

University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 4

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Group Number: 72

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

Table of Contents

1. A brief description of the final project and what it accomplished:

In our final project, we implemented:

- Insertion, Selection, Aggregation with Group By, Aggregation with Having on **Player_Info table**;
- Join on **Player_Info** and **Player_Record2 tables**;
- Nested Aggregations with Group By on **Mission2 table**;
- Division on **Player_Record2** and **Mission2** tables
- Deletion on the **Player_Record2** table
- Update on the **Player_Info** table

Our project allows game developers to analyze various aspects of players and their corresponding records, including the distribution of in-game time and missions taken by players in different regions, which record track missions with all possible names etc. Moreover, it can potentially allow the game to automatically insert and populate the Player_Info table when a player registers and chooses their NPC ally.

2. A description of how our final schema differed from the schema we turned in:

Among the tables we created, populated and chosen to be used to demonstrate the functions we implemented, the only thing changed in the final schema is that instead of having

- Table 1: Player (PID: varchar, playerName: varchar, region: varchar, joinDate: date, inGameHour: int)
- Table 2: NPC_Ally (NID: varchar, pointDeduction: int, perk: varchar)
- Table 3: Partners (PID: varchar, NID: varchar, formDate: date, numMissions: int)
- Table 4: Player_Record (RID: varchar, **PID: varchar**, overallRanking: int, totalPoints: int)",

WE NOW HAVE:

- Table 1: Player_Info (PID: varchar, RID: varchar, NID: varchar, playerName: varchar, region: varchar, joinDate: date, inGameHour: int, formDate: date, numMissions: int)
- Table 2: NPC_Ally (NID: varchar, pointDeduction: int, perk: varchar)
- Table 3: Player_Record (RID: varchar, overallRanking: int, totalPoints: int).

The change is made based on the TA's feedback for our Milestone 2, which suggested that our original schema doesn't make sense. Instead, we should combine Player (Entity), Partners (Relationship) and Linked (Relationship) into one relation, with PID as primary key and RID, NID as unique foreign keys (due to the one-to-one relationships).

3. A list of all SQL queries used and where it can be found in the code:

1. SELECT Count(*) FROM Player_Info WHERE PID = '\$insPID' - Line 383 of m4.php
2. SELECT Count(*) FROM Player_Record2 WHERE RID = '\$insRID' - Line 391 of m4.php
3. SELECT Count(*) FROM Player_Info WHERE RID = '\$insRID' - Line 392 of m4.php
4. SELECT Count(*) FROM NPC_Ally2 WHERE NID = '\$insNID' - Line 403 of m4.php
5. SELECT Count(*) FROM Player_Info WHERE NID = '\$insNID' - Line 404 of m4.php
6. UPDATE Player_Info

```
SET playerName=''' . $new_pname . ''',
region=''' . $new_pregion . ''',
joinDate=TO_DATE('' . $new_pjoindate . '', 'YYYY-MM-DD')
inGameHour=''' . $new_ingamehr . ''',
formDate=TO_DATE(''$new_allyformationdate . '', 'YYYY-MM-DD'),
numMissions=''' . $new_num_missions . ''
WHERE PID=''' . $selected_pid . '''''
```
- Line 485 of m4.php

7. SELECT * FROM Player_Info, Player_Info \$whereClause - Line 551 of m4.php
8. SELECT * FROM Player_Info, Player_Record2 WHERE Player_Info.RID =
Player_Record2.RID AND totalPoints >= \$minPoint - Line 561 of m4.php
9. SELECT Player_Record2.RID FROM Player_Record2 WHERE NOT EXISTS
(SELECT DISTINCT Mission2.missionName
FROM Mission2)
MINUS
(SELECT DISTINCT Mission2.missionName
FROM Mission2
WHERE Mission2.RID = Player_Record2.RID))
- Line 577 of m4.php
10. SELECT region, sum(inGameHour) AS total_hours FROM Player_Info GROUP BY
region - Line 602 of m4.php
11. SELECT region, sum(numMission) AS total_missions FROM Player_Info GROUP BY
region HAVING sum(numMissions) >= 10 - Line 620 of m4.php
12. CREATE VIEW Temp AS
SELECT RID, AVG(durationInMinutes) AS avgTime
FROM Mission2
GROUP BY RID
- Line 638 of m4.php
13. SELECT Temp.RID AS RID, Temp.avgTime AS result
FROM Temp
WHERE Temp.avgTime = (SELECT MAX(Temp.avgTime)
FROM Temp)
- Line 644 of m4.php
14. SELECT Count(*) FROM Player_Info - Line 667 of m4.php

15. SELECT * FROM Player_Info - Line 677 of m4.php
16. SELECT * FROM Player_Record2 - Line 683 of m4.php
17. SELECT * FROM Mission2 - Line 698 of m4.php
18. insert into Player_Info values (:bind1, :bind2, :bind3, :bind4, :bind5, TO_DATE(:bind6, 'YYYY-MM-DD'), :bind7, TO_DATE(:bind8, 'YYYY-MM-DD'), :BIND9)
 - Line 438 of m4.php
19. DELETE
 FROM Player_Record2 R
 WHERE R.RID = :delRID
 - Line 462 of m4.php

All tables present

[SQL> select table_name from user_tables;

TABLE_NAME

NPC_ALLY1

NPC_ALLY2

PLAYER_RECORD1

PLAYER_RECORD2

PLAYER_INFO

MISSION2

6 rows selected.

SQL> █

Table Descriptions

Name	Null?	Type
PERK	NOT NULL	VARCHAR2(30)
POINTDEDUCTION		NUMBER(38)

SQL> describe NPC_Ally2

Name	Null?	Type
NID	NOT NULL	VARCHAR2(30)
PERK		VARCHAR2(100)

SQL> describe Player_Record1

Name	Null?	Type
TOTALPOINTS	NOT NULL	NUMBER(38)
OVERALLRANKING		NUMBER(38)

SQL> describe Player_Record2

Name	Null?	Type
RID	NOT NULL	VARCHAR2(30)
TOTALPOINTS		NUMBER(38)

SQL> describe Player_Info

Name	Null?	Type
PID	NOT NULL	VARCHAR2(30)
RID		VARCHAR2(30)
NID		VARCHAR2(30)
PLAYERNAME		VARCHAR2(60)
REGION		VARCHAR2(60)
JOINDATE		DATE
INGAMEHOUR		NUMBER(38)
FORMDATE		DATE
NUMMISSIONS		NUMBER(38)

SQL> describe Mission2

Name	Null?	Type
MID	NOT NULL	VARCHAR2(30)
RID		VARCHAR2(30)
MISSIONNAME		VARCHAR2(60)
COMPLETIONSTATUS		NUMBER(38)
NUMATTEMPTM		NUMBER(38)
DURATIONINMINUTES		NUMBER(38)

SQL> select table_name from user_tables

[SQL]> SELECT * FROM NPC_ALLY1; Data in NPC - Ally1 After Initialization

PERK	POINTDEDUCTION
Firebreathing	4
Invisibility	3
Teleportation	5
Flying	3
Superspeed	4
Defense Boost	2
Offense Boost	2

7 rows selected.

[SQL]> SELECT * FROM NPC_ALLY2; Data in NPC - Ally2 After Initialization

NID

PERK

N1

Firebreathing

N2

Invisibility

N3

Teleportation

NID

PERK

N4

Flying

N5

Superspeed

N6

Defense Boost

NID

PERK

N7

Defense Boost

7 rows selected.

```
[SQL]> SELECT * FROM PLAYER_RECORD1;
```

Data in Player-Record1 After Initialization

TOTALPOINTS	OVERALLRANKING
-------------	----------------

100	1
99	2
88	3
77	4
66	5
55	6
44	7

7 rows selected.

```
[SQL]> SELECT * FROM PLAYER_RECORD2;
```

Data in Player-Record2 After Initialization

RID	TOTALPOINTS
-----	-------------

R1	44
R2	55
R3	66
R4	77
R5	88
R6	99
R7	100

7 rows selected.

[SQL]> SELECT * FROM PLAYER_INFO;

Data in Player_Info After Initialization (Part 1)

PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR	FORMDATE	NUMMISSIONS
P1	R1	
N1		
John Smith		
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR	FORMDATE	NUMMISSIONS
North America		02-FEB-24
0	02-FEB-24	3
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR	FORMDATE	NUMMISSIONS
P2	R2	
N2		
David Thompson		
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR	FORMDATE	NUMMISSIONS
Asia		01-JAN-24
50	01-MAR-24	4
PID	RID	JOINDATE

50 01-MAR-24

4

Data in Player-Info After Initialization (Part 2)

PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
P3	R3	
N3		
Jane Doe		
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
Oceania		05-AUG-18
300 05-AUG-18	30	
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
P4	R4	
N4		
Tammy Na		
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
Asia		28-OCT-20
195 29-OCT-21	16	

Data in Player_Info After Initialization (Part 3)

PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
P5	R5	
N5		
Charleze Hernandez		
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
South America		30-SEP-21
88 30-OCT-21	17	
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
P6	R6	
N6		
Diego Garcia		
PID	RID	JOINDATE
NID		
PLAYERNAME		
REGION		JOINDATE
INGAMEHOUR FORMDATE NUMMISSIONS		
South America		22-MAY-19
250 22-MAY-19	79	

6 rows selected.

[SQL]> SELECT * FROM MISSION2;

Data in Mission2 After Initialization

MID	RID	COMPLETIONSTATUS
MISSIONNAME	NUMATTEMPTM DURATIONINMINUTES	
M1 Nest	R1 12 340	67
M2 Angus	R1 42 240	45
MID	RID	COMPLETIONSTATUS
MISSIONNAME	NUMATTEMPTM DURATIONINMINUTES	
M3 HEBB	R1 15 350	34
M4 Nest	R4 52 123	47
MID	RID	COMPLETIONSTATUS
MISSIONNAME	NUMATTEMPTM DURATIONINMINUTES	
M5 HEBB	R4 52 123	47
M6	R5	
MID	RID	COMPLETIONSTATUS
MISSIONNAME	NUMATTEMPTM DURATIONINMINUTES	
Angus	R4 12 100	97
M7 Angus	R4 52 123	47

7 rows selected.

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Insert Before

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P4	R4	N4	Tammy Na	Asia	28-OCT-20	195		29-OCT-21	16
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

Reset All Tables

If you wish to reset the table press on the reset button. If this is the first time you're running this page, you MUST use reset

Insert New Player Info

Insert During

Player ID:

Record ID:

NPC ID:

Player Name:

Player Region:

Player Join Date: 

In Game Hour:

Ally formation Date: 

Number of Missions: 

Delete Player Info

Remove a record from the database

Record ID:

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Insert after

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79
123	R7	N7	Jackie	Asia	01-JAN-23	10		31-DEC-23	10

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Display All Records in Mission

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Find Record IDs of Records that Track All Missions

Delete before (1)

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P4	R4	N4	Tammy Na	Asia	28-OCT-20	195		29-OCT-21	16
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Delete before (2)

Retrieved data from table Player Record:

Record ID Total Points

R1	44
R2	55
R3	66
R4	77
R5	88
R6	99
R7	100

Player Name:

Player Region:

Player Join Date: yyyy-mm-dd

In Game Hour:

Ally formation Date: yyyy-mm-dd

Number of Missions:

Delete Player Info Delete During

Remove a record from the database

Record ID: R4

Update Attribute(s) in Player_Info

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

Enter Player ID to Update:

New Player Name:

New Player Region:

New Player Join Date: yyyy-mm-dd

New In Game Hour:

Submit

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Delete after (1)

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Display All Records in Mission

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Find Record IDs of Records that Track All Missions

Retrieved data from table Player Record:

Delete after 12).

Record ID Total Points

R1	44
R2	55
R3	66
R5	88
R6	99
R7	100

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

update before

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P4	R4	N4	Tammy Na	Asia	28-OCT-20	195		29-OCT-21	16
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

Update Attribute(s) in Player_Info

Update during

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

Enter Player ID to Update:

New Player Name:

New Player Region:

New Player Join Date:

New In Game Hour:

New Ally formation Date:

New Number of Missions:

Search for Player Info (case sensitive, please make sure you entered the correct case)

Player Name:

N/A Player Region:

N/A Player Join Date:

N/A In Game Hour:

N/A Ally formation Date:

N/A Number of Missions:

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Update after.

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P4	R4	N4	Jackie	Asia	01-JAN-21	1		31-DEC-21	4
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Select before

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P4	R4	N4	Tammy Na	Asia	28-OCT-20	195		29-OCT-21	16
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

Search for Player Info (case sensitive, please make sure you entered the correct case)

(Like)

Player Name:

Selected during

AND Player Region:

N/A Player Join Date:

N/A In Game Hour:

N/A Ally formation Date:

N/A Number of Missions:

Show Total In Game Hours of All Players by Region

Show Total Missions of All Player by Region (only show regions with total missions ≥ 10)

Count the Number of Records in Player Info

Display All Records in Player Info

Display All Records in Player Info

Submit

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

(print statement).

WHERE playerName LIKE '%m%' AND region = 'Asia'

Retrieved data from table Player Info:

Select after.

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
-----------	-----------	--------	-------------	--------	-----------	--------------	-----------	------	--------------------

P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P4	R4	N4	Tammy Na	Asia	28-OCT-20	195		29-OCT-21	16

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Join Before 1

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79
123	R7	N7	Jackie	Asia	01-JAN-23	10		31-DEC-23	10

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Join Before 2

Retrieved data from table Player Record:

Record ID Total Points

R1	44
R2	55
R3	66
R5	88
R6	99
R7	100

Show Total In Game Hours of All Players by Region

Submit

Show Total Missions of All Player by Region (only show regions with total missions ≥ 10)

Submit

Count the Number of Records in Player Info

Submit

Display All Records in Player Info

Submit

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points \geq

Join during

Submit

Display All Records in Mission

Submit

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Display All Records in Mission

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Find Record IDs of Records that Track All Missions

Join After

Retrieved data from table Player Info and Player Record:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions	Total Points
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30	66
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17	88
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79	99
123	R7	N7	Jackie	Asia	01-JAN-23	10		31-DEC-23	10	100

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Aggregate + Group by Before

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P4	R4	N4	Tammy Na	Asia	28-OCT-20	195		29-OCT-21	16
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

N/A Number of Missions:

Show Total In Game Hours of All Players by Region

Aggregate + Group by During

Show Total Missions of All Player by Region (only show regions with total missions ≥ 10)

Count the Number of Records in Player Info

Display All Records in Player Info

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Total Points \geq

Submit

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Aggregate + Group by After.

Total Number of Hours in Game Grouped by Region:

Region	Total in Game Hours by All Players
Asia	245
Oceania	300
South America	338
North America	0

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Aggregate Having Before

Retrieved data from table Player Info:

Player ID	Record ID	NPC ID	Player Name	Region	Join Date	In Game Hour	Ally Form	Date	Number of Missions
P1	R1	N1	John Smith	North America	02-FEB-24	0		02-FEB-24	3
P2	R2	N2	David Thompson	Asia	01-JAN-24	50		01-MAR-24	4
P3	R3	N3	Jane Doe	Oceania	05-AUG-18	300		05-AUG-18	30
P4	R4	N4	Tammy Na	Asia	28-OCT-20	195		29-OCT-21	16
P5	R5	N5	Charleze Hernandez	South America	30-SEP-21	88		30-OCT-21	17
P6	R6	N6	Diego Garcia	South America	22-MAY-19	250		22-MAY-19	79

N/A In Game Hour:

N/A Ally formation Date: yyyy-mm-dd

N/A Number of Missions:

Show Total In Game Hours of All Players by Region

Show Total Missions of All Player by Region (only show regions with total missions ≥ 10)

Aggregate Having During

Count the Number of Records in Player Info

Display All Records in Player Info

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Display All Records in Player Info

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Display All Records in Mission

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Find Record IDs of Records that Track All Missions

Total Number of Missions in Game Grouped by Region:

Region	Total in Game Missions
Asia	20
Oceania	30
South America	96

Aggregate Having After .

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Nested Agg with Having Before

Retrieved data from table Mission:

Mission ID Record ID Mission Name Completion Status Number of Attempts Duration in Minutes

M1	R1	Nest	67	12	340
M2	R1	Angus	45	42	240
M3	R1	HEBB	34	15	350
M4	R4	Nest	47	52	123
M5	R4	HEBB	47	52	123
M6	R5	Angus	97	12	100
M7	R4	Angus	47	52	123

Display All Records in Player Info

Submit

Display All Records in Player Record

Submit

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Submit

Display All Records in Mission

Submit

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Submit

Find Record IDs of Records that Track All Missions

Submit

Nested Agg with Having After:

Maximum Average Time Spent and the Owning Record ID:

Record ID Average Time Spent

R1 310

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Display All Records in Mission

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Find Record IDs of Records that Track All Missions

Division Before

Retrieved data from table Mission:

Mission ID Record ID Mission Name Completion Status Number of Attempts Duration in Minutes

M1	R1	Nest	67	12	340
M2	R1	Angus	45	42	240
M3	R1	HEBB	34	15	350
M4	R4	Nest	47	52	123
M5	R4	HEBB	47	52	123
M6	R5	Angus	97	12	100
M7	R4	Angus	47	52	123

Display All Records in Player Info

Display All Records in Player Record

Display Player Info and Player Record of Players Satisfying Criteria

Total Points >=

Display All Records in Mission

Compute Maximum Average Time (Minutes) Spent on Each Mission Grouped by Record ID

Find Record IDs of Records that Track All Missions

Division During / After

Record with missions that cover all possible mission names:

Record ID

R1

R4