FREE SAMPLE
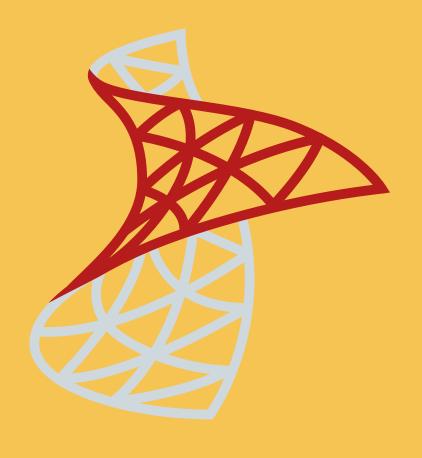
SQL
CHALLENGES

Scenario based data challenges with solutions

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SQL

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SQL CHALLENGES

Prepared by Rajanand Ilangovan

01. CRICKET TEAM SELECTION

Question:

The Indian Premier League (IPL) is planning to start a new T10 series and want to launch a pilot quickly. The management wants to select the players into three teams randomly instead of auction.

Write an SQL query to randomly group players into three teams. Each team should have one all rounder, spin bowler, and wicket keeper and two batsman, and fast bowler.

dbo.teams

team_id	team_name
1	Chennai Super Kings
2	Royal Challengers Bangalore
3	Kolkata Knight Riders

dbo.players

player_id	player_name	role
1	Virat Kohli	Batsman
2	Joe Root	Batsman
3	Steven Smith	Batsman
4	Babar Azam	Batsman
5	David Warner	Batsman
6	Jos Buttler	Batsman
7	Adam Gilchrist	Wicket Keeper
8	MS Dhoni	Wicket Keeper
9	Kumar Sangakkara	Wicket Keeper
10	Ravindra Jadeja	All Rounder
11	Hardik Pandya	All Rounder
12	Glenn Maxwell	All Rounder
13	Ravichandran Ashwin	Spin Bowler
14	Muttiah Muralitharan	Spin Bowler
15	Anil Kumble	Spin Bowler
16	Jasprit Bumrah	Fast Bowler
17	Umran Malik	Fast Bowler
18	Brett Lee	Fast Bowler
19	Shaun Tait	Fast Bowler
20	Shoaib Akthar	Fast Bowler
21	James Anderson	Fast Bowler

Each team should have 7 players

Role	Player Count
All Rounder	1
Batsman	2
Fast Bowler	2
Spin Bowler	1
Wicket Keeper	1
	7

example output

team_name	role	player_name
Chennai Super Kings	All Rounder	Hardik Pandya
Chennai Super Kings	Batsman	Jos Buttler
Chennai Super Kings	Batsman	Virat Kohli
Chennai Super Kings	Fast Bowler	Shaun Tait
Chennai Super Kings	Fast Bowler	James Anderson
Chennai Super Kings	Spin Bowler	Anil Kumble
Chennai Super Kings	Wicket Keeper	MS Dhoni
Kolkata Knight Riders	All Rounder	Glenn Maxwell
Kolkata Knight Riders	Batsman	Babar Azam
Kolkata Knight Riders	Batsman	Steven Smith
Kolkata Knight Riders	Fast Bowler	Umran Malik
Kolkata Knight Riders	Fast Bowler	Brett Lee
Kolkata Knight Riders	Spin Bowler	Muttiah Muralitharan
Kolkata Knight Riders	Wicket Keeper	Kumar Sangakkara
Royal Challengers Bangalore	All Rounder	Ravindra Jadeja
Royal Challengers Bangalore	Batsman	Joe Root
Royal Challengers Bangalore	Batsman	David Warner
Royal Challengers Bangalore	Fast Bowler	Jasprit Bumrah
Royal Challengers Bangalore	Fast Bowler	Shoaib Akthar
Royal Challengers Bangalore	Spin Bowler	Ravichandran Ashwin
Royal Challengers Bangalore	Wicket Keeper	Adam Gilchrist

02. CONSISTENT PERFOMER

Question:

You have two tables called players and score_details. The player table contains player detail and score_details table contains each innings the players have played and runs scored.

Write an SQL query to list out the players who have consecutively scored 30+ runs at least 3 times.

dbo.players

player_id	player_name
1	Devon Conway
2	Ruturaj Gaikwad
3	Ambati Rayudu
4	Robin Uthappa

expected output

player_name	scored_at_least	consecutive_innings
Ruturaj Gaikwad	30	5
Robin Uthappa	30	4

dbo.score_detail

innings_id	player_id	score
1	1	35
1	2	50
1	3	20
1	4	30
2	1	5
2	2	40
2	3	8
2	4	32
3	1	40
3	2	77
3	3	25
3	4	44
4	1	62
4	2	54
4	3	20
4	4	31
5	1	2
5	2	82
5	3	29
5	4	1

SQL CHALLENGES

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03. TRAVELLER'S DILEMMA

Question:

You are planning to go for a summer vacation and decided on the cities you want to visit. But you have not finalized in which order you want to visit them yet.

Write a SQL query to list out all different possible order you can visit these cities.
Note that you neither want to visit the same city again nor skip any city in your travel plan.

dbo.city

id	city_name
1	Oslo
2	Helsinki
3	Stockholm
4	Copenhagen

expected output

id	travel_path
1	Copenhagen -> Helsinki -> Oslo -> Stockholm
2	Copenhagen -> Helsinki -> Stockholm -> Oslo
3	Copenhagen -> Oslo -> Helsinki -> Stockholm
4	Copenhagen -> Oslo -> Stockholm -> Helsinki
5	Copenhagen -> Stockholm -> Helsinki -> Oslo
6	Copenhagen -> Stockholm -> Oslo -> Helsinki
7	Helsinki -> Copenhagen -> Oslo -> Stockholm
8	Helsinki -> Copenhagen -> Stockholm -> Oslo
9	Helsinki -> Oslo -> Copenhagen -> Stockholm
10	Helsinki -> Oslo -> Stockholm -> Copenhagen
11	Helsinki -> Stockholm -> Copenhagen -> Oslo
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21	Stockholm -> Helsinki -> Copenhagen -> Oslo
22	Stockholm -> Helsinki -> Oslo -> Copenhagen
23	Stockholm -> Oslo -> Copenhagen -> Helsinki
24	Stockholm -> Oslo -> Helsinki -> Copenhagen

04. UNGROUP TABLE

Question:

You have an orders table with orders details. You have to ungroup the data based on the order quantity. The amount column in the output should be an amount of a single quantity.

Assume that the product's amount will be same regardless of the quantity ordered.

Write an SQL query to degroup the orders table.

dbo.orders

order_id	product	quantity	amount
1001	Laptop	1	75000
1001	Monitor	2	30000
1002	Speaker	4	12000

expected output

order_id	product	quantity	amount
1001	Laptop	1	75000
1001	Monitor	1	15000
1001	Monitor	1	15000
1002	Speaker	1	3000
1002	Speaker	1	3000
1002	Speaker	1	3000
1002	Speaker	1	3000

05. COUNTRY DROPDOWN

Question:

There is a retail company in US which majorly serves customers in US, UK and Canada. They want the shipping country drop down in the web application to list the countries in the below order.

US, UK, Canada and rest of the countries they serve in ascending order.

Write an SQL query to sort the dropdown country value in custom order.

dbo.country

country_code	country_name
AF	Afghanistan
BH	Bahrain
CA	Canada
DK	Denmark
EC	Ecuador
FO	Faroe Islands
DE	Germany
HT	Haiti
IS	Iceland
JM	Jamaica
KZ	Kazakhstan
LA	Laos
MG	Madagascar
NA	Namibia
OM	Oman
PK	Pakistan
QA	Qatar
RO	Romania
CH	Switzerland
TW	Taiwan
UK	United Kingdom
US	United States of America
VA	Vatican City
WF	Wallis and Futuna
YE	Yemen
ZM	Zambia

expected output

country_code	country_name
US	**United States of America**
UK	**United Kingdom**
CA	**Canada**
AF	Afghanistan
BH	Bahrain
DK	Denmark
EC	Ecuador
FO	Faroe Islands
DE	Germany
HT	Haiti
IS	Iceland
JM	Jamaica
KZ	Kazakhstan
LA	Laos
MG	Madagascar
NA	Namibia
OM	Oman
PK	Pakistan
QA	Qatar
RO	Romania
CH	Switzerland
TW	Taiwan
VA	Vatican City
WF	Wallis and Futuna
YE	Yemen
ZM	Zambia

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