.lee@yahoo.com'



### **Update Statement – Example**

Assignment Project Exam Help

OTOBERT								
StudentID	Name	DoB	Email					
456	Tom	25/01/1988	tom@gmail.com					
458	Peter	23/05/1993	peter@gmail.com					
459 Fren		14/09/1987	frankk@gmail.com					

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

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

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AUU		/ 1	/ (	U)			ৰ্গ্	JI ENT	L.	Д.	, 1	∕∨	4		V	W	L							
	StudentID N		Name DoB		Г	Email				J	_													
	4	56		Tom Lee		25/	25/01/1988 ton		n.le	e@	yał	100.0	com	٦										
	4	58			Peter		Peter		Peter		Peter		Peter		23/05/1993		F	oete	r@c	gma	ail.co	m		
	4	59			Fran		11/	09/198	7	fı	rank	k@	gm	ail.co	om									



### Assignment Project Exam Help



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

DELETE FROM STUDENT WHERE StudentID=456;



### Assignment Project Exam Help

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

DELETE FROM STUDENT WHERE StudentID=456;





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StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
.00		20/01/1000	tome gmamoom
458	Peter	23/05/1993	peter@gmail.com
430	1 6161		peter@gmail.com
/450	Fran	11/09/1987 1	frankk@gmail.com
4440	I I I all	11/09/1907	ilalikk@gillali.com

What is the resulting table after executing the following statement

DELETE FROM STUDENT;



Assignment Project Exam Help

StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
<b>/</b> 45 <b>/</b> 9	Fran	11/09/1987	frankk@gmail.com

What is the resulting table after executing the following statement

DELETE FROM STUDENT;



Assignment Project Exam Help

StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter	23/05/1993	peter@gmail.com
/45/9	Fran	11/09/1987	frankk@gmail.com

What is the resulting table after executing the following statement?

DELETE FROM STUDENT;



The Table STUDENT is deleted.



Assignment Project Exam Help

StudentID	Name	DoB	Email
456	Tom	25/01/1988	tom@gmail.com
458	Peter 23/05/1993		peter@gmail.com
/45/9 Fran		11/09/1987	frankk@gmail.com

What is the resulting table after executing the following statement?

DELETE FROM STUDENT;



The Table STUDENT is deleted

Note the difference between the Delete and Drop Table statements.



## Assignment (Student D) represents student D. Help on Delete No Action

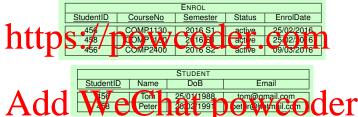


What will happen if we execute the following statement?

DELETE FROM STUDENT WHERE StudentID=456;



## ASSIGNMENT (Student D) REPORT STUDENT (STUDENT D) ON DELETE NO ACTION



- 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.



## Assignment (student Due) Review Superior Student Delegation on Delegation of Delegatio

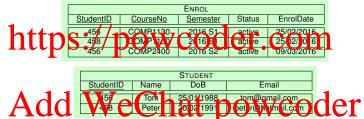


	StudentID	Name	DoB	Email	
Add	₩ <sup>5</sup> / <sub>®</sub> e	Torn Peter	25/01/1988 20/02/1991	tom@gmail.com bet r@kkym til.com	der

STUDENT



## Assignment (student Due) Reviews show the student of the Consideration o



What will happen if we execute the following statement?

DELETE FROM STUDENT WHERE StudentID=456;



## Assignment (student Defender student I Defender stu

	ENROL StudentID CourseNo Semester Status EnrolDate							
1-44	456	COMP1130	2016 S1	active	25/02/2016			
ntto	458	I ON PINAV	2 16 [	acti /e	25, 127, 0 6			
Trop	456	COMP2400	2016 S2	active	09/03/2016			
	_							
			STUDENT					

Add Vise Peter 25/01/1988 tom@gmail.com de1

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	<u>CourseNo</u>	Semester	Status	EnrolDate	
458	COMP1130	2016 S1	active	25/02/2016	



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select \*
FROM World

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### Assignment Project Exam Help

• The true trace ment past the Wilder of the Com

```
SELECT attribute_list

FROM table_list

WHEN E dond to one that process conditions defined the first that the group conditions defined the grou
```





• What is the result for the following Select statement?

SELECT \* FRUM STUDENT WHERE Email like % gmail.com;





• What is the result for the following Select statement?

SELECT \* FRUM STUDENT WHERE Email like % gmail.com;

	StudentID	Name	DoB	Email	
Add	45)	Peter	23/05/1993 1101/198	peter@gmail.com	don
Auu	AA E	Fran	198	ra k @ gris II.co 1	uer



#### Assignment **Exam** Help tom@hotmail.com Tom 458 Peter 23/05/1993 peter@gmail.com frankk@gmail.com 459 Fran 11/09/1987

What is the result for the following Select statement?

	StudentID	Name	DoB	Email	1
111	45)	Peter	23/05/1993	peter@gmail.com	1
Add	₩9 🔁	Fran	1 0 /198	peter@gmail.com fra_kl_@_gr/iz(l.co_n	aer
	- ' ' -				
SELECT Stude	n+TD FROM	STUDE	NT WHERE	Fmail like '%	domail com'



# Assignm equatio Nate 108 to Emxam Help 456 Tom 2/01/1988 tom@hotmail.com 458 Peter 23/05/1993 peter@gmail.com 459 Fran 11/09/1987 frankk@qmail.com

• What is the result for the following Select statement?

SELECT \* FRUM STUDENT WHERE Email like % gmail.com;

	StudentID	Name	DoB	Email	
A 11	458	Peter	23/05/1993	peter@gmail.com	1
Add	<b>7 9 2</b>	Fran	1 0 /198	peter@gmail.com fra kl.@ gr/ia (l.co n	der
Tiuu	<b>** C</b>		iai p		CI
CELECT C+udom	+TD EDOM	Cmmp	vm UUEDE	Email lika 19/	ammail aaml

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

	StudentID
Ī	458
Ĺ	459





• What is the result for the following Select statement? COM



# Assignment of the part of the

What is the result for the following Select statement? COM





#### Select Statement

#### **S**FUDENT Exam Help Assignment 23/05/1993 peter@gmail.com peter 459 Fran 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 lower(Name) = 'peter';



#### Select Statement

#### 

What is the result for the following Select statement? COM
SELECT \* FRUM STUDINT WHERE Name = 'Peter':



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

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



### Select + Group By

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#### Select + Group By

# Assignment robrest valex and in Help

Aggregate functions can be applied to aggregate a group of attribute values

inte a single value, e.g.,

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- AVG returns the average of argument values
- MIN jetu ns the minimum value of the arguments
- MAX returns the maximum value of the arguments
- SUM returns the sum of the argument values



#### Select + Group By

# Assignment robrest est vale x norm in Help

Aggregate functions can be applied to aggregate a group of attribute values

inte a single value, e.g.,

Hutupes is the thom we content vacom

- AVG returns the average of argument values
- MIN etulns in 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.



### **Aggregate Functions – Example**

# Assignment Project Le Fix am, thelp

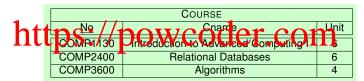


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#### **Aggregate Functions – Example**

# Assignment Project Le Fix am, thelp



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#### **Aggregate Functions – Example**

# Assignment Project Le Fixam, thelp

	Course				
htt	10cNo //1	10WCGPPer CO1	Unit		
1111	COMP1/13/0	Introduction to Advanced computing	1.6		
	COMP2400	Relational Databases	6		
	COMP3600	Algorithms	4		

### selfat dud we with att powcoder

The query result will be:

COUNT	MAX
3	6



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<u>StudentID</u>	<u>CourseNo</u>	Hours	
111	COMP2400	120	
222	COMP2410	115	0100
<b>133 V</b>	SINI	120	UH
111	BUSN2011	110	
111	ECON2102	120	
333	BUSN2011	130	

• What You the pper or the follown as ELEOTOWICE (Stored)?

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



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	Group	J	STUDY		
	StudentID	StudentID	CourseNo	Hours	
		111	COMP2400	120	
1-44	711.	111	Bt/SN2011	110	
nttp	S://D(	) WCC	EUN2102	120	1
T	222	222	COMP2400	115	
	333	333	STAT2001	120	
		333	BUSN2011	130	4

What workspoon or the tollown as ELEO HAWIE ON THE PROPERTY.

SELECT ...
FROM STUDY
Group By StudentID;



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dentiD	StudentiD	Courseivo	Hours
	111	COMP2400	120
111	111	BUSN2011	110
In	T-1110	E0 ON2102	120
222		COMP2400	
200	333	STAT2001	120
333	333	BUSN2011	130
	111 // 222 333	111 111 111 222 133 333	111 COMP2400 111 BUSN2011 111 BUSN2011 111 EGON2102 262 CAMP2400

• What is the result of the following SELECT Croup By Student ID? T

SELECT StudentID FROM STUDY Group By StudentID;



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_	Studentib	StudentiD	Courseivo	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT1100	ECON2102	120	L
пир	5./222		COMP2400		l
		11 000	CTATOO04	100	
	333	333	STAT2001	120	
	500	333	BUSN2011	130	

• What is the result of the following SELECT Croup By Student ID? T

SELECT StudentID FROM STUDY Group By StudentID;

StudentID	
111	
222	
333	



Assignment Projector Exam Help

	StudentiD	Studentid	Courseino	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT1100	E0 ON2102	120	
IIII	3./222 J		COMP2400		1
•	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the result of the following SELECT Group By Student ID? T

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



### Assignment Project Exam Help

	Studentib	Studentid	Courseivo	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT11100	E0 ON2102	120	_
IIII	5./2 <u>22</u>		COMP2400	TO T	1
•	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the result whe to covid SELECT Group By Student IB?

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

StudentID	COUNT
111	3
222	1
333	2



Assignment Projector Exam Help

	StudentiD	Studentid	Courseino	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT1100	E0 ON2102	120	
IIII	3./222 J		COMP2400		1
•	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the result of the following SELECT Group By Student ID? T

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



Assignment Project Exam Help

	Studentib	Studendo	Courseivo	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n • //m	TT11100	E0 ON2102	120	_
IIII	5./222 J	<b>1 W2CC</b>	COMP2400	TO I	1
•	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the resulting the following SELECT Group By Student ID? T

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

StudentID	MAX
111	120
222	115
333	130



### Assignment Projector Exam Help

	StudentiD	StudentiD	Courseivo	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT1100	ECON2102	120	
IIII	5./222		COMP2400		1
•	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the result who to low it SELECT Group By Student ID? T

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



### Assignment Project Exam Help

	Studentib	Studentid	Courseivo	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT11100	E0 ON2102	120	_
IIII	5./2 <u>22</u>		COMP2400	TO T	1
•	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the result whe to low it SELECT Group By Student ID? T

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

StudentID	COUNT
111	3
222	1
333	2



Assignment Project Exam Help

	StudentID	StudentID	CourseNo	Hours
		111	COMP2400	120
1.44	117	111	BUSN2011	110
ntto	S://D(	)WC(	EU (PA)2 102 (	
Troop .	222	222	COMP2400	115
	333	333	STAT2001	120
	333	333	BUSN2011	130

What he could the confidence of the confide

SELECT StudentID, CourseNo FROM STUDY Group By StudentID;



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		- J	0.05.		
_	StudentID	StudentID	CourseNo	Hours	
		111	COMP2400	120	
1-44	117.	111	BUSN2011	110	
ntto	S://D(	)WC(	ECOM2102	120	1
P	222	222	COMP2400	115	Г
	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What the could the could safe Down to supplied the

SELECT StudentID, CourseNo FROM STUDY Group By StudentID;

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	StudentID	StudentID	CourseNo	Hours	
		111	COMP2400	120	
1 44	1/17	111	BUSN2011	110	
nttp	S://D(	)WCC	EC (PA2 102 (	120	1
Treep.	222	222	COMP2400	115	ſ
	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What the could the configuration of the country o

SELECT \*
FROM STUDY
Group By StudentID;



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		- J	0.05.		
_	StudentID	StudentID	CourseNo	Hours	
		111	COMP2400	120	
1.44	117.	111	BUSN2011	110	
ntto	S://D(	)WC(	EU (AN 2102 (		1
Troop .	222	222	COMP2400	115	
	333	333	STAT2001	120	
	555	333	BUSN2011	130	

• What the could the lowing safe of the could be the coul

SELECT \*
FROM STUDY
Group By StudentID;

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	Studentib	Studentid	Courseivo	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT1100	ECON2102	120	
пир	5./222		COMP2400		1
•	000	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the resulting the following SELECT Group By Student ID? T

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



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_	Studentib	StudentiD	Courseivo	Hours	
		111	COMP2400	120	
	111	111	BUSN2011	110	
httm	n. //m	TT1100	ECON2102	120	
пир	0./222		COMP2400		1
		11		-	
	333	333	STAT2001	120	
	333	333	BUSN2011	130	

• What is the resulting the following SELECT Group By Student B?

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

COUNT
3
1
2



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<u>StudentID</u>	<u>CourseNo</u>	Hours	
111	COMP2400	120	
222	COMP2410	115	0.100
<b>133 V</b>	STATEO	120	UH
111	BUSN2011	110	
111	ECON2102	120	
333	BUSN2011	130	

• What you the pper or the followings ELEDITAVICE OUTENT?

SELECT ...
FROM STUDY
Group By CourseNo;



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	CourseNo	StudentID	CourseNo	Hours
	BUSN2011	111	BUSN2011	110
1-44	11	333	BUSN2011	130
nttp	Scomp2 100C		C DVIP 400	(1)
P	2 <b>7</b> 00 0	222	COMP2400	115
	ECON2102	111	ECON2102	120
	STAT2001	333	STAT2001	120
$\Lambda$		1004	40.0777	

What would happen for the following the DO HOUDE OUT OF THE FOLLOWING THE PROPERTY OF THE PROP

SELECT ... FROM STUDY Group By CourseNo;



#### Assignment **BUSN2011** 110 111 **BUSN2011** 333 **BUSN2011** 130 CDMP2400 120 C D VIP 400 ECON2102 120 <u>111</u> **STAT2001** 333 STAT2001 120

• What is the deut wheelowing state of over the content of the con

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



#### Assignment **BUSN2011** 111 110 **BUSN2011** 333 **BUSN2011** 130 CDMP2400 120 ECON2102 120 <u>111</u> **STAT2001** 333 STAT2001 120

• What is the resulting herefowild stiffed by Grow By Court of Car

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

CourseNo	COUNT
BUSN2011	2
COMP2400	2
ECON2102	1
STAT2001	1



Assignment Project Exam Help CourseNo StudentID CourseNo Hours **BUSN2011** 110 111 **BUSN2011** 333 **BUSN2011** 130 C DAP: 400 COMP2400 **ECON2102** ECON2102 111 120 STAT2001 333 STAT2001 120 Mhe whatepoweroder

> SELECT CourseNo, Hours FROM STUDY Group By CourseNo;



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	Oddiscito	Ottudentib	000130140	Tiours
	BUSN2011	111	BUSN2011	110
1 44	/ /	333	BUSN2011	130
httn	Scomp2 LOD	) WICO	C DAP1400	(1)
Heep	2400	222	COMP2400	115
	ECON2102	111	ECON2102	120
	STAT2001	333	STAT2001	120

• What Great by the Concrete C

SELECT CourseNo, Hours FROM STUDY Group By CourseNo;

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Assignn	nent I	roi	ecturEx	am	He	lp
$\mathcal{O}$	CourseNo	Studentl	D CourseNo	Hours		1

	BUSN2011	111 333	BUSN2011 BUSN2011	110 130
http	Scomp210)	)W <sub>2</sub> CO	CDMP2400	on
	ECON2102	111	ECON2102	120
	STAT2001	333	STAT2001	120

## • What he will the lowing the power of the

SELECT CourseNo FROM STUDY Group By CourseNo Having MAX(Hours) > 120;



## Assignment Project Exam Help

	BUSN2011	111 BUSN2011 333 BUSN2011		110 130
http	Scony2100	)WZCO	CDMP2400	cm
•	ECON2102	111	ECON2102	120
	STAT2001	333	STAT2001	120

### · What the could wind the confidence of the could be the confidence of the could be the confidence of the could be the cou

SELECT CourseNo FROM STUDY Group By CourseNo Having MAX(Hours) > 120;

CourseNo BUSN2011



Assignm	CourseNo	TO 16 Studen(ID	Study X	am Hours	Hel	p
	RUSN2011	111	BUSN2011	110		

_		333	BUSN2011	130
http	Scorn 210	OWICC	6 DMP 2400 CDMP 1400	on
1	ECON2102	2 111	ECON2102	120
	STAT2001	333	STAT2001	120

### • What he devil attempter

SELECT CourseNo FROM STUDY Group By CourseNo Having COUNT(\*) > 1;



Assignm	rent F	roie	CSTUDY	am	Hel	b
	CourseNo	StudentID	CourseNo	Hours		1

	BUSN2011		333	BUSN2011	130	
http	Scolub	2 <b>19</b> (	)WCC	6 PMP3400 CDMP1400	on	1
•	ECON	2102	111	ECON2102	120	
	STAT	2001	333	STAT2001	120	

### • What the could the lowing safe power of cr

SELECT CourseNo FROM STUDY Group By CourseNo Having COUNT(\*) > 1;

CourseNo	
BUSN2011	
COMP2400	



#### **A Bunch of Tables**

## Assignment Project Exam Help

A Bunch of Tables

A SQL query walks up to two
Add taxy in a lest sure and ask of the control of the



#### **Set Operations**

## Assignment Project Exam Help

- SQL incorporates several set operations: UNION (set union) and INTERSECT (se Intersection), and intersect (se Intersection), and intersect (se Intersection).
- $\begin{array}{c} \bullet \text{ Set operations result in return of a relation of tuples (no duplicates).} \\ Add WeChat powcoder \end{array}$
- Set operations apply to relations that have the same attribute types appearing in the same order.



Assignment Project Exam Help

115

120

333 BUSN2011 130

What is the result for the following SQL query?

# Add We Chat powcoder

LEEDE G N LOWDOLOOL

WHERE CourseNo='COMP2400'

#### UNION

SELECT StudentID FROM STUDY WHERE CourseNo='ECON2102':



Assignment Project Exam Help

https://

	111	CON 2400	120	
Ī	222	COMP2400	115	
,	, 333	STAT2001	120	
1	nnu	7 BUSIN2011A	1110	n
Ī	PWV	ECON2102	120	O111
	333	BUSN2011	130	

What is the result for the following SQL query?

# Add We Chat powere

WHERE CourseNo='COMP2400'

UNION

SELECT StudentID FROM STUDY WHERE CourseNo='ECON2102':

111 222

UNION

StudentID 111



Assignment Project Exam Help

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	222	COMP2400	115	
/	333	STAT2001	120	
1	MIX	7 BUSN2011C	1110	n
P	147	ECOM2102	120	O111
	333	BUSN2011	130	

What is the result for the following SQL query?

# Add We Chat powcoder

WHERE CourseNo='COMP2400'

#### UNION

SELECT StudentID FROM STUDY WHERE CourseNo='ECON2102':

	StudentID				
	111				
Ì	222				



Assignment Exam Help

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		-	
222	COMP2400	115	
, 333	STAT2001	120	
171411	BUSN2011	110	om
	FOON 21/2	120	
333	BUSN2011	130	

What is the result for the following SQL query?

# ELECT COURSE NO. FROM CHACLE POWCODER

WHERE StudentID=111

#### **EXCEPT**

SELECT CourseNo FROM STUDY WHERE StudentID=222;



Assignment Exam Help

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	OCIVII 2-100	120	
222	COMP2400	115	
333	STAT2001	120	
17 HTT	BUSN2011	110	om
	FROMATICAL	120	UIII
333	BUSN2011	130	

What is the result for the following SQL query?

ELECT COURSENO FROM ESTUDY hat pow

WHERE StudentID=111

**EXCEPT** 

SELECT CourseNo FROM STUDY

WHERE StudentID=222;

ECON2102

**EXCEPT** 

CourseNo

COMP2400



Assignment Profest Exam Help

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111	COMP2400	120	
222	COMP2400	115	
, 333	STAT2001	120	
17 MCT	BUSN2011	110	om
	FROMETIE	120	
333	BUSN2011	130	

What is the result for the following SQL query?

Add We Chat powcoder

WHERE StudentID=111

#### **EXCEPT**

SELECT CourseNo FROM STUDY

WHERE StudentID=222;

CourseNo **BUSN2011** ECON2102



Assignment Exam Help

https://

222	COMP2400	115	
333	STAT2001	120	
17 MITT	BUSN2011	110	om
	FROMATICAL	120	
333	BUSN2011	130	

What is the result for the following SQL query?

# select dursen. We Chat powcoder

WHERE StudentID=111

#### **EXCEPT**

SELECT StudentID FROM STUDY WHERE CourseNo='ECON2102';



Assignment Exam Help

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	OCIVII 2-100	120	
222	COMP2400	115	
333	STAT2001	120	
17 HTT	BUSN2011	110	om
	FROMATICAL	120	UIII
333	BUSN2011	130	

What is the result for the following SQL query?

# Add We Chat pow

WHERE StudentID=111

**EXCEPT** 

SELECT StudentID FROM STUDY WHERE CourseNo='ECON2102';

BUSN2011 ECON2102

EXCEPT

StudentID 111



Assignment Function of the Assignment of the Ass

222 COMP2400 115 333 STAT2001 120 PUSA201 110 PUSA201 110 333 BUSA2011 130

https:/

What is the result for the following SQL query?

# SELECT COLUMN SELECT CHARLES TO SELECT COLUMN SELECT COLUM

WHERE StudentID=111

#### **EXCEPT**

SELECT StudentID FROM STUDY WHERE CourseNo='ECON2102':

**ERROR MESSAGE** 



## **Join Operations**

# Assignment Project Exam Help to use join operations.

- Inner Join: tuples are included in the result only if there is at least one malching in both relations.
- Left/Right voin: all turies of the left/right table are included in the result, even if there are no matches in the relations.





### Inner Join - Example





• What would happen for the following INNER JOIN statement? Let a compare the following INNER JOIN statement?

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



### Inner Join – Example

# Assignment No Professional Databases Text am Help BUSN2011 Management Accounting 6 BUSN2011 Management Accounting 6 BUSN2011 Management Accounting 6 BUSN2011 Management Accounting 6



• What would happen for the following INNER JOIN statement? SELECT COMPANY OF THE FORM OF

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

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	



### Inner Join – Example

# Assignment No Professe Extram Help COMP2400 Relational Databases 6 BUSN211 Management Accounting 6 ECON2102 Macroeconomics 6



• What is the result for the following INNER JOIN statement? SELECT COURSE. NO COMMITTED TO WOOD TO SELECT COURSE. NO

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

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	



### Inner Join – Example

# Assignment No Professional Databases 6 BUSN 2011 Management Accounting 6 ECON 2102 Macroeconomics 6

https://state.by.co.freed.com/serf.satus/military/serf.satus/milit

• What is the result of the following INNER JOIN statement?

SELECT COURSE. NO

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

No COMP2400 COMP2400 BUSN2011



# Assignment No Project Tyriam Help BUSNIC MARKET ACCOUNTING 6 ECON 2102 Macroeconomics 6



• What would happen for the following LEFT JOIN statement?

SELECT CO We Chat powcoder

FROM COURSE LEFT JOIN ENERGY ON COURSE NATIONAL COURSE NO.



# Assignment No Project From Help BUSN/2011 Management Accounting 6 ECON/2102 Macroeconomics 6

1 44	//	Enrol	1		
https:	Stude t/D	JoyrseNo 30 SN 201	Se n sa n Vi i Sv	Status	m
Treeps.	222	COMP2400	2016 S1	active	
	111	COMP2400	2016 S2	active	

• What would happen for the following LEFT JOIN statement?

SELECT CO WE 121 100WCOCE1

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

Course			Enrol				
Ì	No	Cname	Unit	StudentID	CourseNo	Semester	Status
I	COMP2400	Relational Databases	6	222	COMP2400	2016 S1	active
	COMP2400	Relational Databases	6	111	COMP2400	2016 S2	active
Ì	BUSN2011	Management Accounting	6	111	BUSN2011	2016 S1	active
I	ECON2102	Macroeconomics	6	NULL	NULL	NULL	NULL



# Assignment No Project Tyriam Help BUSNIC 12 Macroeconomics 6 BUSNIC 12 Macroeconomics 6

1 44	/ /	Enrol	- 1		
nttng	Stude t/O	CourseNo	Se n si n	Status	m
TITCH B.		BUSNEO1	2016.51	a tive	
1	<b>2</b> 22	COMP2400	2016 S1	active	
	111	COMP2400	2016 S2	active	

What is the result for the following LEFT JOIN statement?
 SELECT COLOR. NWCOCET

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

		Course		ENROL								
	No	Cname	Unit	StudentID	CourseNo	Semester	Status					
Ī	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					
Ī	ECON2102	Macroeconomics	6	NULL	NULL	NULL	NULL					



# Assignment No Professional Assignment No Professional Assignment No Professional Assignment Accounting 6 ECON2102 Macroeconomics 6



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

SELECT COURSE. NOVECNOTED DOWCOCET

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

ECON2102

No COMP2400 COMP2400 BUSN2011



#### **Natural Join**

# Assignment Project Exam Help

A natural join is considered as one kind of inner join.
 https://powcoder.com

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

# Add WeChat powcoder

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







• What would happen for the following NATURAL JOIN statement?

SELECT ... WE COULD TO WORK TO THE FORM THE FORM TO THE FORM THE F

FROM Course NATURAL JOIN ENROL;



# Assignment of the control of the con

httpa	//.	20	ENBO	. 1	04		
nunsi	Stu	de It D	Cour eNd	Ser	ster	S atus	)
	′	M	BUSN2011	201	6 51	active	
_		222	COMP2400	201	6 S1	active	
		111	COMP2400	201	6 S2	active	

• What would happen for the following NATURAL JOIN statement?

SELECT ... Who will be selected by the following NATURAL JOIN statement?

FROM COURSE NATURAL JOIN ENROL;

	Course		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				



# Assignment of the control of the con

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	1	$\mathbf{M}$	BU	SN2	011	20	16 51	active	
_	- 2	222	CO	MP2	400	20	16 S1	active	1
	1	111	CO	MP2	400	20	16 S2	active	

• What is the resultific the following NATURAL JOIN statement?

SELECT COURSENOW COCCT

FROM COURSE NATURAL JOIN ENROL;

	Course		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







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

SELECT COURSE NATURAL JOIN ENROL;

Course

CourseNo	
COMP2400	
COMP2400	
BUSN2011	







• What is the result for the following NATURAL JOIN statement? SELECT \*\*

FROM COURSE NATURAL JOIN ENROL;



# Assignment Professe Exam Help COMP2400 Relational Databases BUSING Management Accounting 6 ECON2102 Macroeconomics 6

https://subject of the state of

• What is the result of the following NATURAL JOIN statement? SELECT \*\* DOWCOGET

FROM Course NATURAL JOIN Enrol;

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

SELECT \*

FROM Course, Enrol;



Assignment Project Exam Help

COMP2400	Relational Databases	6
BUSN2011	Management Accounting	6
ECON2102	Macroeconomics	6

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		11	1						N2011			2016 S1			1	Т	active						
	222					COMP2400						20	16	S	1	Т	a	active					

2016 S2

active

Whats the coult when lowing that URD ON Viele CET

COMP2400

SELECT \*

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



Assignment Project Exam Help

	O	
COMP2400	Relational Databases	6
BUSN2011	Management Accounting	6
ECON2102	Macroeconomics	6

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_ /			L		м	<b>L</b> ENROI					и		ш	$\overline{}$	71			L		П	,	ı		
1	Stı	der	ntl			CourseNo							me	este	er	-	Status					-	-	١
	_	111		_			JSN		_		2016 S1					+	active							
_			_			_					2016 S1					+		4						
	-	222	:		. '	UC	MF	22	<del>4</del> 00	)		20	116	5	I .		active							
		111			1	ററ	MF	22	400	)	2016 S2					- 1	active							

• What he could will be considered to the constant of the cons

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.



# Assignment Project Exam Help



- List At information of students who have empleding course with 1 Course No X and the Course No of these pourses.
  - 1 Use SELECT + FROM (Cartesian Product) + WHERE
  - Use SELECT + FROM (INNER JOIN) + ON
  - 3 Use SELECT + FROM (INNER JOIN) + ON + WHERE
  - Use SELECT + FROM (NATURAL JOIN) + WHERE



# Assignment Project Exam Help

https://studentile Course of Status om

- 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 POWCOder



# Assignment Project Exam Help

https://studentile Courselle Status om

- 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 PRODUCT CARTESIAN OWCODER

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



# Assignment Project Exam Help

https://budentip Course No Status om

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



# Assignment Project Exam Help

https://powerenter.com

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (2) Use SELECT FROM (WHIER JOIN) + ON CODE TO STUDENTE, CARRIED TO STU

FROM STUDENT INNER JOIN ENROL

ON (STUDENT.StudentID=ENROL.StudentID)

AND (ENROL.CourseNo = 'X');



# Assignment Project Exam Help

https://purple Enroll on

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- \* (3) Use STLECT WE Chat powereder



# Assignment Project Exam Help

# https://proversements.com

- List all information of students who have enrolled in a course with CourseNo='X' and the CourseNo of these courses.
- (3) Use SILECT TROM (NNIFR JOIN) + ON + WHERE ON THE SELECT STUDENT.\*, ENROL. COURS (NO.

FROM STUDENT INNER JOIN ENROL
ON STUDENT.StudentID=ENROL.StudentID
WHERE ENROL.CourseNo = 'X';



# Assignment Project Exam Help

https://powcouch.com

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



# Assignment Project Exam Help

https://powcouler.com

- 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 LAND WCODET

FROM STUDENT NATURAL JOIN ENROL WHERE ENROL.CourseNo = 'X';



### **Subqueries**

# A SSIQUE ISCACINITION TO THE ASSISTANCE OF THE A

- Subqueries can be specified within the FROM-clause.
- Suldtepasaiso, peitword entered and
  - In subquery tests if tuple occurs in the temporary table of the subquery.
  - 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.



## Assignment Project Exam Help



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

## ASELICT STUDINF. \* ENAL Course No OWCODET WHERE ENROL. Course No = '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.



# Assignment Project Examinated Help than 10 students enrolled and the CourseNo of these courses.

https://powcoder.com



# Assignment Project Example Help than 10 students enrolled and the CourseNo of these courses.

List the CourseNo of the courses that have less than 10 students

https://powcoder.com



## Assignment Project Example Help than 10 students enrolled and the CourseNo of these courses.

List the CourseNo of the courses that have less than 10 students

# https://powcoder.com FROM ENROL GROUP BY COURSENO



# Assignment Project Exame Help than 10 students enrolled and the CourseNo of these courses.

List the CourseNo of the courses that have less than 10 students

## https://powcoder.com

GROUP BY CourseNo

Aist liftorn at ording tuding who have not course No of these courses



# Assignment Project Exame Help than 10 students enrolled and the CourseNo of these courses.

List the CourseNo of the courses that have less than 10 students

### https://powcoder.com

FROM ENROL

GROUP BY CourseNo

## Aist I (in formation tuding who have in the Course No of these courses

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



# Assignment Project Exam Help Listal information of students who have enrolled in a course that has less than 10 students enrolled and the CourseNo of these courses.

h select Student.\*,e1.CourseNo let.com
WHEE e1.CourseNo IN (SELECT e2.CourseNo

FROM ENROL e2
GROUP BY e2.CourseNo



# Assignment Project Exam Help List all information of students who have enrolled in a course that has less than 10 students enrolled and the CourseNo of these courses.

h select Student.\*,e1.CourseNo

HELD Subent 10 R WILL OUT ENO IN (SELECT e2, CourseNo

WHELE e1, CourseNo IN (SELECT e2, CourseNo

FROM ENROL e2
GROUP BY e2.CourseNo

### Add WeChat powcoder

Why do we use aliases e1 and e2 for ENROL?



# Assignment Project Exam Help List all information of students who have enrolled in a course that has less than 10 students enrolled and the CourseNo of these courses.

help Spert Devices of Course of Cour

FROM ENROL e2
GROUP BY e2.CourseNo

### Add WeChat powcoder

Why do we use aliases e1 and e2 for ENROL?
 Distinguish two ENROL tables.



# Assignment Project Exam Help List all information of students who have enrolled in a course that has less than 10 students enrolled and the CourseNo of these courses.

held Supert Arway of the Course No WHELE e1. Course No IN (SELECT e2. Course No, COUNT(\*)

FROM ENROL e2

GROUP BY e2. Course No

Add WeChar powcoder



## Assignment Project Exam Help

than 10 students enrolled and the CourseNo of these courses.



Is the above query correct?



# Assignment Project Exam Help List all information of students who have enrolled in a course that has less than 10 students enrolled and the CourseNo of these courses.

heip Subent 10 RIVIN MET. COMMENT OF SUBENT OF SUB

Is the above query correct?

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





Count the number of students who have enrolled in at least one course?
 https://powcoder.com





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

### https://powcoder.com

FRUM STUDENT S

WHERE EXISTS (SELECT \*

## Add Wie C. Shatt poweroder





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

### https://powcoder.com

FROM STUDENT S

WHERE EXISTS (SELECT \*

### Add Where s. Shatto provided en

1st tuple of STUDENT, EXISTS

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!





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

### https://powcoder.com

FRUM ENRUL e

WHERE EXISTS (SELECT \*

## Add WHEN C. Strate provided and the prov





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

### https://powcoder.com

rkum knrol e

WHERE EXISTS (SELECT \*

## Add Where e. Smarten production oder

1st tuple in ENROL, EXISTS 2nd tuple in ENROL, EXISTS 3rd tuple in ENROL, EXISTS

111	Tom	
StudentID	Name	
222	Emily	
StudentID	Name	
111	Tom	

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





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

### https://powcoder.com

WHERE EXISTS (SELECT \*

FROM ENROL e

### Addown echal powcoder

FROM STUDENT S
WHERE EXISTS (SELECT StudentID
FROM ENROL e
WHERE s.StudentID=e.StudentID);





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

### httpsund powcoder.com

WHERE EXISTS (SELECT \*

FROM ENROL e

### Addown estable powerder

FROM STUDENT S

WHERE EXISTS (SELECT StudentID

FROM ENROL e

WHERE s.StudentID=e.StudentID);

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





• Count the number of students who have emplied in at least one course?

\*\*DOWCOGE\*\*.COM\*\*

FROM STUDENT, ENROL

WHERE STUDENT.StudentID=ENROL.StudentID;



# Assimilar Projectivently Care of Same of the Projective of Same of Sa

• Count the number of students who have emplied in at least one course?

Output

Outpu

FROM STUDENT, ENROL

WHERE STUDENT.StudentID=ENROL.StudentID;

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



# Assistant Projectivently Care Projective Projec

• Count the number of students who have emplied in at least one course?

\*\*DOWCOGET.COM\*\*

FROM STUDENT, ENROL

WHERE STUDENT.StudentID=ENROL.StudentID;

### Add WeChat powcoder

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!



# Assimilar Projection Bush 1 Same of Plant Projection 111 Bush 2016 St 222 Emily 333 John 111 COMP2400 2016 St 111 COMP2400 2016 St 222 COMP2400 2016 St 222 COMP2400 2016 St 223 COMP2400 2016 St 224 COMP2400 2016 St 245 COMP2400 2016 St 245

• Count the number of students who have emplied in at least one course?

\*\*DOWCOGET.COM\*\*

FROM STUDENT, ENROL

WHERE STUDENT.StudentID=ENROL.StudentID;

### Add WeChat powcoder

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(\*).



#### Using INNER JOIN - Same Example

ent Project 2016 S1 Tom COMP2400 2016 S1 Emily 333 COMP2400 2016 S2 .lohn

reprober of standents with inaveremblindin at least pare course?

SELECT COUNT(\*)

FROM STUDENT S INNER JOIN ENROL e



#### **Using INNER JOIN – Same Example**



• Count the number of stratems who may earn other in at least one course?

SELECT COUNT(\*)

FROM STUDENT s INNER JOIN ENROL e

ON s.StudentID=e.StudentID;

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



#### **Using INNER JOIN – Same Example**



Count the manuber of stratements who have emplace in at least para course?

SELECT COUNT(\*)

FROM STUDENT'S INNER JOIN ENROL e

ON s StudentID=e StudentID:

UN S.Stu	s.StudentiD=e.StudentiD;						
$\Lambda$		<b>X</b> 7.		604	40 O TT	100	J
$\mathbf{A}$ (1(1	V	s		<del>1121</del> 1	(e) \	<del>/C()</del> (	10
	Stude	ntID	Name	StudentID	CourseNo	Semester	
	11	1	Tom	111	BUSN2011	2016 S1	
	11	1	Tom	111	COMP2400	2016 S2	
	22	2	Emily	222	COMP2400	2016 S1	

The above query is incorrect!



### **Using INNER JOIN – Same Example**

Count the number of standants with the reproduction at least tone course?

SELECT COUNT(\*)

FROM STUDENT s INNER JOIN ENROL e

ON s StudentID=e StudentID:

199	<b>IX</b>		hat	nou	1000	lar
Auu	StudentID	Name	StudontiD	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(\*).



Assignment Project Exam Help

StudentID	Name	
111	Tom	
222	Emily	
333	John	١,

- LINTIGLE					
StudentID	CourseNo	Semester			
111	BUSN2011	2016 S1			
222	COMP2400	2016 S1			
<b>1</b> 11	COMP2400	2016 S2			

• Continuer of spens woo and the in that in course?

SELECT COUNT(\*)

FROM STUDENT NATURAL JOIN ENROL;



Assignment Project Exam Help

StudentID	Name
111	Tom
222	Emily
333	John

1	LNNOL						
	StudentID	CourseNo	Semester				
	111	BUSN2011	2016 S1				
	222	COMP2400	2016 S1				
	<u>1</u> 11	COMP2400	2016 S2				

• Continuer of spens woo and the in that in course?

SELECT COUNT(\*)

FROM STUDENT NATURAL JOIN ENROL;

### Add

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Z	$\Lambda$ /	$\boldsymbol{\rho}$	1 5	šΤ	D	N	วา	Г	г	1	7	EN	1C 🖢	7	$oldsymbol{C}$	1	7	$\boldsymbol{\cap}$	6	<b>3</b> 1	r
1	Stud	detud		N	an	e (	J	П	Co	Oι	SZ	V	T\6	eme	to	1	J	u	W	<b>∠</b> .	L
Г	1	11		Т	om				BL	JS	N20	)11	2	2016	S1						
Г	1	11		Т	om			Γ	CC	N	IP24	100	2	2016	S2						
Г	- 2	22		Е	milv	7		Г	CC	N	1P24	100	1 2	016	S1						



Assignment Project Exam Help

StudentID	Name
111	Tom
222	Emily
333	John

	LIVITOL -			
StudentID	CourseNo	Semester		
111	BUSN2011	2016 S1		
222	COMP2400	2016 S1		
111	COMP2400	2016 S2		

2016 S1

• Controller of spens Wolfe en de lin Water course?

SELECT COUNT(\*)

FROM STUDENT NATURAL JOIN ENROL:

# Add Web Stand Cough Sand of Co

COMP2400

Emily

The above query is incorrect!



Assignment Project Exam Help

StudentID	Name
111	Tom
222	Emily
333	John

LININGL-								
StudentID	CourseNo	Semester						
111	BUSN2011	2016 S1						
222	COMP2400	2016 S1						
111	COMP2400	2016 S2						

2016 S1

• Contituser of spons Wolfe on defin wating course?

SELECT COUNT(\*)

FROM STUDENT NATURAL JOIN ENROL:

# Add Side D Name Couls No September Oder 111 Tom BUSH2011 2016 S2 1111 Tom COMP2400 2016 S2

COMP2400

The above query is incorrect!
 We should use COUNT(DISTINCT StudentID) instead of COUNT(\*).

Emily



#### A Simple Solution – Same Example

Assignment Project Exam Help

STUDE	NT		ENROL				
StudentID	Name		StudentID	CourseNo	Semester		
111	Tom		111	BUSN2011	2016 S1		
1 222	Emily	/ /	<del>2</del> 22	COMP2400	2016 S1		
3 3 1	<b>Ohr</b>	MOUNC	MAY	COMP2400	1016 S2		
	70.7		JUUI	·CUI			

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

SELECT COUNT(DISTINCT StudentID)



#### A Simple Solution – Same Example

Assignment Project Exam Help

STUDE	NT		ENROL				
StudentID	Name		StudentID	CourseNo	Semester		
111	Tom		111	BUSN2011	2016 S1		
1 222	Emily	/ /	<del>2</del> 22	COMP2400	2016 S1		
3 3 1	<b>Ohr</b>	MOUNC	MAY	COMP2400	1016 S2		
	70.7		JUUI	·CUI			

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

SELECT COUNT(DISTINCT StudentID)

• The above query scorrect: hat powcoder



#### A Simple Solution – Same Example

Assignment Project Exam Help

STUDE	NT	_	ENROL				
StudentID	Name		StudentID	CourseNo	Semester		
111	Tom		111	BUSN2011	2016 S1		
222	Emily	1 1	<del>2</del> 22	COMP2400	2016 S1		
3 3 7	<b>Ohr</b>	MOME		COMP2400	12016 S2		
	10.7		JUUI	·UUI			

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

SELECT COUNT(DISTINCT StudentID)

### • The above query scorrect: hat powcoder

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



### **Subqueries – More Examples**

## Assispandente Project of Tomper Help

https://powcoder.com



# Assignmente Project of Toxon Help

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

https://powcoder.com



# Assignment Pioset of Toxon Help

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

# https://powcoder.com

WHERE Semester = '2016 S2'
GROUP BY CourseNo;



# Assignment Pioset of Toxon Help

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

# https://powcoder.com

WHERE Semester = '2016 S2'
GROUP BY CourseNo;

# Aist he largest hum for distudent probled in a court in a sound in



# Assignment Pioset of Toxon Help

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

# https://opowcoder.com

WHERE Semester = '2016 S2'
GROUP BY CourseNo:

# 

SELECT MAX(NoOfStudents)

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



# Assistante ntve Projecter Examelle 1p

# SELECT e. CourseNo FIOL CARECT & 1 CurseW, CUP CLAS NOT Udents FROM ENROL e1 WHERE e1. Semester = '2016 S2' GROUP BY e1. CourseNo) e Notatidents = 1200 COUNT(\*) AS NoOfStudents FROM (SELECT e1. CourseNo, COUNT(\*) AS NoOfStudents FROM ENROL e1

WHERE e1.Semester = '2016 S2' GROUP BY e1.CourseNo) e2):



# Assignmente Project Examellelp

Use "WITH" to break down complicated queries into simpler parts.1

https://powcoder.com



# Assignmente Project Examellelp

Use "WITH" to break down complicated queries into simpler parts.1

# httpsstydenpawcoder.com

FROM ENROL e1

WHERE e1.Semester = '2016 S2'

# Add. Chat powcoder

FROM Sem2Students e

WHERE e.NoOfStudents =

#### (SELECT MAX(e2.NoOfStudents)

FROM Sem2Students e2):



# Assignment Project Examulation

Input: https://powcoder.com

		Enrol			
	StudentID	CourseNo	Semester		
	111	BU \$N 101/1	7016 S	<b>~</b> 4	40 0 777 0 0 0 0 0
1		CONTINUO	016 S	7	powcoder
4	111	COMP2400	2016 Sz	ut	poweduct
	111	ECON2102	2016 S2		_
	222	BUSN2011	2016 S2		
	222	COMP2400	2016 S2		
	333	BUSN2011	2016 S2		
	333	COMP2400	2016 S2		
	333	ECON2102	2016 S2		



# Assignment Project Examulation

Input: https://powcoder.com

Γ		ENROL				
	StudentID	CourseNo	Semester			CourseNo
	111	BU \$N 101/1	7016 S	04	40.0 **	COMP2400
Æ	- 70 / 6	CONTINUO	016 5	71	now	BUSN (11
4	111	COMP2400	2016 Sz	u		Codel
	111	ECON2102	2016 S2		_	
	222	BUSN2011	2016 S2			
	222	COMP2400	2016 S2			
	333	BUSN2011	2016 S2			
	333	COMP2400	2016 S2			
	333	ECON2102	2016 S2			



# A SSI squite on reside have rices to the former production of the production of the

https://powcoder.com



# A SSIscille Chrestnat have rices to the tree processe in Semester 2 2016

```
SELECT e. CourseNo
FIOU GALECT e1 Ous W, Course Note the dets
FROM ENROL e1
WHERE e1. Semester = '2016 S2'
GROUP BY e1. CourseNo) e

AHERI e Note that den s
ANY (SELECT e2. Nous tudents
FROM (SELECT e1. CourseNo, COUNT(*) AS NoOf Students
FROM ENROL e1
```

WHERE e1.Semester = '2016 S2' GROUP BY e1.CourseNo) e2):



## Assignment Project Exam Help

 List all the courses that have more students enrolled than at least one other course in Semester 2 2016

https://powcoder.com



## Assignment Project Exam Help

 List all the courses that have more students enrolled than at least one other course in Semester 2 2016

```
htti Senstudents as Wcoder.com
(SELECT e1-CourseNo, COUNT(*) AS NoOfStudents
FROM ENROL e1
WHERE e1.Semester = '2016 S2'
Additionally of CourseNo powcoder
FROM Sem2Students e
```

FROM Sem2Students e
WHERE e.NoOfStudents

> ANY (SELECT e2.NoOfStudents FROM Sem2Students e2);



# Assignment have roos jets three that have properly the course in Semester 2 2016

Input: https://powcoder.com

		ENROL			
	StudentID	CourseNo	Semester		
	111	BU \$N 101/1	7016 S	<b>~</b> 4	a orreada
1		COLUMNO	016 S	71	powcoder
-	111	COMP2400	2010 02	ut	poweduct
	111	ECON2102	2016 S2		_
	222	BUSN2011	2016 S2		
	222	COMP2400	2016 S2		
	333	BUSN2011	2016 S2		
	333	COMP2400	2016 S2		
	333	ECON2102	2016 S2		



# Assignment have roos jets three that have properly the course in Semester 2 2016

Input: https://powcoder.com

		Enrol					CourseNo
	StudentID	CourseNo	Semester				COMP2406
	111	BU \$N 101/1	7016 S	<b>~</b> 4	40.0		
		CONTINUO	016 5	71	00	W	concer er
4		COMP2400	2016 Sz	u		* *	GCODE TO 1
	111	ECON2102	2016 S2		_		
	222	BUSN2011	2016 S2				
	222	COMP2400	2016 S2				
	333	BUSN2011	2016 S2				
	333	COMP2400	2016 S2				
	333	ECON2102	2016 S2				



# Assignment Project Exam Help

• List all students i IDs and names who are under enrolled (< 4 epurses) in Semester 2016, and the number of courses they are enrolled in.



# Assignment Project Exam Help

- List all students i IDs and names who are under enrolled (< 4 epurses) in Semester 2016, and the number of courses they are enrolled in.
  - List the students' IDs and the corresponding number of enrolled courses in Semester 2 2016



# Assignment Project Exam Help

- List all students i IDs and names who are under enrolled (< 4 epurses) in Semester 2016, and the number of courses they are enrolled in.
  - List the students' IDs and the corresponding number of enrolled courses in Semester 2 2016

```
Addenmentpowerder
```

```
WHERE e.Semester = '2016 S2
GROUP BY e.StudentID;
```



Assembled P16 indithe number of curses they are entitled in. Telp

https://powcoder.com



# As See the state of the first the humber of the see that are entitled in Telp

```
SELECT s.StudentID, s.Name, ne.NoOfEnrols
FROM (SELECT e.StudentID, COUNT(*) AS NoOfEnrols
```

## https://www.cocer.com GROUP BY e.StudentID) ne INNER JOIN STUDENT s ON (s.StudentID = ne.StudentID) AND (ne.NoOfEnrols < 4);



# As September 1 16 And the humber of Tourses they are entidled in Telp

SELECT s.StudentID, s.Name, ne.NoOfEnrols FROM (SELECT e.StudentID, COUNT(\*) AS NoOfEnrols

## https://pow-coder.com

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

# AUCELEVICE den Datum DOWN FINGET

WHERE e.Semester = '2016 S2'

GROUP BY e.StudentID)

SELECT s.StudentID, s.Name, ne.NoOfEnrols FROM STUDENT s INNER JOIN StudEnrols ne

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



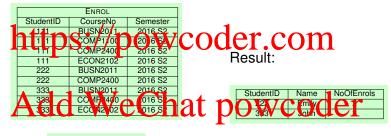
# A SS is considered by the number of courses they are enrolled in.

		F		
		ENROL		
	StudentID	CourseNo	Semester	
1	41414	BUSN20/1	2016.S2 -	2000000000
1	11	COMP1/00	20 6 54	coder.com
1	417	COMP2400	2016 \$2	
	111	ECON2102	2016 S2	
	222	BUSN2011	2016 S2	
	222	COMP2400	2016 S2	
	3334	BUSN2011	2016 S2	
	328	CO MP 1400	016 S	at powcode
	33	ECC V2 02	. 016 S	al DOWCOUE
1				

STUDENT			
StudentID	Name		
111	Tom		
222	Emily		
333	John		



# A SS is gillar the contact of the number of courses they are enrolled in.



STUDENT			
StudentID	Name		
111	Tom		
222	Emily		
333	John		



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



https://www.coder.com



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

# As Shutible 1600 drebessity. To ject Exam Help

https://william of ockham

• The minimum description length of a data set (i.e., Kolmogorov complexity)

