# Assignment Project Exam Help

SQL offers several constructs beyond relational algebra to allow users to write more powerful queries. In this lecture, we will study a collection of construct tentured for statistical and visit derical and the construction of construction of the construction of the

# Add WeChat powcoder

## Syntax of an Aggregate Query

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## \*https://powcoder.com

- $A_1, ..., A_t, B_1, ..., B_m, C_1, ..., C_g$  are attributes.
- $B_1, ..., B_m$  are called aggregate attributes.
- C<sub>1</sub>A..., G are called group by attributes.
  Each C<sub>1</sub>A., At must be group by the converge of the converge o
- P is a tuple predicate, and H is an group predicate.
- agg<sub>1</sub>, ..., agg<sub>m</sub> are aggregate functions.

## Aggregate Function

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- agg = sum: return the sum of the values in A.
- https://powcoder.com
- agg = avg: return the average of the values in A.

## Note Add WeChat powcoder

A must be numeric for sum, min, max, and avg.

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- agg = count: return the number of distinct values in A.
- agg = sum: return the sum of the distinct values in A.
   agg = sum: return the sum of the distinct values in A.
   agg = sum: return the sum of the distinct values in A.

Note

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Assignm	<b>P</b> p <b>1</b>	Ac <mark>a</mark> m	OFF	ass	6000	am	Help
1001811111	p2	Bob	E	asso	8000		
		Calvin	CS	full	10000	•	
	p4	Dorothy	EE	asst	5000	•	
<b>4</b>	p5 <sub>1</sub>	Emily	EE	asso	8000	-	

https://powcoder.com select count(dept), count(distinct dept), sum(sal), sum(distinct sal)

from PROF

## Let's Add WeChat powcoder

•	pid	name	dept	rank	<del>sa</del> l		TT 1
Assignme	<b>⊃</b> µ1	Acam	OFF	ass	5000X	am	Help
1551511111	p2	Bob	E	asso	8000		
	p3	Calvin	CS	full	10000		
	p4	Dorothy	EE	asst	5000		
_	n5	Emily	FF	3660	8000		

https://powcoder.com select count(dept), count(distinct dept), sum(sal), sum(distinct sal)

select count(ept), count(distinct dept), sum(sal), sum(distinct sal; from PROF

Result: Add WeChat powcoder

pid	name	dept	rank	sal
p1	Adam	CS	asst	6000
p2	Bob	EE	asso	8000
р3	Calvin	CŞ	full	10000

# Assignment Fire Exam Help

select count(\*), sum(sal), min(sal), max(sal), avg(sal)

https://powcoder.com

#### 37000 5000 10000

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#### Note

count(A) is equivalent to count(\*). This is intuitive: count(A) returns the same result no matter which column is used as A. Hence, A can be as well omitted. Note, however, \* cannot be used with distinct, which must always be accompanied by a concrete attribute.

## Assignment Project Exam Help from T

group by  $C_1, ..., C_{\sigma}$ 

# This https://powcoder.com

- ① Divide T into groups where each group consists of the tuples that
- are identical on all  $C_1, ..., C_p$ .

   Execute the service of a tropowooder

Ρ	RO	F

	pıa	name	aept	rank	sai			
A ~ ~ :	p1	Atlam	C5	asst	6000	0.400	TT-1.	
Assignmo	<u> </u>	Eob	O16	/ u 3 3 4	8000X	am	Help	)
	р3	Calvin	CJ	full	10000		r	
	p4	Dorothy	EE	asst	5000			
	<i>p</i> 5	Emily	EE	asso	8000			

select hatten for PRPOWCOder.com group by dept

PROF is divided into two groups. The first one includes the tuples with pid = A 8 wile was a domain lider to est the query entirens:

8000

| dent | rank | sal

	PC.	1	a op c				
	p1	Adam	CS	asst	6000		
A agi ann	p2	4 BDD	E	asso	8000	0.100	11010
Assignme	ρВ	Ca vin	OFF	ful	10000	alli	Help
	p4	Dorothy	EĖ	asst	5000		<b>-</b>
	<i>p</i> 5	Emily	EE	asso	8000		

group by the property of the p

Let's try...

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## PROF name | dept | rank |

	p1	Adam	CŞ	asst	6000		
Assignme	_P2	∔ Eob →	ΛĒĒ (	2554	8000	am	Haln
<b>4991811111</b>	<b>∠</b> ρΒ	C: vin	C 1	<b>Full</b>	0000	alli	TICID
	p4	Dorothy	EÉ	asst	5000		1
	p5	Emily	EE	asso	8000		

select hour poweroder.com

pid

#### Result:



# Assignment Alam Content Falx am Help

<i>p</i> 2	Bob	EE	asso	8000
р3	Calvin	CS	full	10000
p4	Dorothy	EE	asst	5000
	Emily	CC.	200	9000

## https://powcoder.com

select pid, count(\*) from PROF group by dept, rank

Syntax ever Every William that the Witting Egge attribute) must be a group-by attribute. See the syntax on Slide 3.

### Past Muddiest Points - Let's dig deeper!

	pia	name	aept	rank	sai			
A = = : = ===	p1	Adam	C5	asst	6000		TT-1	
Assignme	p 2	Еоб	O16	ass	8000	am	Help	)
	р3	Calvin	CJ	full	10000	•••		
	p4	Dorothy	EE	asst	5000			
	p5	Emily	EE	asso	8000			

select hettopts: from profession by dept, rank

		Sort 8	& Group	ing		
	pA	name	ept_	ank	191t	powcoder
-	<i>þ</i> 1	<b>U</b> Alem	V ds	acst	6000	powcouci
	р3	Calvin	CS	full	10000	*
	p2	Bob	EE	asso	8000	
	<i>p</i> 5	Emily	EE	asso	8000	
	p4	Dorothy	EE	asst	5000	

### Past Muddiest Points - Let's dig deeper!

<b>PROF</b>	
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	pia	name	uept	rank	Sai			
A = = : = = = :	<i>p</i> 1	Atlam	C5	asst	6000		TT-1.	
Assignme	p 2	Еоб	$\mathbf{O}^{T}\mathbf{C}$	ass	8000	am	Help	
	р3	Calvin	C <sub>b</sub>	full	10000		P	
	p4	Dorothy	EE	asst	5000			
	<i>p</i> 5	Emily	EE	asso	8000			

select hattop to from protection of the group by dept, rank

Sort & Grouping												
lame	gept _	ank	191t	-								
. Udah	V ds	acst	6000									
Calvin	CS	full	10000	-								
Bob	EE	asso	8000									
Emily	EE	asso	8000									
Dorothy	EE	asst	5000									
	Calvin Bob Emily	Calvin CS Bob EE Emily EE	Calvin CS full Bob EE asso Emily EE asso	Calvin         CS         full         10000           Bob         EE         asso         8000           Emily         EE         asso         8000								

pow#c	der
<i>p</i> 3	1
p2, p5	2
p4	1

## Past Muddiest Points - Let's dig deeper!

	pia	name	aept	rank	sai			
A = = : = = = = = = = = = = = = = = = =	<i>p</i> 1	Atlam	C5	asst	6600		TT-1	
Assignme	p 2	Еоб	O16	ass	8000	am	Help	)
	р3	Calvin	C <sub>b</sub>	full	10000		P	
	p4	Dorothy	EE	asst	5000			
	<i>p</i> 5	Emily	EE	asso	8000			

select hat top to from profession of the group by dept, rank

	Sort &	& Group	ing				_
pja	lame	gert _	ank	19 t	1001	T pjd	cont(*)
<b>6</b> 1	. Class	V ds	acst	6000	PO.	VV pure	JULI
<i>p</i> 3	Calvin	CS	full	10000	1	<u>р</u> 3	1
p2	Bob	EE	asso	8000		p2, p5	2
<i>p</i> 5	Emily	EE	asso	8000		p4	1
p4	Dorothy	EE	asst	5000			

Oracle: Syntax Error! MySQL: return p2 or p5, depends on mood!

# Assignment Project Exam Help

## This htteps://poweoder.com

- ① Divide  $\hat{T}$  into groups where each group consists of the tuples that are identical on all  $C_1, ..., C_g$ .
- Emigrate wheat dhat ip owe or predicate).
- 3 Execute the select clause on each of the remaining groups.

# A State of the last state of t

where https://powcoder.com

- agg is an aggregate function.
- \* And The Table We Chat powcoder

dept rank sal

	<i>p</i> 1	Adam	CS	asst	6000	•	
•	p2	Bob	EĘ	asso	8000	='	TT 1
Assignme	<u> </u>	Cawin	OFF C	fel	-00007	am	Heln
rissignin	p41	Dorothy	<b>LEFT</b>	asst	5000	ann	Ticip
_	<i>p</i> 5	Emily	EE	asso	8000		_

 $\begin{array}{l} \text{select rank, max(sal) from PROF} \\ \text{group } \begin{array}{l} \text{prom PROF} \\ \text{powcoder.com} \\ \text{having count} \end{array} > = 2 \end{array}$ 

name

bid

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## PROF pid | name | dept | rank | sal

	p1	Adam	CS	asst	6000	-	
<b>A</b>	p2	Bob	E€	asso	8000		TT.1
Assignme	₽β	Calvin	Offe	ful	.0000	am	Help
10018	p4	Dorothy	E	asst	5000		
	<i>p</i> 5	Emily	EE	asso	8000		

 $\begin{array}{l} \text{select } \text{ rank, max(sal) } \text{ from PROF} \\ \text{group } \text{by Lap S.} / \text{powcoder.com} \\ \text{having count(*)} >= 2 \end{array}$ 

Add	ji Ji	(Da ne	rouping.	 ''m\(	<b>1</b>	coder
Muu	$\rho 1$	Adam	161	asst	6000	Couci
	p4	Dorothy	EE	asst	5000	
•	p2	Bob	EE	asso	8000	_
	<i>p</i> 5	Emily	EE	asso	8000	
•	р3	Calvin	CS	full	10000	_

### **PROF** dept

rank

sal

	p1	Adam	CS	asst	6000	
•	p2	Reb	EE	asso	<del>-800</del> 0	TT 1
Assignme	<b>1</b> 3	Ca <b>∀</b> rhi	ME	full		Heln
1551511111	p4	Dorothy	OE F	asst	5000	
	<i>p</i> 5	Emily	EE	asso	8000	

 $\begin{array}{l} \text{select rank, max(sal) from PROF} \\ \text{group } & \text{DLDS.} / powcoder.com \\ \text{having count(*)} >= 2 \end{array}$ 

name

pid

## Result:

## Add WeChat powcoder 8000

Note that the group of rank = full has been eliminated by the having clause.

asso

	pid	name	dept	rank	sal			
A a a i a to to	p1	4 Aran	C\$	asst	5000	0.100	TT_14	
Assignmo	p 2	<b>E</b> ob	O16	asso	8000	аш	Heli	
	р3	Calvin	C	full	10000			_
	p4	Dorothy	EE	asst	5000	•		
	<i>p</i> 5	Emily	EE	asso	8000	•		

select https://opipowcoder.com
group by rank

having count(\*) >= 2 and max(sal) >= 7000

ResultAdd WeChat powcoder

rank asso 2

## Assignment Projects Exam Help from T

where P

https://powcoder.com

This statement carries out the following steps:

- Perform a pelection on the selection.

  Perform a pelection on the selection of the selection.

| dent | rank |

	P		a op c					
	<i>p</i> 1	Adam	CS	asst	6000			
Assignme	p2	∔ Bob →	CEF C	2554	8000	om	$\mathbf{L}_{\Delta}$	10
<b>47221811111</b>	pB	C <sub>a</sub> vin	CIC	ful	.0000	alli	1101	.U
$\mathcal{O}$	p4	Dorothy	EÉ	asst	5000			1
	<i>p</i> 5	Emily	EE	asso	8000			

select hitting (a) /r/powcoder.com
where sall 1000 /r/powcoder.com
group by dept
having count(\*) >= 2
Let's Add WeChat powcoder

nid |

name

・ロト・一郎・・ ま・・ ま ・ りゅう

| dent | rank | sal

	p.u.		a op c				
	p1	Adam	CS	asst	6000		
Assignme	<i>p</i> 2	4 BDD 44	CEF C	asso ful	8000	0100	Help
ASSIZIIIII	ρВ	Ca vin	016	ful	10000	alli	пеш
	p4	Dorothy	EĖ	asst	5000		
•	<i>p</i> 5	Emily	EE	asso	8000		

select heat min (sal.) from PROWCO der.com where sall places of proposition of pr

Add WeChat powcoder

pid	name	dept	rank	sal
р3	Calvin	CS	full	10000
p2	Bob	EE	asso	8000
<i>p</i> 5	Emily	EE	asso	8000

	pid	name	dept	rank	sal		
	<i>p</i> 1	Adam	CS	asst	6000		
Aggianma	p2	<b>4 Bob √</b>	ÇĘ C	assq full	8000	0111	Help
Assignme	<i>р</i> 3	Ca vin	OF	full	0000	alli	петр
8	p4	Dorothy	<b>E</b> Ł	asst	5000		- I
	<i>p</i> 5	Emily	EE	asso	8000		

select dent (min(sal)) from POWCOder.com where sall = 2000. From POWCOder.com group by dept having count(\*) >= 2

# ResultAdd WeChat powcoder

dept EE 8000

The group dept = CS is eliminated because it has only 1 tuple.

## Tuple Predicate P vs. Group Predicate H

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- A comparison in P has the form  $A \circ p v$ , while a comparison in H P filters tuples before group by, while H filters groups after group by.

# Add WeChat powcoder

## Everything Together

## Assignment Projects Exam Help from $T_1, ..., T_n$

https://powcoder.com

This statement carries out the following steps:

where P

- Perform the cartesian product T<sub>1</sub> X ... X T<sub>n</sub>... X T<sub>n</sub>... X Coder
   Execute where, group-by, having and select on the cartesian product

PR	OF
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							TEAC	н	
	pid	name	dept	rank	sal		,		
	<i>p</i> 1	Adam	CS	asst	6000	pid	cid	year	
•	p2	Bob	EE -	asso	8000	<del>/1</del>	<i>c</i> 1	2011	TT.1
881	22	Ta v r	C §	fu (	)10 <del>00</del> 0C	12	C2	2/12	Help
<b>SS</b> ]		Dorothy	FÉ	ful ( asst	)1p <del>00</del> C 3000	, 2 , p1	<b>X</b> c2 c2	2 1 2 2012	Help
SSI	p5	Dorothy Emily	16	ful ( asst asso	10 <del>00</del> 0 3000 8000	p1	c2 c2	2 12 2012	негр

select PROF price out POWCOder.com
from PROF, FEACH
where PROF.pid = TEACH.pid
group by PROF.pid
having Apurl > WeChat powcoder

Let's try...

	pid	name	dept	rank	sal		LEAC	H	
_	<i>p</i> 1	Adam	CS	asst	6000	pid	cid	year	
_	p2	Bob	EE	asso	8000	<i>p</i> 1	<i>c</i> 1	2011	
201	P 1	1 famina	176	Dylo	10000	12	$\mathbf{v}^2$	<del>201</del> 2	Help
ומכ	(F)	Dorothy	1 t t	asst	1000	<i>p</i> 1	722U	2012	Ticip
	<i>p</i> 5	Emily	EE	asso	8000				_

select PROF.pid. count(\*)
from PIOT DECH/POWCOder.COM
where PROF.pid = TEACH.pid
group by PROF.pid
having count(\*)
Add WeChat...powcoder

#### name dept rank sal pid cid pid year CS Adam 6000 2011 p1asst p1c1p1Adam CS 6000 p1c22012 asst EE c22012 p2 Bob 8000 p2 asso

PR	OF
----	----

							TEAC	Н	
	pid	name	dept	rank	sal			• •	
•	<i>p</i> 1	Adam	CS	asst	6000	pid	cid	year	
	p2	Bob	EF :	8550	8000	H1-	<u>c</u> 1_	2011	TT.1
<b>88</b> 1	2	Ca v r	<b>T</b> E	fu l'	1000C	ļ 2	<b>X</b> c2	2 12	Help
	<del>94</del>	Dorothy	EĒ	asst	3000	p1	c2	2012	P
	<i>p</i> 5	Emily	EE	asso	8000				

select PROF procedure powcoder.com

 $\quad \text{where PROF.pid} = \mathsf{TEACH.pid}$ 

group by PROF.pid

having Audid We Chat powcoder

### Result:



## Funny stuffs

```
Assignment * from developer brain;

Assignment * Poetai Exam Help

ERROR at line 1:

ORA-00942: table or view does not exist

https://powcoder.com
```

# Add WeChat powcoder

http://www.orafaq.com/wiki/Fun\_stuff