



MONASH  
University

# FIT3003 – Business Intelligence and Data Warehousing

Week 8 – OLAP

Semester 2, 2021

Developed by:  
Dr. Agnes Haryanto  
Agnes.Haryanto@monash.edu

MONASH  
INFORMATION  
TECHNOLOGY  
程序代写 代做 CS 编程辅导



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Agenda

程序代写代做 CS编程辅导

## 1. OLAP: An Overview

## 2. OLAP Queries

1. Basic Aggregate Queries
2. Cube and Rollup
3. Partial Cube and Partial Rollup
4. Advanced Analysis

## 3. Business Intelligence Reporting



Assignment Project Exam Help  
WeChat: cstutorcs  
<https://tutorcs.com>

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

QQ: 749389476

<https://tutorcs.com>

# Using FLUX

程序代写代做 CS编程辅导

1. Visit <http://flux.qa/> on your internet connected device
2. Log in using your Monash account if required if you are already logged in to Monash
3. Click on the “+” to join audience
4. Enter the Audience Code:
  - Clayton – **Z9J7MT**
  - Malaysia – **PMYBD6**
5. Select FIT3003 in the Active Presentation menu



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

The screenshot shows a web browser window titled "FLUX" with the URL <https://flux.qa/#/feeds/5d368...>. The page is titled "Lecture 0". Below the title, there are four icons: a document, a presentation slide, a trophy, and a clock. The main content area is titled "Current Polls". A single poll is displayed, labeled "Multiple Choice". The question is "What did you have for dinner?". There are five options: A) Pasta, B) Rice, C) Pizza, D) Salad, and E) Nothing. Each option has a corresponding input field.

程序代写代做 CS编程辅导



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

# OLAP: An Overview

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

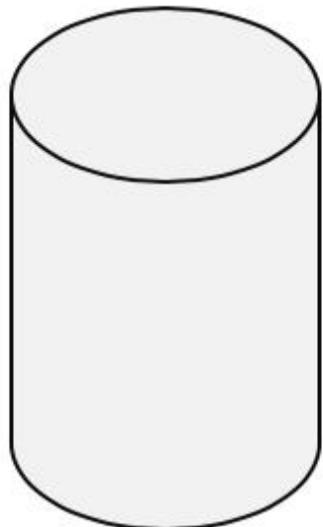
QQ: 749389476

<https://tutorcs.com>

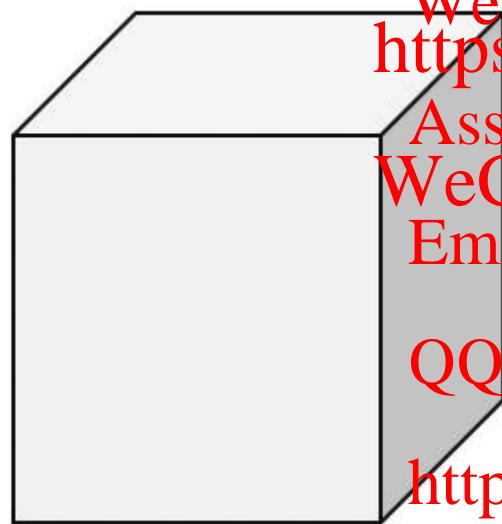
# Recall – The Big Picture

程序代写代做 CS编程辅导

Operational  
Database



Data  
Warehouse



OLAP

Business  
Intelligence

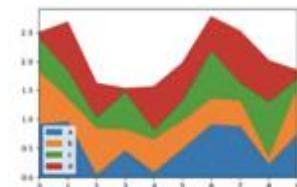
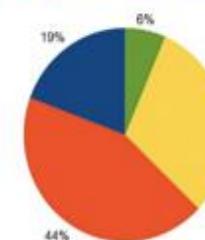
Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

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

QQ: 749389476

<https://tutorcs.com>



MONASH  
University

# On-Line Analytical Processing (OLAP)

程序代写代做 CS 编程辅导

- The nature of the new Data warehouse storage structure requires a tool that supports the retrieval of a large number of records from very large data sets and summarizes them “on the fly” → OLAP (**On-Line Analytical Processing**) tool.



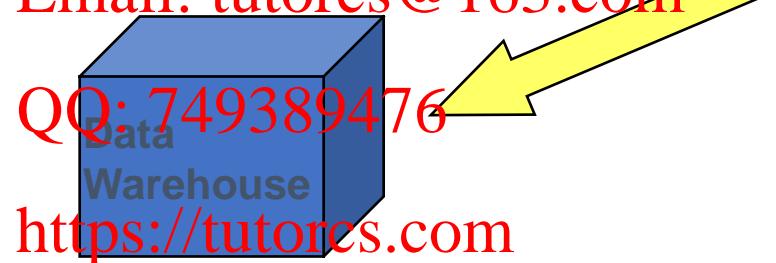
Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

OLAP  
Query

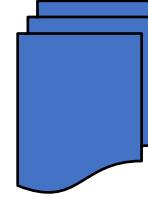


MONASH  
University

# On-Line Analytical Processing (OLAP)

程序代写代做 CS 编程辅导

BI Reports



OLAP  
Query

Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Data integration  
(eg. aggregation, conflict resolution)

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

Data extraction  
(eg. read, transformation, filter)

QQ: 749389476

Operational  
Data  
(RDBMS)

OLAP (On-Line Analytical Processing): Data processing that requires complex queries  
<https://tutorcs.com> which typically involve **group-by** and **aggregate** operators.

程序代写代做 CS编程辅导



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

# OLAP Queries: Basic Aggregate Queries

QQ: 749389476

<https://tutorcs.com>

# Basic AGGREGATE Functions (Revision)

程序代写代做 CS 编程辅导

Aggregate operations for computation purposes:

- **COUNT([distinct] A)**: The number of (unique) values in the A column.
- **SUM([distinct] A)**: The sum of all (unique) values in the A column.
- **AVG([distinct] A)**: The average of all (unique) values in the A column.
- **MAX(A)**: The maximum value in the A column.
- **MIN(A)**: The minimum value in the A column.

QQ: 749389476

<https://tutorcs.com>

# Basic AGGREGATE Functions (Revision)

程序代写代做 CS 编程辅导

- **COUNT**: returns the number of tuples that meet the specified condition.

```
SELECT COUNT(DISTINCT Dept) AS num_Depts  
FROM Subject;
```



- **SUM**: returns the sum of the values in a specified column (i.e. numeric column).

```
SELECT COUNT(*) AS hi_salary, SUM(Salary)  
FROM Lecturer  
WHERE Salary > 4500
```

WeChat: cstutorcs  
<https://tutorcs.com>

- **MIN**: returns the minimum value in a specified column (numeric or character).

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

- **MAX**: returns the maximum value in a specified column (numeric or character).

QQ: 749389476

- **AVG**: returns the average of the values in a specified column (numeric or character).

<https://tutorcs.com>

# Basic AGGREGATE Functions (Revision)

程序代写代做 CS 编程辅导

Use of GROUP BY changes the  of queries.

```
SELECT COUNT (SID)  
FROM Enrol;
```

Count(SID)
3



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

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

QQ: 749389476  
<https://tutorcs.com>

Course	Count (SID)
101	2
113	1

程序代写代做 CS编程辅导



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

# OLAP Queries: Cube and Rollup

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

QQ: 749389476

<https://tutorcs.com>

# Cube and Rollup

程序代写代做 CS编程辅导

## 1.CUBE

Extension to the GROUP BY clause to generate information in **cross-tabulation format** within a single query.



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

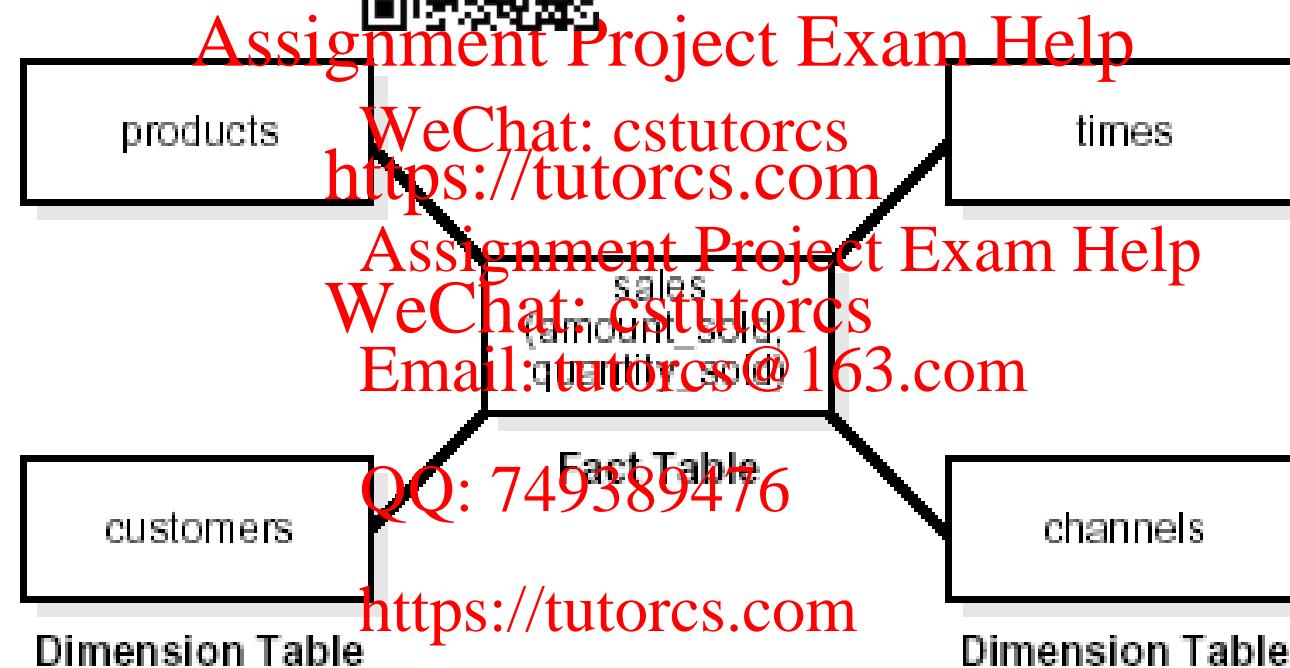
To be used in conjunction with SELECT statement to **display information** about the aggregate levels and the relevant subtotals for each aggregate level.

<https://tutorcs.com>

# Cube and Rollup

# 程序代写代做 CS编程辅导

- Consider the following star schema example (source: Oracle 9i Data Warehouse Guide)



# Cube and Rollup

程序代写代做 CS编程辅导

- Consider the following example of a cross-tabular report with subtotals based on the previous star schema (from Oracle 9i Data Warehousing Guide). Note that country is an attribute of the customer dimension.



Channel	Country		WeChat: cstutorcs <a href="https://tutorcs.com">https://tutorcs.com</a>
	UK		Assignment Project Exam Help
Direct Sales	1,378,126	US	WeChat: cstutorcs Email: tutorcs@163.com
Internet	911,739		QQ: 749389476 1,732,240
Total	2,289,865		4,567,797 <a href="https://tutorcs.com">https://tutorcs.com</a>
			6,857,662

# Cube: query and output

程序代写代做 CS编程辅导

- **CUBE** gets input in a form of attribute names to be grouped and it will produce *subtotal* for the possible combinations of the specified attributes and the *total*.



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Cube: query and output (example)

程序代写代做 CS 编程辅导

```
SELECT channel_desc, country_id, SUM(amount)
as SALES$  
  
FROM sales, customers, times, channels  
  
WHERE sales.time_id = times.time_id  
      AND sales.cust_id = customers.cust_id  
      AND sales.channel_id =  
            channels.channel_id  
      AND channels.channel_desc IN  
            ('Direct Sales', 'Internet')  
      AND times.calendar_month_desc = '2000-09'  
      AND country_id IN ('UK', 'US')  
  
GROUP BY CUBE (channel_desc, country_id);
```



CHANNEL_DESC	COUNTRY_ID	SALES\$
Direct Sales	UK	1,378,126
Direct Sales	US	2,835,557
Direct Sales	UK	4,213,683
Internet	UK	911,739
Internet	US	1,732,240
Internet	UK	2,643,979
Internet	US	2,289,865
Internet	UK	4,567,797
Internet	US	6,857,662

Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Cube: query and output (example)

程序代写代做 CS 编程辅导



User's View

Assignment Project Exam Help

	WeChat: cstutorcs	UK	US	
Direct Sales	1,378,126	2,835,557	4,213,683	
Internet	911,739	1,732,240	2,643,979	
	2,289,865	4,567,797	6,857,662	
	QQ: 749389476			

<https://tutorcs.com>

# Rollup: query

程序代写代做 CS编程辅导

- **ROLLUP** gets input in a form of attribute names to be grouped and produces subtotals of rolling-up aggregate combinations of the specified attributes and the grand total



Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Rollup: query (example)

程序代写代做 CS 编程辅导

```
SELECT channel_desc, calendar_month_desc AS calendar,
       country_id AS co, SUM(sold) AS SALES$  
FROM sales, customers, times, channels  
WHERE sales.time_id = times.time_id  
      AND sales.cust_id = customers.cust_id  
      AND sales.channel_id = channels.channel_id  
      AND channels.channel_desc IN ('Direct Sales', 'Internet')  
      AND times.calendar_month_desc IN ('2000-09', '2000-10')  
      AND country_id IN ('UK', 'US')  
GROUP BY ROLLUP(channel_desc, calendar_month_desc, country_id);
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

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

QQ: 749389476

# Rollup: output

程序代写代做 CS编程辅导

CHANNEL_DESC	CALENDAR	CO	SALES\$
-----	-----	--	-----
Direct Sales	9	UK	1,378,126
Direct Sales	9	US	2,835,557
Direct Sales	9		4,213,683
Direct Sales	2000-10	UK	1,388,051
Direct Sales	2000-10	US	2,908,706
Direct Sales	2000-10		4,296,757
Direct Sales			8,510,440
Internet	2000-09	UK	911,739
Internet	2000-09	US	1,732,240
Internet	2000-09		2,643,979
Internet	2000-10	UK	876,571
Internet	2000-10	US	1,893,753
Internet	2000-10		2,770,324
Internet			5,414,303
			13,924,743



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

https://tutorcs.com



MONASH  
University

# Cube vs. Rollup

CHANNEL_DESC
Direct Sales
Internet

程序代写代做 CS编程辅导

CALENDAR



CO

SALES\$

2000-09	UK	1,378,126
2000-09	US	2,835,557
2000-09	UK	4,213,683
2000-09	US	1,388,051
2000-09	US	2,908,706
2000-09	UK	4,296,757
2000-09	US	2,766,177
2000-09	US	5,744,263
2000-09	UK	8,510,440
2000-09	UK	911,739
2000-09	US	1,732,240
2000-09	UK	2,643,919
2000-10	UK	876,571
2000-10	US	1,893,753
2000-10	UK	2,770,324
2000-10	US	1,788,310
2000-10	US	3,625,993
2000-10	UK	5,414,303
2000-09	UK	2,289,865
2000-09	US	4,567,797
2000-10	UK	2,264,622
2000-10	US	4,802,459
2000-10	UK	4,554,487
	US	9,370,256
2000-09		6,857,662
2000-10		7,067,081
		13,924,743

Assignment Project Exam Help

WeChat: cstutorcs

<http://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>



MONASH  
University

# Cube vs. Rollup



# Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

# Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

2000-09 HK 2 289 865

1 2000-09 US 4 567 797

<https://tutorcs.com>

**2000-10** OR **2,261,622**  
**2000-10** HS **4,803,458**

**2000-10**                   **US**                   **4,802,453**  
**UK**                   **4,554,483**

**OK**      **4,554,401**  
**NG**      **6,356,956**

2000-09	6,857,662
2000-10	5,367,661

2000-10 / 06 / 08 10:10:10

13,924,743

# 程序代写代做 CS 编程辅导

# Cube vs. Rollup (example 2)

程序代写代做 CS 编程辅导

```
SELECT channel_desc, country_id, SUM(amount_sold) as SALES$  
FROM sales, customers, times, channels  
WHERE sales.time_id = times.time_id  
    AND sales.cust_id = customers.cust_id  
    AND sales.channel_id = channels.channel_id  
    AND channels.channel_desc IN ('Direct Sales', 'Internet')  
    AND times.calendar_month_desc = '2000-09'  
    AND country_id IN ('UK', 'US')  
GROUP BY CUBE(channel_desc, country_id);
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

CHANNEL_DESC	COUNTRY_ID	SALES\$
Direct Sales	UK	1,378,126
Direct Sales	US	2,835,557
Direct Sales		4,213,683
Internet	UK	11,739
Internet	US	1,732,240
Internet		2,643,979
	UK	2,289,865
	US	4,567,797
		6,857,662

# Cube vs. Rollup (example 2)

程序代写代做 CS 编程辅导

```
SELECT channel_desc, country_id, SUM(amount_sold) as SALES$  
FROM sales, customers, times, channels  
WHERE sales.time_id = times.time_id  
    AND sales.cust_id = customers.cust_id  
    AND sales.channel_id = channels.channel_id  
    AND channels.channel_desc IN ('Direct Sales', 'Internet')  
    AND times.calendar_month_desc = '2000-09'  
    AND country_id IN ('UK', 'US')  
GROUP BY ROLLUP (channel_desc, country_id);
```



CHANNEL_DESC	COUNTRY_ID	SALES\$
Direct Sales	UK	1,378,126
Direct Sales	US	2,835,557
Direct Sales		4,213,683
Internet	UK	11,739
Internet	US	1,732,240
Internet		2,643,979
	UK	2,289,865
	US	4,567,797
		6,857,662

Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

# Grouping: query

程序代写代做 CS编程辅导

- It is important to differentiate between aggregate NULL values that appear in the output when using CUBE or ROLLUP, as opposed to the ‘null’ values when data is not recorded. *In the result sets from CUBE or ROLLUP, the NULL values represent All aggregateAssignment Project Exam Help*
- GROUPING** clause displays information about which rows are subtotal and for which level of aggregation. *Assignment Project Exam Help* It also shows the difference between subtotal values and ‘null’ values.
- GROUPING appears in the SELECT statement list.



WeChat: cstutorcs  
<https://tutorcs.com>

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Grouping: query (example)

程序代写代做 CS 编程辅导

```
SELECT channel_desc, calendar_month_desc AS Month, country_id AS CO, SUM(amount) AS Sales$,
       GROUPING(channel_desc) AS GChannel, GROUPING(calendar_month_desc) AS Month, GROUPING(country_id) AS Cou
FROM sales, customers, times, channels
WHERE sales.time_id = times.time_id
      AND sales.cust_id = customers.cust_id
      AND sales.channel_id = channels.channel_id
      AND channels.channel_desc IN ('Direct Sales', 'Internet')
      AND times.calendar_month_desc IN ('2000-09', '2000-10')
      AND country_id IN ('UK', 'US')
GROUP BY ROLLUP(channel_desc, calendar_month_desc, country_id);
```



Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Grouping: output

# 程序代写代做 CS编程辅导

CHANNEL_DESC	CALE	SALES\$	CH	MO	COU
Direct Sales	2000-09	1,378,126	0	0	0
Direct Sales	2000-09	2,835,557	0	0	0
Direct Sales	2000-09	4,213,083	0	0	1
Direct Sales	2000-10 UK	1,388,051	0	0	0
Direct Sales	2000-10 US	2,908,706	0	0	0
Direct Sales	2000-10	4,296,757	0	0	1
Direct Sales		8,516,440	0	1	1
Internet	2000-09 UK	911,739	0	0	0
Internet	2000-09 US	11,732,240	0	0	0
Internet	2000-09	2,643,979	0	0	1
Internet	2000-10 UK	876,571	0	0	0
Internet	2000-10 US	1,893,753	0	0	0
Internet	2000-10	2,770,324	0	0	1
Internet		5,414,303	0	1	1
Internet		13,924,743	1	1	1



# Grouping and Decode: query

程序代写代做 CS编程辅导

DECODE can be used to display appropriate titles for the subtotals



```
SELECT
    DECODE(GROUPING(channel_desc), 1, 'All Channels', channel_desc) AS Channel,
    DECODE(GROUPING(country_id), 1, 'All Countries', country_id) AS Country,
    SUM(amount_sold) AS SALES
FROM sales, customers, times, channels
WHERE sales.time_id=times.time_id
    AND sales.cust_id=customers.cust_id
    AND sales.channel_id=channels.channel_id
    AND channels.channel_desc IN ('Direct Sales', 'Internet')
    AND times.calendar_month_desc= '2000-09'
    AND country_id IN ('UK', 'US')
GROUP BY CUBE(channel_desc, country_id);
```

# Grouping and Decode: output

程序代写代做 CS编程辅导

CHANNEL	COUNTRY	SALES\$
---------	---------	---------

---

Direct Sales	UK	1,378,126
--------------	----	-----------

Direct Sales	US	2,835,555
--------------	----	-----------

Direct Sales	All Countries	4,213,683
--------------	---------------	-----------

Internet	UK	911,739
----------	----	---------

Internet	US	1,732,240
----------	----	-----------

Internet	All Countries	2,643,979
----------	---------------	-----------

All Channels	UK	2,289,865
--------------	----	-----------

All Channels	US	476,797
--------------	----	---------

All Channels	All Countries	6,857,662
--------------	---------------	-----------

 Assignment Project Exam Help  
WeChat: cstutorcs  
<https://tutorcs.com>

WeChat: cstutorcs  
Email: tutorcs@163.com

# Grouping and Decode: output

程序代写代做 CS编程辅导



User's

Assignment Project Exam Help

	UK	US	All Countries
Direct Sales	1,378,126	2,835,557	4,213,683
Internet	911,739	1,732,240	2,643,979
All Channels	2,289,865	4,567,797	6,857,662

<https://tutorcs.com>

程序代写代做 CS编程辅导



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

OLAP Queries:

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

Partial Cube and Partial Rollup

QQ: 749389476

<https://tutorcs.com>

# Partial Cube and Partial Rollup

程序代写代做 CS 编程辅导

## Partial ROLLUP

Rollup to include only some subtotals



GROUP BY ~~expr1, expr2, expr3~~  
ROLLUP (~~expr1, expr2, expr3~~)

WeChat: cstutorcs  
<https://tutorcs.com>

- First-level subtotals aggregating across ~~expr3~~ for each combination of ~~expr2~~ and ~~expr1~~
- Second-level subtotals aggregating across ~~expr2~~ and ~~expr3~~ for each ~~expr1~~ value
- No grand total aggregating across all ~~expr1, expr2, expr3~~

QQ: 749389476  
<https://tutorcs.com>

# Basic Rollup

程序代写代做 CS编程辅导

```
SELECT channel_desc, calendar_month_desc AS calendar,
       country_id AS co, SUM(sold) AS SALES$  
FROM sales, customers, times, channels  
WHERE sales.time_id = times.time_id  
      AND sales.cust_id = customers.cust_id  
      AND sales.channel_id = channels.channel_id  
      AND channels.channel_desc IN ('Direct Sales', 'Internet')  
      AND times.calendar_month_desc IN ('2000-09', '2000-10')  
      AND country_id IN ('UK', 'US')  
GROUP BY ROLLUP(channel_desc, calendar_month_desc, country_id);
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

# Basic Rollup

程序代写代做 CS编程辅导

CHANNEL\_DESC

-----  
Direct Sales

Internet

Internet

Internet

Internet

Internet

Internet

Internet

CALE CO SALES\$

-----

2000 UK 1,378,126

2000 US 2,835,557

2000-09 4,213,683

2000-10 UK 1,388,051

2000-10 US 2,908,706

2000-10 4,296,757

Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

1,732,240

2,643,979

876,571

1,893,753

2,770,324

5,414,303

13,924,743



# Partial Rollup

程序代写代做 CS编程辅导

```
SELECT channel_desc, calendar_month_desc AS calendar,
       country_id AS co, SUM(sold) AS SALES$  
FROM sales, customers, times, channels  
WHERE sales.time_id = times.time_id  
      AND sales.cust_id = customers.cust_id  
      AND sales.channel_id = channels.channel_id  
      AND channels.channel_desc IN ('Direct Sales', 'Internet')  
      AND times.calendar_month_desc IN ('2000-09', '2000-10')  
      AND country_id IN ('UK', 'US')  
GROUP BY channel_desc, ROLLUP(calendar_month_desc, country_id);
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

# Partial Rollup

程序代写代做 CS编程辅导

CHANNEL\_DESC

-----

Direct Sales

Direct Sales

Direct Sales

Direct Sales

Direct Sales

Direct Sales

Internet

Internet

Internet

Internet

Internet

Internet

Internet

Internet

CALE CO SALES\$

-----

2000 UK 1,378,126

2000 US 2,835,557

2000-09 4,213,683

2000-10 UK 388,051

2000-10 US 2,908,706

2000-10 4,296,557

Assignment Project Exam Help

WeChat: cstutorcs1, 388,051

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs8,510,440

Email: tutorcs@163.com

2000-09 UK 311,739

2000-09 US 1,732,240

2000-09 QQ: 749389476 2,643,979

2000-10 UK 876,571

2000-10 US 1,893,753

2000-10 2,770,324

Grand total excluded 5,414,303

(empty channel\_desc) 13,924,743



# Partial Cube and Partial Rollup

程序代写代做 CS 编程辅导

## Partial CUBE

Partial CUBE resembles partial ROLLUP in that you can limit it to certain dimensions and precede columns outside the CUBE operator.



Assignment Project Exam Help

In this case, subtotals of all possible combinations are limited to the dimensions within the cube list (in parentheses), and they are combined with the preceding items in the GROUP BY list.

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

GROUP BY expr1, CUBE (expr2, expr3)

QQ: 749389476

<https://tutorcs.com>

# Basic Cube

程序代写代做 CS编程辅导

```
SELECT channel_desc, calendar_month_desc AS calendar,
       country_id AS co, SUM(sold) AS SALES$  
FROM sales, customers, times, channels  
WHERE sales.time_id = times.time_id  
      AND sales.cust_id = customers.cust_id  
      AND sales.channel_id = channels.channel_id  
      AND channels.channel_desc IN ('Direct Sales', 'Internet')  
      AND times.calendar_month_desc IN ('2000-09', '2000-10')  
      AND country_id IN ('UK', 'US')  
GROUP BY CUBE(channel_desc, calendar_month_desc, country_id);
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

# Basic Cube

CHANNEL_DESC	CALENDAR
Direct Sales	2000-09
Direct Sales	2000-09
Direct Sales	2000-09
Direct Sales	2000-10
Internet	2000-09
Internet	2000-09
Internet	2000-09
Internet	2000-10
Internet	2000-09
Internet	2000-09
Internet	2000-10
Internet	2000-10

程序代写代做 CS 编程辅导

CO SALES\$



1,378,126  
2,835,557  
4,213,683  
1,388,051  
2,908,706  
4,296,757  
2,768,177

UK US

5,744,263  
3,510,440

UK US

911,739  
1,732,240

UK US

1,643,579  
1,893,753

UK US

1,788,310  
3,625,993

UK US

5,414,303  
2,289,865

UK US

4,567,797  
2,264,622

UK US

4,802,459  
4,554,487

9,370,256

6,857,662

7,067,081

13,924,743

Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Partial Cube

程序代写代做 CS编程辅导

```
SELECT channel_desc, calendar_month_desc AS calendar,
       country_id AS co, SUM(sold) AS SALES$  
FROM sales, customers, times, channels  
WHERE sales.time_id = times.time_id  
      AND sales.cust_id = customers.cust_id  
      AND sales.channel_id = channels.channel_id  
      AND channels.channel_desc IN ('Direct Sales', 'Internet')  
      AND times.calendar_month_desc IN ('2000-09', '2000-10')  
      AND country_id IN ('UK', 'US')  
GROUP BY channel_desc, CUBE(calendar_month_desc, country_id);
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476



# Partial Cube vs. Partial Rollup

# 程序代写代做 CS 编程辅导

	SALES\$
UK	1,378,126
US	2,835,557
UK	4,213,683
US	1,388,051
UK	2,908,706
US	4,296,757
UK	2,766,171
US	5,744,263
UK	3,510,440
US	911,719
UK	1,732,240
US	2,643,979
UK	876,571
US	1,893,753
UK	2,710,324
UK	1,788,310
US	3,625,993
UK	5,414,303
QQ: 749389476	
UK	2,289,865
US	4,567,797
UK	2,264,622
US	4,802,459
UK	4,554,487
US	9,370,256
	6,857,662
	7,067,081
	13,924,743



# Assignment Project Exam Help

US 5,744,263  
WeChat: cstutorcs  
S,510,440  
https://tutorcs.com  
ISK 91,1739

Assignment Project Exam Help CUBE

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 7493894

<https://tutorcs.com> US 4,567,797  
UK 2,864,628

# Only in Partial

# **Excluded**

(empty Channel\_Desc)



程序代写代做 CS编程辅导



# OLAP Queries: Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

# Advanced Analysis

- Rank (Rank and Dense Rank) WeChat: cstutorcs
- Row Number Email: tutorcs@163.com
- Percent Rank
- Cumulative Aggregate and Moving Aggregate QQ: 749389476

<https://tutorcs.com>

程序代写代做 CS编程辅导



# OLAP Queries: Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

# Advanced Analysis

- Rank (Rank and Dense Rank) Assignment Project Exam Help
- Row Number WeChat: cstutorcs
- Percent Rank Email: tutorcs@163.com
- Cumulative Aggregate and Moving Aggregate QQ: 749389476

<https://tutorcs.com>

# Advanced Analysis (Rank)

程序代写代做 CS编程辅导

## RANK

Computes the **rank** of a record compared to other records in the dataset based on the values of a set of measures, for example finding the top three items sold last year.



WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>



MONASH  
University

# RANK

程序代写代做 CS编程辅导

Syntax:



**RANK( ) OVER ( [query\_partition\_clause] order\_by\_clause)**

Assignment Project Exam Help

**DENSE\_RANK( ) OVER ( [query\_partition\_clause]  
order\_by\_clause)**

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

The difference between RANK and DENSE\_RANK is that DENSE\_RANK leaves no gaps in ranking sequence when there are ties.

QQ: 749389476

<https://tutorcs.com>

# RANK (example)

程序代写代做 CS编程辅导

The ORDER BY clause specifies the  on which ranking is done and defines the order in which rows are sorted in each group.

Once the data is sorted, ranks are given to each row starting from 1

```
SELECT channel_desc,  
       SUM(amount_sold) as SALES$,  
       RANK() OVER (ORDER BY SUM(amount_sold)) AS default_rank,  
       RANK() OVER (ORDER BY SUM(amount_sold) DESC) AS custom_rank  
FROM sales, products, customers, times, channels  
WHERE sales.prod_id=products.prod_id  
      AND sales.cust_id=customers.cust_id  
      AND sales.time_id=times.time_id  
      AND sales.channel_id=channels.channel_id  
      AND times.calendar_month_desc IN ('2000-09', '2000-10')  
      AND country_id='US'  
GROUP BY channel_desc;
```

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# RANK (output)

程序代写代做 CS编程辅导

CHANNEL_DESC	SALES\$	LT_RANK	CUSTOM_RANK
Direct Sales	5,744,26	1	
Internet	3,625,993	2	
Catalog	1,858,386	3	
Partners	1,500,213	4	
Tele Sales	604,656	5	



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# RANK vs. DENSE\_RANK

程序代写代做 CS编程辅导

```
SELECT channel_desc,  
       SUM(amount_sold) as SALES$,  
       RANK() OVER (ORDER BY SUM(amou  
AS custom_rank  
FROM ...  
WHERE ...  
GROUP BY channel_desc;
```



DESC)

Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

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

CHANNEL_DESC	SALES\$	CUSTOM_RANK
Direct Sales	5,744,283	1
Internet	3,625,993	2
Catalog	3,625,993	2
Partners	1,500,213	4
Tele Sales	604,656	5

QQ: 749389476

<https://tutorcs.com>



MONASH  
University

# RANK vs. DENSE\_RANK

程序代写代做 CS编程辅导

```
SELECT channel_desc,  
       SUM(amount_sold) as SALES$,  
       DENSE_RANK() OVER (ORDER BY SUM(amount_sold) DESC)  
AS custom_rank  
FROM ...  
WHERE ...  
GROUP BY channel_desc;
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help  
WeChat: cstutorcs

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

CHANNEL_DESC	SALES\$	CUSTOM_RANK
Direct Sales	5,744,283	1
Internet	3,625,993	2
Catalog	3,625,993	2
Partners	1,500,213	3
Tele Sales	604,656	4

QQ: 749389476

<https://tutorcs.com>



MONASH  
University

# RANK Per-Group Using PARTITION BY

程序代写代做 CS 编程辅导

The previous example shows without partitioning the groups, which is often used when only **one attribute** is selected to display the ranking.



In cases where we need to display rankings of **multiple attributes**, we will need to **partition** the aggregate so that appropriate ranking can be displayed for each of the specified attributes.

Assignment Project Exam Help  
WeChat: cstutorcs  
<https://tutorcs.com>

When displaying a rank with multiple attributes, we have the option of displaying one rank on one attribute partitioning only, or to display more than one ranks based on a number of partitioning.

<https://tutorcs.com>

# RANK Per-Group Using PARTITION BY (example)

程序代写代做 CS 编程辅导

```
SELECT channel_desc, calendar_month_desc AS calendar,
```

```
    TO_CHAR(SUM(amount_sold)) AS total_sales$,
```

```
    RANK() OVER (PARTITION BY channel_desc
```

```
        ORDER BY SUM(amount_sold) DESC) AS RANK_BY_CHANNEL
```

```
FROM sales, products, customers, times, channels
```

```
WHERE sales.prod_id=products.prod_id
```

```
    AND sales.cust_id=customers.cust_id
```

```
    AND sales.time_id=times.time_id
```

```
    AND sales.channel_id=channels.channel_id
```

```
    AND times.calendar_month_desc
```

```
        IN ('2000-08', '2000-09', '2000-10', '2000-11')
```

```
    AND channels.channel_desc
```

```
        IN ('Direct Sales', 'Internet')
```

```
GROUP BY channel_desc, calendar_month_desc;
```



Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>



MONASH  
University

# RANK Per-Group Using PARTITION BY (output)

程序代写代做 CS 编程辅导

CHANNEL_DESC	CALENDAR	SALE	RANK_BY_CHANNEL
Direct Sales	2000-08	9,58	4
Internet	2000-08	6,094,390	4
Direct Sales	2000-09	9,652,037	3
Internet	2000-09	6,147,023	3
Direct Sales	2000-10	10,035,473	WeChat: cstutorcs
Internet	2000-10	6,417,697	Email: tutorcs@163.com
Direct Sales	2000-11	12,217,068	QQ: 749389476
Internet	2000-11	7,821,208	1 <a href="https://tutorcs.com">https://tutorcs.com</a>



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutores

Email: tutorcs@163.com

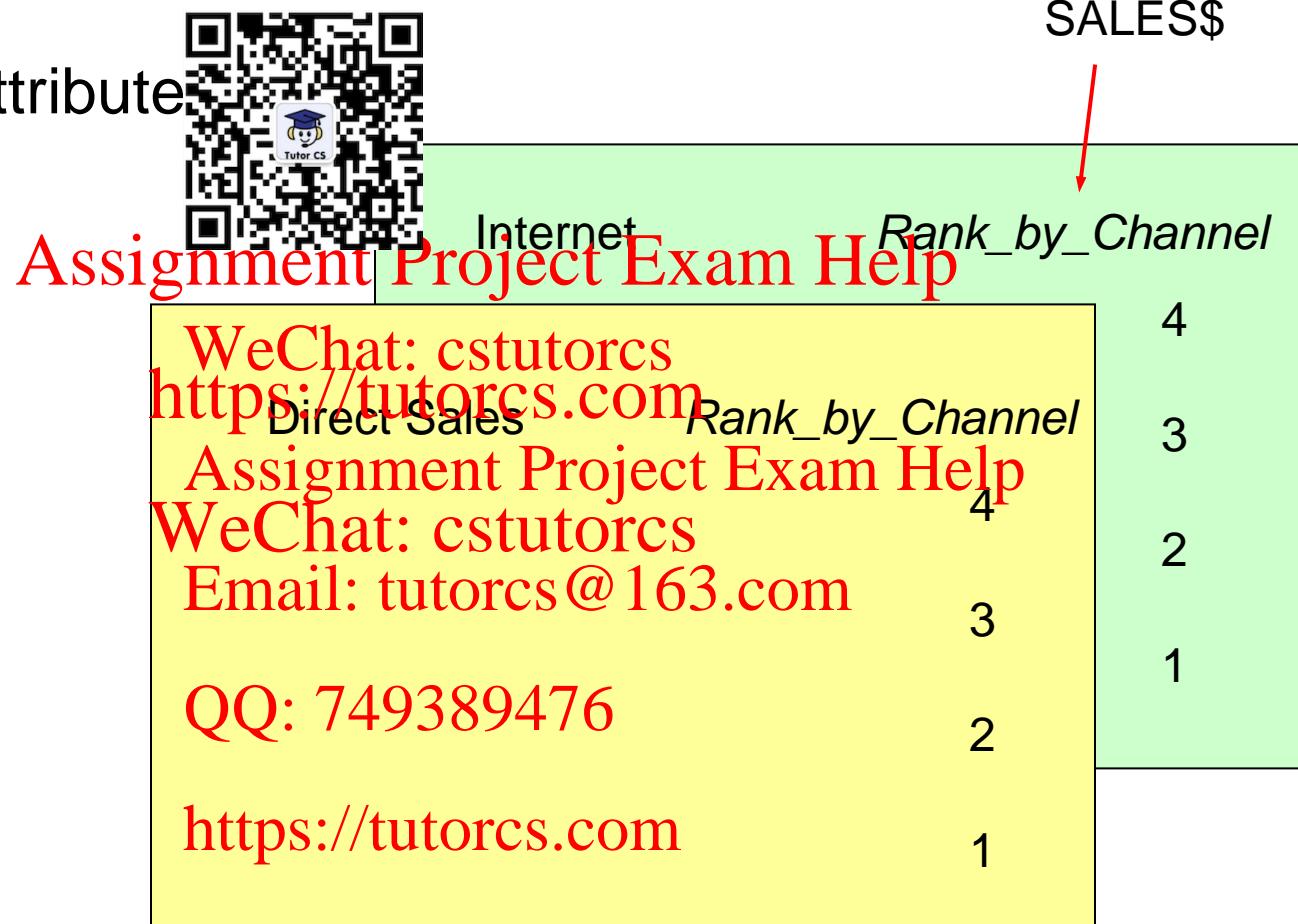
QQ: 749389476

1  
<https://tutorcs.com>

# RANK Per-Group Using PARTITION BY (visualization)

程序代写代做 CS 编程辅导

Partition by one attribute  
(channel\_desc):



# RANK Multiple-Groups Using PARTITION BY

程序代写代做 CS编程辅导

The previous example shows PARTITION BY one group only, we can also partition the ranks into more than one group:

```
SELECT channel_desc, calendar_month_desc AS month, SUM(amount_sold) AS total_sales, RANK() OVER (PARTITION BY channel_desc ORDER BY SUM(amount_sold) DESC) AS RANK_BY_CHANNEL, RANK() OVER (PARTITION BY calendar_month_desc ORDER BY SUM(amount_sold) DESC) AS RANK_BY_MONTH FROM sales, products, customers, times, channels WHERE sales.prod_id=products.prod_id AND sales.cust_id=customers.cust_id AND sales.time_id=times.time_id AND sales.channel_id=channels.channel_id AND times.calendar_month_desc IN ('2000-08', '2000-09', '2000-10', '2000-11') AND channels.channel_desc IN ('Direct Sales', 'Internet') GROUP BY channel_desc, calendar_month_desc;
```



Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# RANK Multiple-Groups Using PARTITION BY

程序代写代做 CS编程辅导

CHANNEL_DESC	CALENDAR	SALES\$	BY_CHANNEL	RANK_BY_MONTH
Direct Sales	2000-08	9,588,1	4	1
Internet	2000-08	6,084,390	4	2
Direct Sales	2000-09	9,652,037	3	1
Internet	2000-09	6,147,023	3	2
Direct Sales	2000-10	10,035,478	2	1
Internet	2000-10	6,417,697	2	2
Direct Sales	2000-11	12,217,068	QQ: 749389476	1
Internet	2000-11	7,821,208	1	2



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

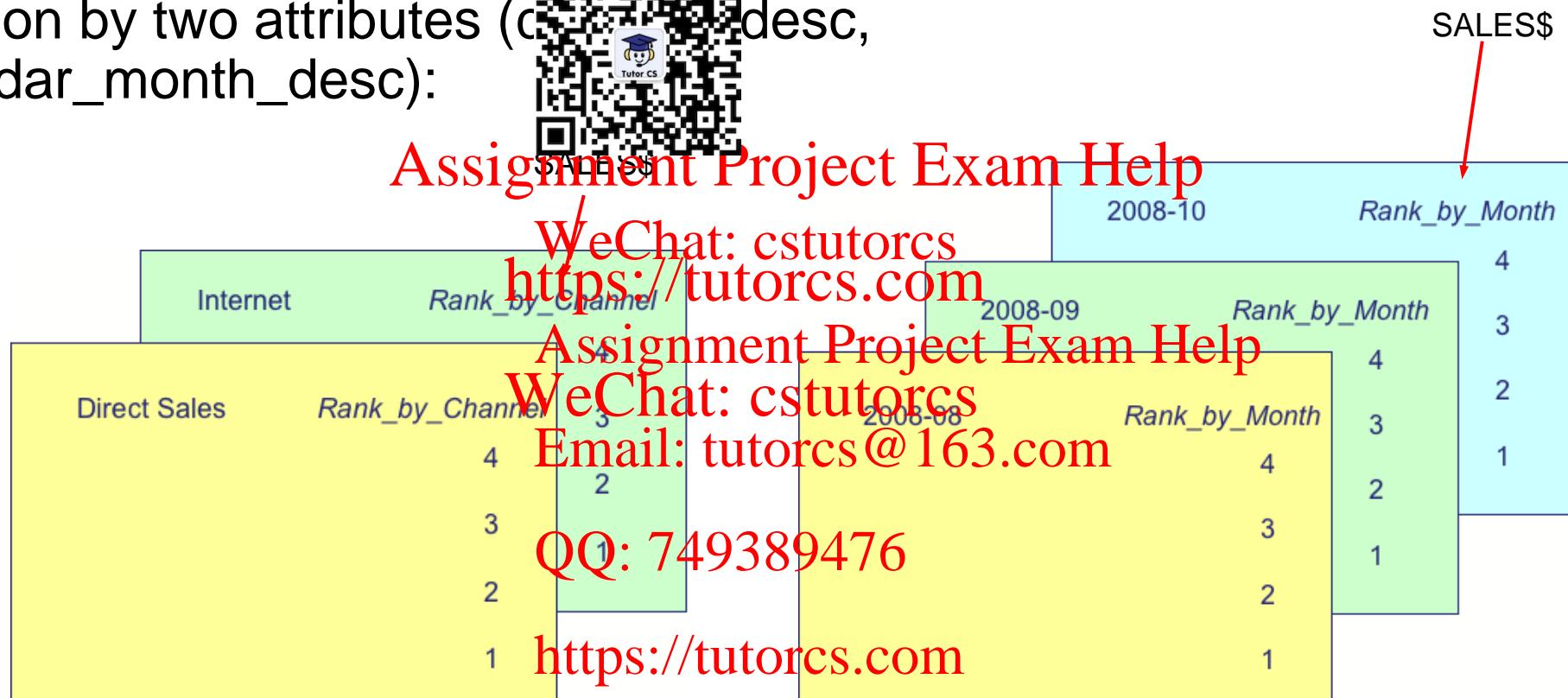
WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476  
<https://tutorcs.com>

# RANK Per-Group Using PARTITION BY (visualization)

程序代写代做 CS 编程辅导

Partition by two attributes (category\_desc,  
calendar\_month\_desc):



# Top N RANKING

程序代写代做 CS编程辅导

Using the RANK function, we can now display Top N ranking based on a certain ranking attribute (where N is an integer value, e.g., 5).



```
SELECT *
FROM
(SELECT country_id, SUM(amount_sold) AS SALES$,
 RANK() OVER (ORDER BY SUM(amount_sold) DESC) AS COUNTRY_RANK
FROM sales,products,customers,times,channels
WHERE sales.prod_id=products.prod_id
AND sales.cust_id=customers.cust_id
AND sales.time_id=times.time_id
AND sales.channel_id=channels.channel_id
AND times.calendar_month_desc='2000-09'
GROUP BY country_id)
WHERE COUNTRY_RANK <= 5;
```

Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ:

749389476

<https://tutorcs.com>

# Top N RANKING (output)

程序代写代做 CS编程辅导

CO	SALES\$
<hr/>	
US	6,517,786
NL	3,447,121
UK	3,207,243
DE	3,194,765
FR	2,125,572

COUN COUN



RANK

Assignment Project Exam Help

1

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

2

WeChat: cstutorcs

3  
4  
5

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

程序代写代做 CS编程辅导



# OLAP Queries: Assignment Project Exam Help

## Advanced Analysis

- Rank (Rank and Dense Rank)  
WeChat: cstutorcs
- Row Number  
Email: tutorcs@163.com
- Percent Rank  
QQ: 749389476
- Cumulative Aggregate and Moving Aggregate  
<https://tutorcs.com>

# Advanced Analysis (Row Number)

程序代写代做 CS 编程辅导

## Row Number

The ROW\_NUMBER function adds a unique number (sequentially, starting from 1, as defined by ORDER BY) to each row in the partition.



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>  
Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

ROW\_NUMBER is a non-deterministic function, so each tied value could have its row number switched. To ensure deterministic results, you must order on a unique key.

<https://tutorcs.com>

# Row Number

程序代写代做 CS编程辅导

```
SELECT channel_desc, calendar_month_desc AS calendar,
       TO_CHAR(SUM(amount_sold), '999,999') SALES$,
       ROW_NUMBER() OVER (ORDER BY SUM(amount_sold) DESC)
AS ROW_NUMBER
FROM sales, products, customers, times, channels
WHERE sales.prod_id=products.prod_id
      AND sales.cust_id=customers.cust_id
      AND sales.time_id=times.time_id
      AND sales.channel_id=channels.channel_id
      AND times.calendar_month_desc IN ('2000-09', '2000-10')
GROUP BY channel_desc, calendar_month_desc;
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Row Number

程序代写代做 CS编程辅导

CHANNEL_DESC	CALENDAR	SAN	ROW_NUMBER
Direct Sales	2000-10	10,000,000	1
Direct Sales	2000-09	Assignment Project Exam Help WeChat: cstutorcs <a href="https://tutorcs.com">https://tutorcs.com</a>	2
Internet	2000-10	6,000,000	3
Internet	2000-09	6,000,000	4
Catalog	2000-10	3,000,000	5
Catalog	2000-09	3,000,000	6
Partners	2000-10	2,000,000	7
Partners	2000-09	2,000,000	8
Tele Sales	2000-10	1,000,000	9
Tele Sales	2000-09	1,000,000	10



# Row Number vs. Rank vs. Dense Rank

程序代写代做 CS 编程辅导

CHANNEL_DESC	CALENDAR	SALARY	QR_CODE	RANK
Direct Sales	2000-10	10,000,000	1	
Direct Sales	2000-09	9,000,000	2	
Internet	2000-10	6,000,000	3	
Internet	2000-09	6,000,000	3	
Catalog	2000-10	3,000,000	4	
Catalog	2000-09	3,000,000	4	
Partners	2000-10	2,000,000	5	7
Partners	2000-09	2,000,000	5	7
Tele Sales	2000-10	1,000,000	6	9
Tele Sales	2000-09	1,000,000	6	9

Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Row Number vs. Rank vs. Dense Rank

程序代写代做 CS 编程辅导

CHANNEL_DESC	CALENDAR	SALARY	DENSE_RANK
Direct Sales	2000-10	10,000,000	1
Direct Sales	2000-09	Assignment Project Exam Help WeChat: cstutorcs <a href="https://tutorcs.com">https://tutorcs.com</a>	2
Internet	2000-10	6,000,000	3
Internet	2000-09	6,000,000	3
Catalog	2000-10	3,000,000	4
Catalog	2000-09	3,000,000	4
Partners	2000-10	2,000,000	5
Partners	2000-09	2,000,000	5
Tele Sales	2000-10	1,000,000	6
Tele Sales	2000-09	1,000,000	6



程序代写代做 CS编程辅导



# OLAP Queries: Assignment Project Exam Help

## Advanced Analysis

- Rank (Rank and Dense Rank)  
WeChat: cstutorcs
- Row Number  
Email: tutorcs@163.com
- Percent Rank
- Cumulative Aggregate and Moving Aggregate  
QQ: 749389476

<https://tutorcs.com>

# Advanced Analysis (Percent Rank)

程序代写代做 CS 编程辅导

## RANK and DENSE RANK

Computes the **ranking** of a record. The rank of the record is an **integer**. The top rank record is rank 1, the second is rank 2, etc. For example, find the top **3** items sold last year (e.g. rank 1, rank 2, and rank 3).



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

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

QQ: 749389476

<https://tutorcs.com>



MONASH  
University

# Advanced Analysis (Percent Rank)

程序代写代做 CS编程辅导

```
SELECT *  
FROM (  
    SELECT  
        t.time_id as "Time Period"  
        , sum(f.revenue) AS "Revenue"  
        , percent_rank() over  
            (order by sum(f.revenue) desc) as "Percent Rank"  
    FROM dw.TIME t, dw.charter_fact f  
    WHERE t.time_id = f.time_id  
    GROUP BY t.time_id  
) WHERE "Percent Rank" < 0.1;
```



Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

Top 10% revenue

Time P	Revenue	Percent Rank
199503	51144.16	0
199408	49775.51	.024390244
199510	48538.01	.048780488
199409	47647.75	.073170732
199703	45872.32	.097560976



MONASH  
University

# Advanced Analysis (Percent Rank)

程序代写代做 CS编程辅导

```
SELECT *
FROM (
    SELECT
        t.time_id as "Time Period",
        sum(f.revenue) AS "Revenue",
        percent_rank() over
            (order by sum(f.revenue)) as "Percent Rank"
    FROM dw.TIME t, dw.charter_fact f
    WHERE t.time_id = f.time_id
    GROUP BY t.time_id
) WHERE "Percent Rank" >= 0.9;
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

Also top 10% revenue

Time P	Revenue	Percent Rank
199703	45872.32	.902439024
199409	47647.75	.926829268
199510	48538.01	.951219512
199408	49775.51	.975609756
199503	51144.16	1



MONASH  
University

程序代写代做 CS编程辅导



# OLAP Queries: Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

# Advanced Analysis

- Rank (Rank and Dense Rank)  
WeChat: cstutorcs
- Row Number  
Email: tutorcs@163.com
- Percent Rank
- Cumulative Aggregate and Moving Aggregate  
QQ: 749389476

<https://tutorcs.com>

# Advanced Analysis (Cumulative and Moving Aggregates)

程序代写代做 CS 编程辅导

## Cumulative Aggregate

Calculate cumulative values within each window partition.



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

## Moving Aggregate

Calculate moving aggregate values within each window partition.

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

QQ: 749389476

<https://tutorcs.com>

# Cumulative Aggregate

程序代写代做 CS编程辅导

```
SELECT c.cust_id, t.calendar_quarter_desc,  
       TO_CHAR (SUM(amount_sold), '999,999,999') AS Q_SALES,  
       TO_CHAR (SUM(SUM(amount_sold)), '999,999,999') AS CUM_SALES  
  (ORDER BY c.cust_id, t.calendar_quarter_desc)  
  ROWS UNBOUNDED PRECEDING) AS CUM_SALES  
FROM sales s, times t, customers c  
WHERE s.time_id=t.time_id  
AND s.cust_id=c.cust_id  
AND t.calendar_year=1999  
AND c.cust_id = 6380  
GROUP BY c.cust_id, t.calendar_quarter_desc;
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Cumulative Aggregate

程序代写代做 CS编程辅导

CUST_ID	CALENDAR_Q	Q_SALES
6380	1999-Q1	60,621
6380	1999-Q2	68,213
6380	1999-Q3	75,238
6380	1999-Q4	57,412



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

- The analytic function SUM defines, for each row, a window that starts at the beginning of the partition (UNBOUNDED PRECEDING) and ends, by default, at the current row.
- Nested SUMs are needed in this example since we are performing a SUM over a value that is itself a SUM.
- Nested aggregations are used very often in analytic aggregate functions.

# Cumulative Aggregate (with Partition)

程序代写代做 CS 编程辅导

```
SELECT c.cust_id, t.calendar_quarter_desc,
       TO_CHAR (SUM(amount_sold), '999,999,999') AS Q_SALES,
       TO_CHAR (SUM(SUM(amount_sold))
                (PARTITION BY c.cust_id
                 ORDER BY c.cust_id, t.calendar_quarter_desc
                 ROWS UNBOUNDED PRECEDING),
              '9,999,999,999') AS CUM_SALES
  FROM sales s, times t, customers c
 WHERE s.time_id=t.time_id
   AND s.cust_id=c.cust_id
   AND t.calendar_year=1999
   AND c.cust_id IN (6380, 6510)
 GROUP BY c.cust_id, t.calendar_quarter_desc;
```



WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

CUST_ID	CALENDAR_QUARTER	Q_SALES	CUM_SALES
6380	1999-Q1	60,621	60,621
6380	1999-Q2	68,213	128,834
6380	1999-Q3	75,238	204,072
6380	1999-Q4	57,412	261,484
6510	1999-Q1	63,030	63,030
6510	1999-Q2	74,622	137,652
6510	1999-Q3	69,966	207,617
6510	1999-Q4	63,366	270,983



MONASH  
University

# Moving Aggregate

程序代写代做 CS编程辅导

This example of a time-based window function, for one customer, the moving average of sales for the current month and previous two months:

```
SELECT c.cust_id, t.calendar_quarter_desc,
       TO_CHAR (SUM(amount_sold), '9,999,999,999') AS Q_SALES,
       TO_CHAR (AVG(SUM(amount_sold)) OVER
                 (ORDER BY c.cust_id, t.calendar_month_desc
                  ROWS 2 PRECEDING),
                 '9,999,999,999') AS MOVING_3_MONTH_AVG
  FROM sales s, times t, customers c
 WHERE s.time_id=t.time_id
   AND s.cust_id=c.cust_id
   AND t.calendar_year=1999
   AND c.cust_id IN (6380)
 GROUP BY c.cust_id, t.calendar_month_desc;
```

QQ: 749389476

<https://tutorcs.com>

Assignment Project Exam Help  
WeChat: cstutorcs

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



# Moving Aggregate

程序代写代做 CS编程辅导

CUST\_ID CALENDAR SALES

MOVING



6380	1999-01	19,642
6380	1999-02	19,324
6380	1999-03	21,655
6380	1999-04	27,091
6380	1999-05	16,367
6380	1999-06	24,755
6380	1999-07	31,332
6380	1999-08	22,835
6380	1999-09	21,071
6380	1999-10	19,279
6380	1999-11	18,206
6380	1999-12	19,927

Assignment Project Exam Help

WeChat: cstutorcs

<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

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

26,307

QQ: [749389476](#)

21,062

<https://tutorcs.com>

19,519  
19,137

- Note that the first two rows for the three month moving average calculation in the output data are based on a **smaller interval size** than specified because the window calculation cannot reach past the data retrieved by the query.



MONASH  
University

程序代写代做 CS编程辅导



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Cumulative and Moving Aggregate

程序代写代做 CS 编程辅导

## Example:

```
select TimeID, sum(Total_Sales) as Total_Sales,  
       sum(sum(Total_Sales)) over (order by TimeID  
           rows unbounded preceding) as Cumulative_Sales  
from SalesFact S, TimeDim T  
where S.TimeID = T.TimeID  
and Year = 2019  
and LocationID in ('MEL')  
group by TimeID;
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Cumulative and Moving Aggregate

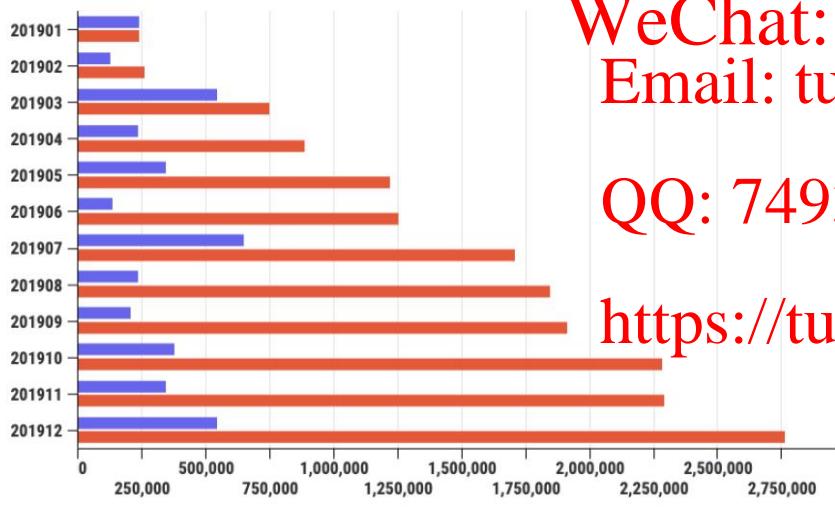
程序代写代做 CS 编程辅导



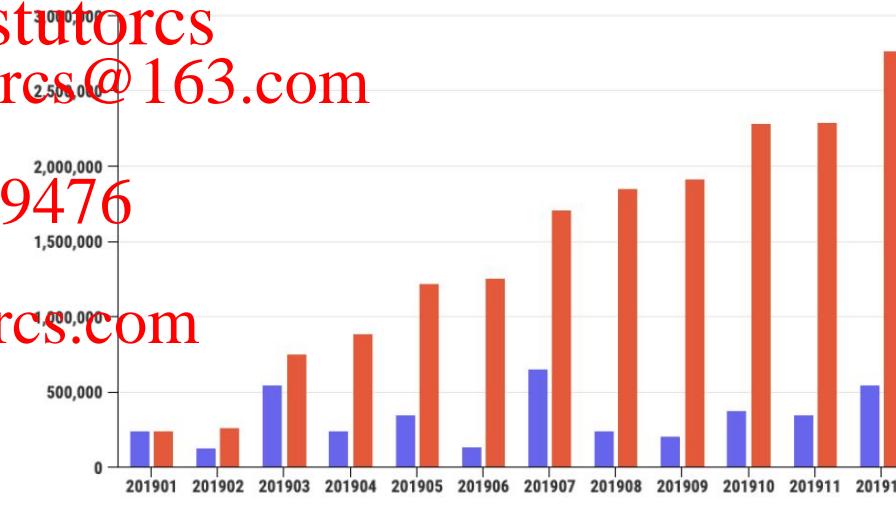
(a)



(b)



(c)



(d)

Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Cumulative and Moving Aggregate

程序代写代做 CS 编程辅导

- To drill-down:

```
select S.TimeID, ProductName  
      , sum(Total_Sales) as Tot.  
from SalesFact S, TimeDim T, ProductDim P  
where S.TimeID = T.TimeID  
and S.ProductID = P.ProductID  
and Year = 2019  
and LocationID in ('MEL')  
group by S.TimeID, ProductName;
```



Assignment Project Exam Help

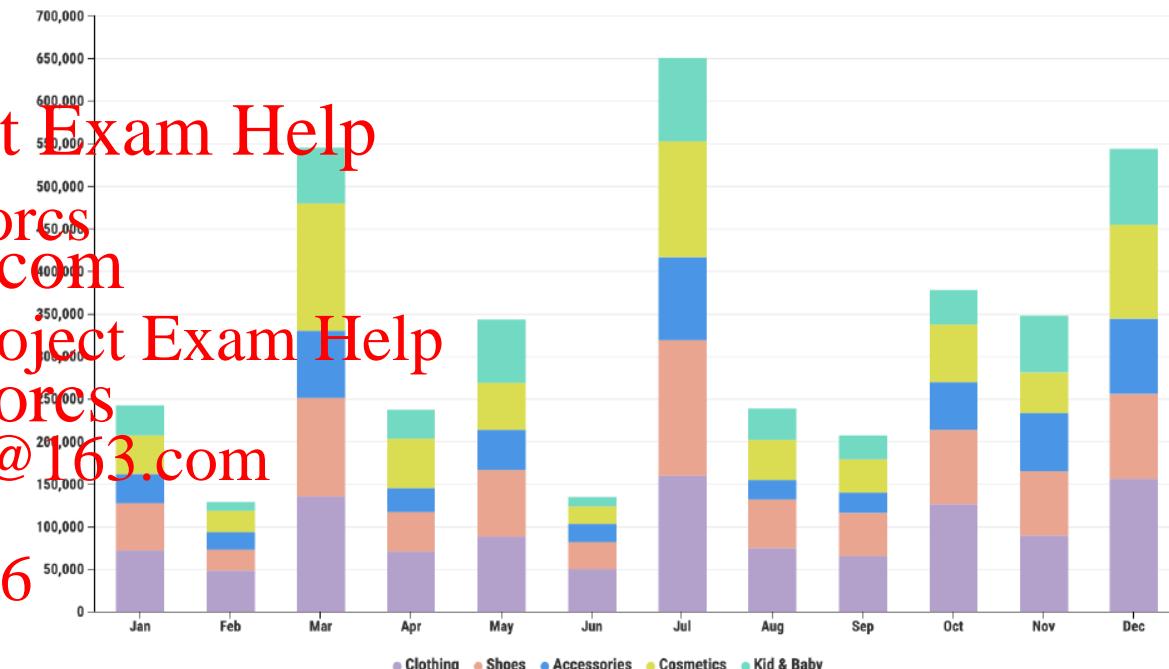
WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>



MONASH  
University

# Cumulative and Moving Aggregate

程序代写代做 CS 编程辅导



# Cumulative and Moving Aggregate

程序代写代做 CS 编程辅导

## Moving Aggregate:

```
select S.TimeID, sum(Total_Sales) as Total_Sales,  
       avg(sum(Total_Sales)) over (order by S.TimeID rows 2 preceding)  
           as Avg_3_Months  
from SalesFact S, TimeDim T  
where S.TimeID = T.TimeID  
and Year = 2019  
and LocationID in ('MEL')  
group by S.TimeID;
```



Assignment Project Exam Help

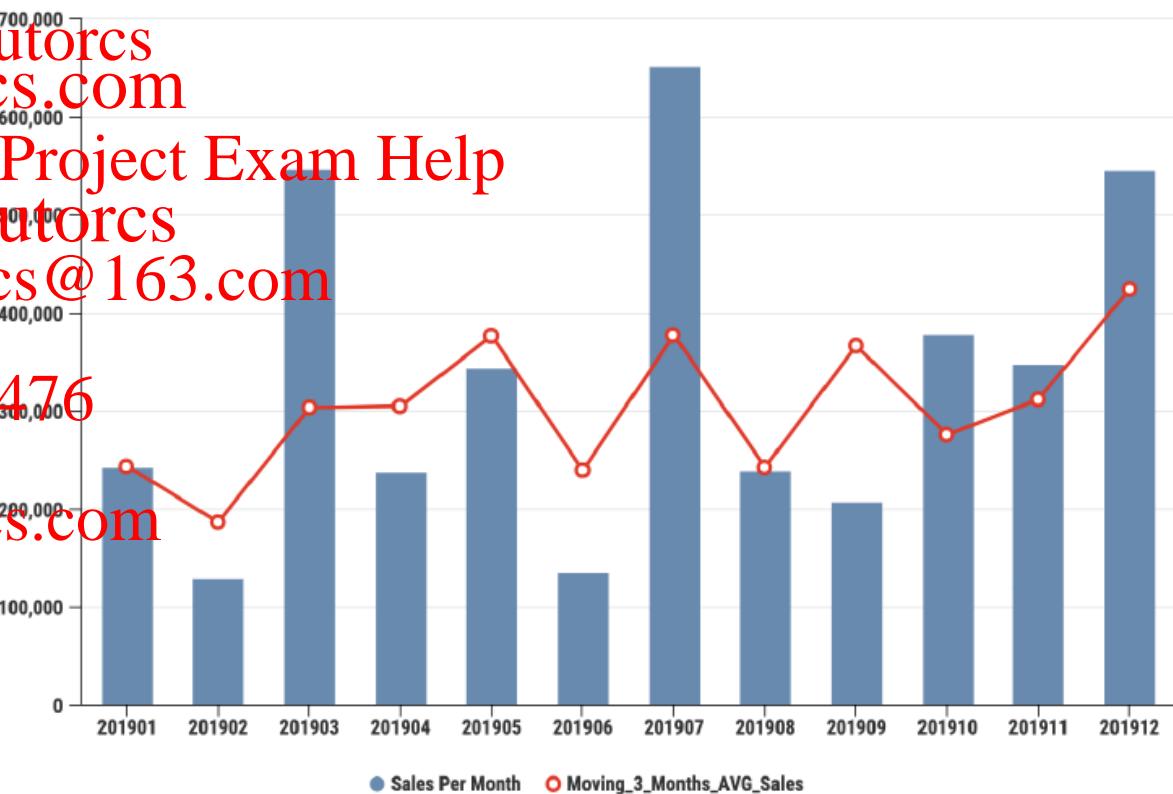
WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>



# Ratio

程序代写代做 CS编程辅导

```
select Location, sum(Total_Sales) as Total_Sales  
from SalesFact S, TimeDim T, LocationDim L  
where S.TimeID = T.TimeID  
and S.LocationID = L.LocationID  
and Year = 2019  
group by Location;
```



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs

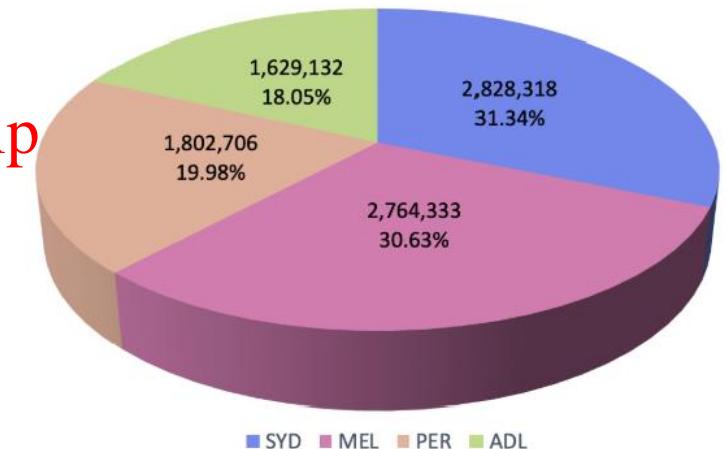
Email: tutorcs@163.com

Perth: 1,802,706

QQ: 749389476

<https://tutorcs.com>

(a)



(b)



MONASH  
University

# Ratio

程序代写代做 CS编程辅导

- To drill down into Product level

```
select Location, ProductName,  
       sum(Total_Sales) as Total_Sales  
  from SalesFact S, TimeDim T,  
       LocationDim L, ProductDim P  
 where S.TimeID = T.TimeID  
   and S.LocationID = L.LocationID  
   and S.ProductID = P.ProductID  
   and Year = 2019  
group by Location, ProductName  
order by Location, ProductName;
```



Sales of Each Product in Sydney 2018



Clothing  
Kids & Baby  
Accessories  
Cosmetics  
Shoes

Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

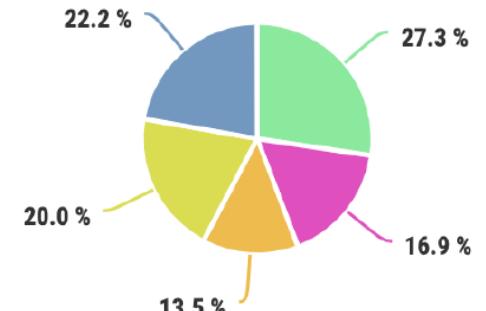
QQ: 749389476

<https://tutorcs.com>



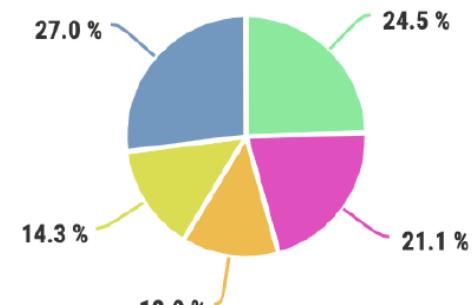
Clothing  
Kids & Baby  
Accessories  
Cosmetics  
Shoes

Sales of Each Product in Melbourne 2018



Clothing  
Kids & Baby  
Accessories  
Cosmetics  
Shoes

Sales of Each Product in Adelaide 2018



Clothing  
Kids & Baby  
Accessories  
Cosmetics  
Shoes



MONASH  
University

# Ranking

```
select ProductName,  
       sum(Total_Sales) as Total_Sa  
from SalesFact S,  
     TimeDim T,  
     ProductDim P  
where S.TimeID = T.TimeID  
and S.ProductID = P.ProductID  
and Year = 2019  
group by ProductName  
order by ProductName;
```

程序代写代做 CS 编程辅导



Assignment Project Exam Help

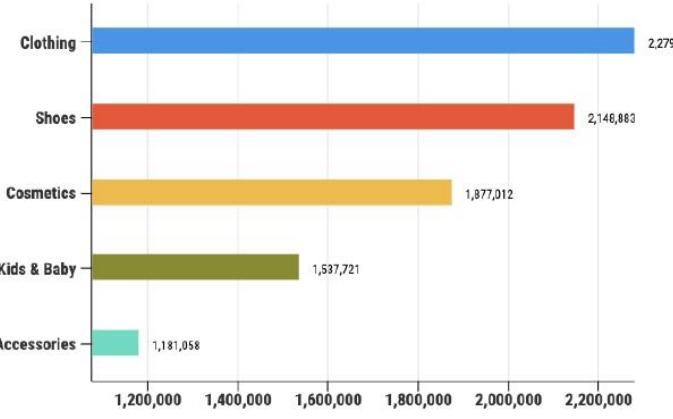
WeChat: cstutorcs  
<https://tutorcs.com>

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

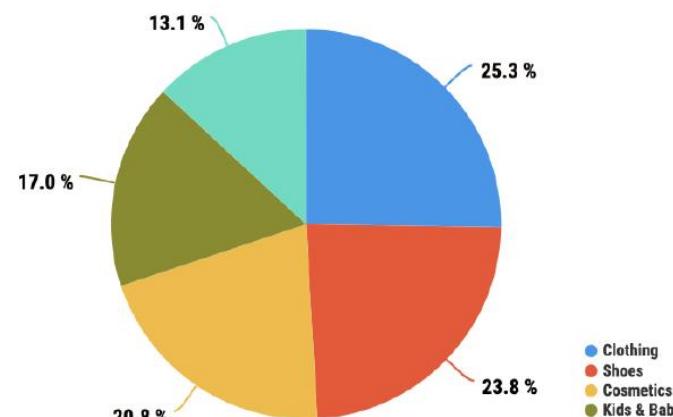
QQ: 749389476

<https://tutorcs.com>

(c)



(b)



(d)

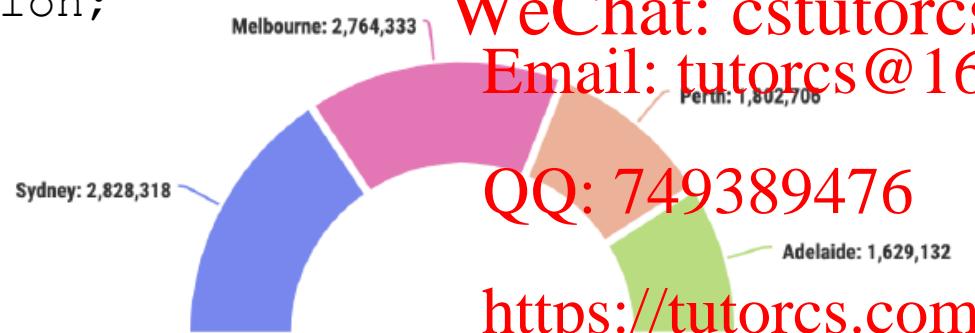


MONASH  
University

# Ranking

程序代写代做 CS编程辅导

```
select Location, sum(Total_Sale) as Total_Sales  
from SalesFact S, TimeDim T, LocationDim L  
where S.TimeID = T.TimeID  
and S.LocationID = L.LocationID  
and Year = 2019  
group by Location  
order by Location;
```



(a)

Assignment Project Exam Help

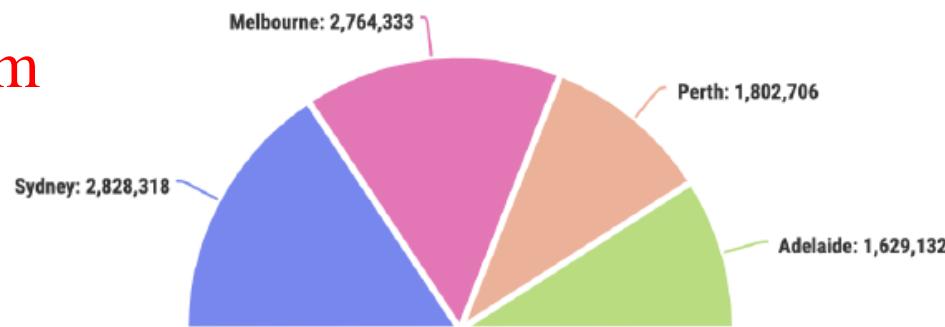
WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

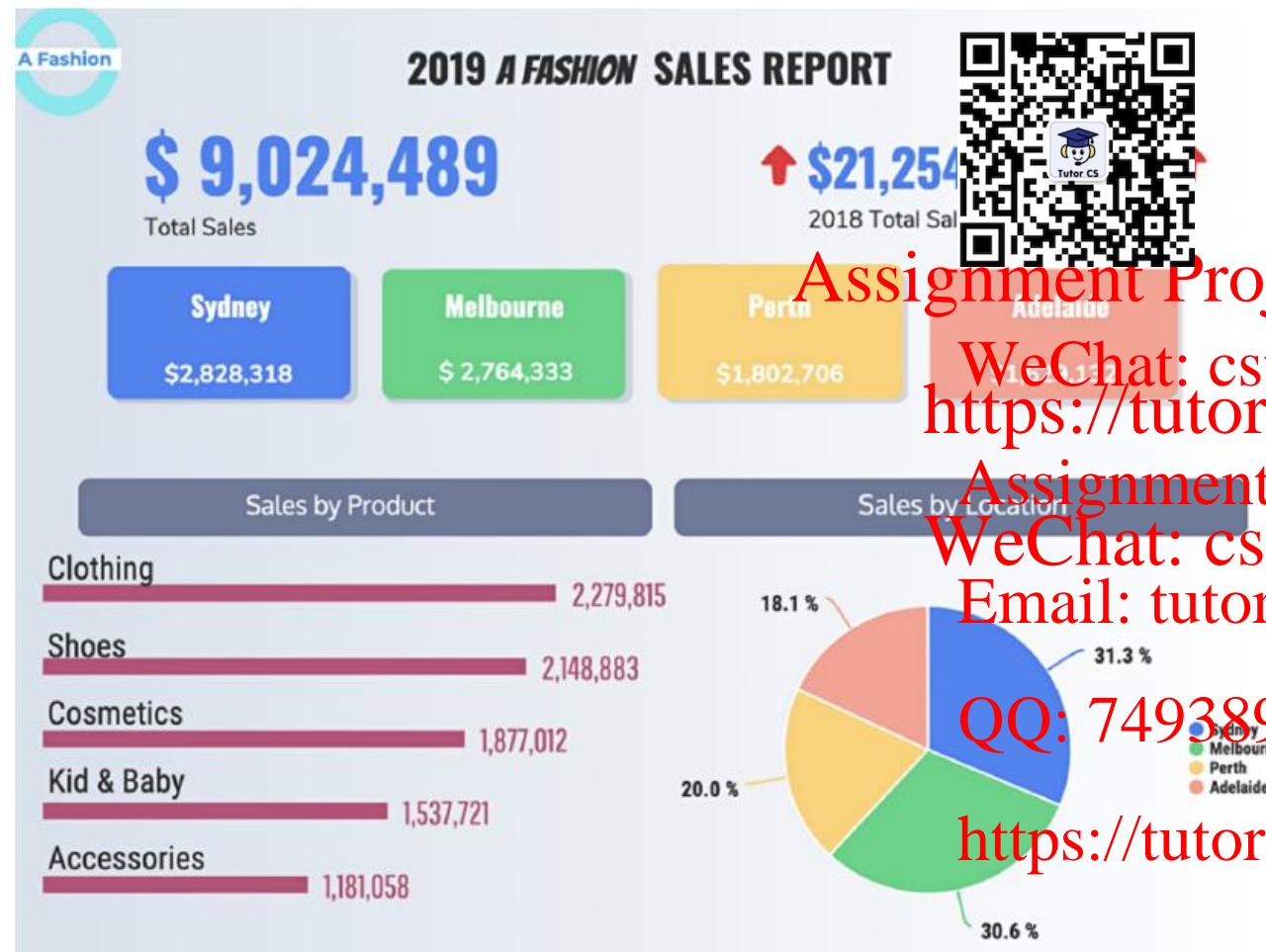
<https://tutorcs.com>



(b)

# A More Complete Report

程序代写代做 CS 编程辅导



Assignment Project Exam Help

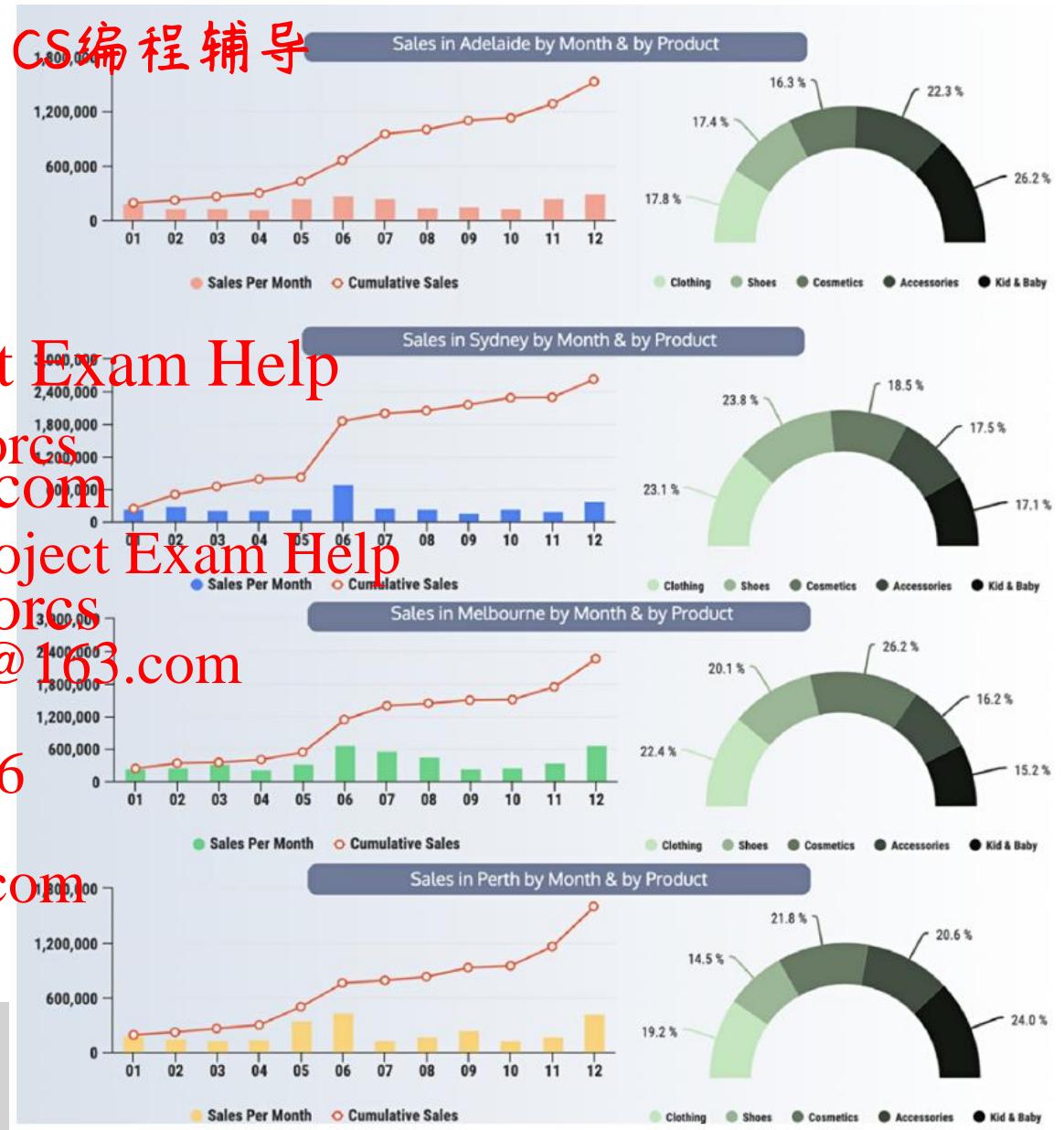
WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>



程序代写代做 CS编程辅导



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>

# Summary – OLAP

程序代写代做 CS编程辅导

- The OLAP queries:

- a) **Basic aggregate functions:** count, sum, avg, max, and min. The group by clause is often used in conjunction with these basic aggregate functions.
- b) **Cube and Rollup:** group by cube, and group by rollup. Simple formatting of the query results can be enhanced thru decode and grouping functions.
- c) **Ranking and Partition:** rank() over and dense\_rank() over functions. The row\_number() over function has some similarities (as well as differences) to the ranking functions. The partition clause in the ranking function can be used to partition dataset; each with its own ranking.
- d) **Top-N and Top-Percentage Ranking:** use of nested queries to retrieve Top-N, and percent\_rank function to retrieve Top-Percentage rankings.
- e) **Cumulative and Moving Aggregate:** row unbounded preceding or row n proceeding can be used to get the cumulative or moving aggregate values.



Assignment Project Exam Help

WeChat: cstutorcs  
<https://tutorcs.com>

Assignment Project Exam Help

WeChat: cstutorcs  
Email: tutorcs@163.com

QQ: 749389476

<https://tutorcs.com>