

TEST PLAN

ID	Test	Element Tested	Expected Result	Actual Result
1	SELECT * FROM TAB WHERE tname IN ('STADIUM', 'TEAM', 'FOOTBALLERS', 'SPONSOR', 'SPONSORSHIP');	Database tables	5 tables returned	As expected
<pre>SQL> SELECT * FROM TAB WHERE tname IN ('STADIUM', 'TEAM', 'FOOTBALLERS', 'SPONSOR', 'SPONSORSHIP');</pre> <pre>TNAME ----- TABTYPE CLUSTERID ----- FOOTBALLERS TABLE SPONSOR TABLE SPONSORSHIP TABLE TNAME ----- TABTYPE CLUSTERID ----- STADIUM TABLE TEAM TABLE</pre>				
2	SELECT constraint_name FROM user_constraints WHERE constraint_name IN ('PK_ST_ID', 'PK_TM_ID', 'PK_FT_ID', 'PK_SP_ID', 'PK_SPONSORSHIP');	All primary keys	5 primary keys returned	As expected
<pre>SQL> SELECT constraint_name FROM user_constraints WHERE constraint_name IN ('PK_ST_ID', 'PK_TM_ID', 'PK_FT_ID', 'PK_SP_ID', 'PK_SPONSORSHIP');</pre> <pre>CONSTRAINT_NAME ----- PK_FT_ID PK_SPONSORSHIP PK_SP_ID PK_ST_ID PK_TM_ID</pre>				
3	SELECT * FROM user_sequences WHERE sequence_name IN ('SEQ_ST_ID', 'SEQ_TM_ID', 'SEQ_FT_ID', 'SEQ_SP_ID');	All sequences	4 sequences returned	As expected

```
SQL> SELECT * FROM user_sequences WHERE sequence_name IN ('SEQ_ST_ID', 'SEQ_TM_ID', 'SEQ_FT_ID', 'SEQ_SP_ID');

SEQUENCE_NAME
-----
MIN_VALUE  MAX_VALUE INCREMENT_BY C O CACHE_SIZE LAST_NUMBER S E S S K
-----
SEQ_FT_ID
1 1.0000E+28          1 N N          20          21 N N N N N
SEQ_SP_ID
1 1.0000E+28          1 N N          20          21 N N N N N
SEQ_ST_ID
1 1.0000E+28          1 N N          20          21 N N N N N

SEQUENCE_NAME
-----
MIN_VALUE  MAX_VALUE INCREMENT_BY C O CACHE_SIZE LAST_NUMBER S E S S K
-----
SEQ_TM_ID
1 1.0000E+28          1 N N          20          21 N N N N N
```

4	SELECT * FROM footballers;	Query # a	11 footballers returned	As expected
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```
SQL> SELECT * FROM footballers;
```

FT_ID	FT_NAME	FT_SURNAME			
TM_ID	FT_	FT_GAMES	FT_GOALS	FT_CONTRACT	FT_EMAIL
FT_COUNTRY			FT_DOB		
NORWAY	1	ERLING			HAALAND
	1	ATT	14	15	27300000 E.HAALAND@IHU.GR
				21-JUL-00	
PORTUGAL	2	RUBEN			DIAS
	1	DEF	17	0	13000000 R.DIAS@IHU.GR
				14-MAY-97	

FT_ID		FT_NAME		FT_SURNAME		
TM_ID	FT_	FT_GAMES	FT_GOALS	FT_CONTRACT	FT_EMAIL	
FT_COUNTRY			FT_DOB			
UKRAINE	3	MYKHAILO			MUDRYK	
	2	ATT	7	2	5000000	M.MUDRYK@IHU.GR
				05-JAN-01		
	4	ROBERT			SANCHEZ	
	2	GK	14	0	3120000	R.SANCHEZ@IHU.GR

FT_ID		FT_NAME		FT_SURNAME	
TM_ID	FT_	FT_GAMES	FT_GOALS	FT_CONTRACT	FT_EMAIL
FT_COUNTRY			FT_DOB		
SPAIN			18-NOV-97		
5 KYLIAN		MBAPPE			
5 ATT		15	16	16200000	K.MBAPPE@IHU.GR
FRANCE			20-DEC-98		
6 TONI		KROOS			

FT_ID		FT_NAME		FT_SURNAME		
TM_ID	FT_	FT_GAMES	FT_GOALS	FT_CONTRACT	FT_EMAIL	
FT_COUNTRY			FT_DOB			
GERMANY	5	MID	2	0	15600000	T.KROOS@IHU.GR
				04-JAN-90		
ENGLAND	7	JUDE			BELLINGHAM	
	5	MID	11	3	20800000	J.BELLINGHAM@IHU.GR
				29-JUN-03		

```

      FT_ID FT_NAME                      FT_SURNAME
-----
      TM_ID FT_   FT_GAMES   FT_GOALS FT_CONTRACT FT_EMAIL
-----
FT_COUNTRY                      FT_DOB
-----
      8 DIAS BELLOLI                      RAPHINIA
      6 ATT           9           4   10500000 RAPHINIA@IHU.GR
BRAZIL                      14-DEC-96

      9 GONZALEZ LOPEZ                      PEDRI
      6 MID           12           2   12500000 G.PEDRI@IHU.GR
SPAIN                      25-NOV-02

      FT_ID FT_NAME                      FT_SURNAME
-----
      TM_ID FT_   FT_GAMES   FT_GOALS FT_CONTRACT FT_EMAIL
-----
FT_COUNTRY                      FT_DOB
-----

      10 JOSHUA                      KIMMICH
      7 DEF           9           0   20000000 J.KIMMICH@IHU.GR
GERMANY                      08-FEB-95

      11 MANUEL                      NEUER
      7 GK           5           0   21000000 M.NEUER@IHU.GR

      FT_ID FT_NAME                      FT_SURNAME
-----
      TM_ID FT_   FT_GAMES   FT_GOALS FT_CONTRACT FT_EMAIL
-----
FT_COUNTRY                      FT_DOB
-----
GERMANY                      27-MAR-86

11 rows selected.

```

5	SELECT tm_name, tm_city, tm_goals FROM team ORDER BY tm_name DESC;	Query # b	3 columns reversed, name, city and goals from team	As expected
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```

SQL> SELECT tm_name, tm_city, tm_goals FROM team ORDER BY tm_name DESC;

TM_NAME                      TM_CITY                      TM_GOALS
-----
REAL MADRID                      MADRID                      78
PARIS SAINT GERMAIN              PARIS                      100
MANCHESTER CITY                  MANCHESTER                  130
CHELSEA                          LONDON                      120
BAYERN                           MUNICH                      99
BARCELONA                        BARCELONA                   102
ATLETICO MADRID                  MADRID                      65

7 rows selected.

```

6	SELECT ft_name, ft_surname, ft_country FROM footballers WHERE ft_country = 'SPAIN';	Query # c.1	2 Spanish players Pedri, Sanchez	As expected						
<pre>SQL> SELECT ft_name, ft_surname, ft_country FROM footballers WHERE ft_country = 'SPAIN';</pre> <table><thead><tr><th>FT_NAME</th><th>FT_SURNAME</th></tr></thead><tbody><tr><td>ROBERT</td><td>SANCHEZ</td></tr><tr><td>GONZALEZ LOPEZ</td><td>PEDRI</td></tr></tbody></table>					FT_NAME	FT_SURNAME	ROBERT	SANCHEZ	GONZALEZ LOPEZ	PEDRI
FT_NAME	FT_SURNAME									
ROBERT	SANCHEZ									
GONZALEZ LOPEZ	PEDRI									
7	SELECT tm_name FROM team WHERE tm_name LIKE 'BA%';	Query # c.2	2 teams that start with BA, Barcelona, Bayern	As expected						
<pre>SQL> SELECT tm_name FROM team WHERE tm_name LIKE 'BA%';</pre> <table><thead><tr><th>TM_NAME</th></tr></thead><tbody><tr><td>BARCELONA</td></tr><tr><td>BAYERN</td></tr></tbody></table>			TM_NAME	BARCELONA	BAYERN					
TM_NAME										
BARCELONA										
BAYERN										
8	SELECT ft_name, ft_surname, ft_country FROM footballers WHERE NOT ft_country = 'GERMANY';	Query # c.3	8 players that are not from Germany	As expected						

```
SQL> SELECT ft_name, ft_surname, ft_country FROM footballers WHERE NOT ft_country = 'GERMANY';
```

FT_NAME	FT_SURNAME	FT_COUNTRY
ERLING	HAALAND	NORWAY
RUBEN	DIAS	PORTUGAL
MYKHAILO	MUDRYK	UKRAINE
ROBERT	SANCHEZ	SPAIN
KYLIAN	MBAPPE	FRANCE
JUDE	BELINGHAM	ENGLAND
DIAS BELLOLI	RAPHINIA	BRAZIL
GONZALEZ LOPEZ	PEDRI	SPAIN

8 rows selected.

9	SELECT ft_name, ft_surname, ft_dob FROM footballers WHERE TO_CHAR(ft_dob,'MM') BETWEEN '03' AND '11';	Query # c.4	6 players born between March and November	As expected
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```
SQL> SELECT ft_name, ft_surname, ft_dob FROM footballers WHERE TO_CHAR(ft_dob,'MM') BETWEEN '03' AND '11'
```

FT_NAME	FT_SURNAME	FT_DOB
ERLING	HAALAND	21-JUL-00
RUBEN	DIAS	14-MAY-97
ROBERT	SANCHEZ	18-NOV-97
JUDE	BELINGHAM	29-JUN-03
GONZALEZ LOPEZ	PEDRI	25-NOV-02
MANUEL	NEUER	27-MAR-86

6 rows selected.

10	SELECT t.tm_name, s.st_name, s.st_review FROM stadium s, team t WHERE s.st_id = t.st_id;	Query # d.1	2 joined tables stadium and team	As expected																								
<pre>SQL> SELECT t.tm_name, s.st_name, s.st_review FROM stadium s, team t WHERE s.st_id = t.st_id;</pre> <table><thead><tr><th>TM_NAME</th><th>ST_NAME</th><th>ST_REVIEW</th></tr></thead><tbody><tr><td>MANCHESTER CITY</td><td>ETIHAD STADIUM</td><td>4</td></tr><tr><td>CHELSEA</td><td>STAMFORD BRIDGE</td><td>4</td></tr><tr><td>PARIS SAINT GERMAIN</td><td>PARC DE PRINCES</td><td>3</td></tr><tr><td>ATLETICO MADRID</td><td>WANDA METROPOLITANO</td><td>4</td></tr><tr><td>REAL MADRID</td><td>SANTIAGO BERNABEU</td><td>5</td></tr><tr><td>BARCELONA</td><td>CAMP NOU</td><td>4</td></tr><tr><td>BAYERN</td><td>ALIANZ ARENA</td><td>5</td></tr></tbody></table> <pre>7 rows selected.</pre>					TM_NAME	ST_NAME	ST_REVIEW	MANCHESTER CITY	ETIHAD STADIUM	4	CHELSEA	STAMFORD BRIDGE	4	PARIS SAINT GERMAIN	PARC DE PRINCES	3	ATLETICO MADRID	WANDA METROPOLITANO	4	REAL MADRID	SANTIAGO BERNABEU	5	BARCELONA	CAMP NOU	4	BAYERN	ALIANZ ARENA	5
TM_NAME	ST_NAME	ST_REVIEW																										
MANCHESTER CITY	ETIHAD STADIUM	4																										
CHELSEA	STAMFORD BRIDGE	4																										
PARIS SAINT GERMAIN	PARC DE PRINCES	3																										
ATLETICO MADRID	WANDA METROPOLITANO	4																										
REAL MADRID	SANTIAGO BERNABEU	5																										
BARCELONA	CAMP NOU	4																										
BAYERN	ALIANZ ARENA	5																										
11	SELECT f.ft_name, f.ft_surname, t.tm_name, s.st_name FROM stadium s JOIN team t ON s.st_id = t.st_id JOIN footballers f ON f.tm_id = t.tm_id;	Query # d.2	3 joined tables stadium, team and footballers	As expected																								

```
SQL> SELECT f.ft_name, f.ft_surname, t.tm_name, s.st_name FROM stadium s JOIN team t ON s.st_id = t.st_id JOIN footballers f ON f.tm_id = t.tm_id
```

FT_NAME	FT_SURNAME
ERLING	HAALAND
MANCHESTER CITY	ETIHAD STADIUM
RUBEN	DIAS
MANCHESTER CITY	ETIHAD STADIUM
MYKHAILO	MUDRYK
CHELSEA	STAMFORD BRIDGE
ROBERT	SANCHEZ
CHELSEA	STAMFORD BRIDGE
KYLIAN	MBAPPE
REAL MADRID	SANTIAGO BERNABEU
TONI	KROOS
REAL MADRID	SANTIAGO BERNABEU
JUDE	BELINGHAM
REAL MADRID	SANTIAGO BERNABEU
DIAS BELLOLI	RAPHINIA
BARCELONA	CAMP NOU
GONZALEZ LOPEZ	PEDRI
BARCELONA	CAMP NOU
JOSHUA	KIMMICH
BAYERN	ALIANZ ARENA
MANUEL	NEUER
BAYERN	ALIANZ ARENA

11 rows selected.

12	SELECT f.ft_name, f.ft_surname, t.tm_name, sp.sp_name, sf.sp_fee FROM footballers f JOIN team t ON f.tm_id = t.tm_id JOIN sponsorship sf ON sf.tm_id = t.tm_id JOIN sponsor sp ON sp.sp_id = sf.sp_id;	Query # d.3	4 joined tables footballers, team, sponsorship and sponsor	As expected
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```
SQL> SELECT f.ft_name, f.ft_surname, t.tm_name, sp.sp_name, sf.sp_fee FROM footballers f JOIN team t ON f.tm_id = t.tm_id JOIN sponsorship sf ON sf.tm_id = t.tm_id JOIN sponsor sp ON sp.sp_id = sf.sp_id;
```

FT_NAME	FT_SURNAME	TM_NAME	SP_NAME	SP_FEE
ERLING	HAALAND	MANCHESTER CITY	ETIHAD	100000000
RUBEN	DIAS	MANCHESTER CITY	ETIHAD	100000000
MYKHAILO	MUDRYK	CHELSEA	NIKE	400000000
ROBERT	SANCHEZ	CHELSEA	NIKE	400000000
KYLIAN	MBAPPE	REAL MADRID	ADIDAS	170000000
TONI	KROOS	REAL MADRID	ADIDAS	170000000
JUDE	BELINGHAM	REAL MADRID	ADIDAS	170000000
DIAS BELLOLI	RAPHINIA	BARCELONA	SPOTIFY	900000000
DIAS BELLOLI	RAPHINIA	BARCELONA	NIKE	460000000
GONZALEZ LOPEZ	PEDRI	BARCELONA	SPOTIFY	900000000
GONZALEZ LOPEZ	PEDRI	BARCELONA	NIKE	460000000
JOSHUA	KIMMICH	BAYERN	AUDI	500000000
JOSHUA	KIMMICH	BAYERN	ADIDAS	900000000
MANUEL	NEUER	BAYERN	AUDI	500000000
MANUEL	NEUER	BAYERN	ADIDAS	900000000

15 rows selected.

13

SELECT ft_name, ft_surname
FROM footballers WHERE
ft_surname LIKE 'K%S';

Query # e.1

1 footballer that
begins with k and
ends with s Kroos

As
expected

```
SQL> SELECT ft_name, ft_surname FROM footballers WHERE ft_surname LIKE 'K%S';
```

FT_NAME	FT_SURNAME
TONI	KROOS

14	SELECT tm_name, COUNT(ft_id) FROM team t JOIN footballers f ON t.tm_id = f.tm_id GROUP BY t.tm_name;	Query # e.2	All teams have 2 players except of Real madrid with 3	As expected														
<pre>SQL> SELECT tm_name, COUNT(ft_id) FROM team t JOIN footballers f ON t.tm_id = f.tm_id GROUP BY t.tm_name;</pre> <table><thead><tr><th>TM_NAME</th><th>COUNT(FT_ID)</th></tr></thead><tbody><tr><td>-----</td><td>-----</td></tr><tr><td>MANCHESTER CITY</td><td>2</td></tr><tr><td>CHELSEA</td><td>2</td></tr><tr><td>REAL MADRID</td><td>3</td></tr><tr><td>BARCELONA</td><td>2</td></tr><tr><td>BAYERN</td><td>2</td></tr></tbody></table>					TM_NAME	COUNT(FT_ID)	-----	-----	MANCHESTER CITY	2	CHELSEA	2	REAL MADRID	3	BARCELONA	2	BAYERN	2
TM_NAME	COUNT(FT_ID)																	
-----	-----																	
MANCHESTER CITY	2																	
CHELSEA	2																	
REAL MADRID	3																	
BARCELONA	2																	
BAYERN	2																	
15	SELECT ft_name, ft_surname, ft_contract FROM footballers WHERE ft_contract IN (SELECT MAX(ft_contract) FROM footballers);	Query # e.3	Haaland has the highest contract 27300000	As expected														
<pre>SQL> SELECT ft_name, ft_surname, ft_contract FROM footballers WHERE ft_contract IN (SELECT MAX(ft_contract) FROM footballers);</pre> <table><thead><tr><th>FT_NAME</th><th>FT_SURNAME</th><th>FT_CONTRACT</th></tr></thead><tbody><tr><td>-----</td><td>-----</td><td>-----</td></tr><tr><td>ERLING</td><td>HAALAND</td><td>27300000</td></tr></tbody></table>					FT_NAME	FT_SURNAME	FT_CONTRACT	-----	-----	-----	ERLING	HAALAND	27300000					
FT_NAME	FT_SURNAME	FT_CONTRACT																
-----	-----	-----																
ERLING	HAALAND	27300000																
16	SELECT COUNT(st_id) FROM stadium WHERE st_review < 2;	Query # e.4	Only one stadium has review <2	As expected														
<pre>SQL> SELECT COUNT(st_id) FROM stadium WHERE st_review < 2;</pre> <table><thead><tr><th>COUNT(ST_ID)</th></tr></thead><tbody><tr><td>-----</td></tr><tr><td>1</td></tr></tbody></table>			COUNT(ST_ID)	-----	1													
COUNT(ST_ID)																		

1																		
17	SELECT ft_surname, ft_name, ft_id, tm_name FROM footballers f, team t WHERE f.tm_id = t.tm_id ORDER BY ft_surname,ft_name;	Query # e.5	All footballers in ascending order by surname and name	As expected														

```
SQL> SELECT ft_surname, ft_name, ft_id, tm_name FROM footballers f, team t WHERE f.tm_id = t.tm_id ORDER BY ft_surname,ft_name;
```

FT_SURNAME	FT_NAME	FT_ID	TM_NAME
BELINGHAM	JUDE	7	REAL MADRID
DIAS	RUBEN	2	MANCHESTER CITY
HAALAND	ERLING	1	MANCHESTER CITY
KIMMICH	JOSHUA	10	BAYERN
KROOS	TONI	6	REAL MADRID
MBAPPE	KYLIAN	5	REAL MADRID
MUDRYK	MYKHAILO	3	CHELSEA
NEUER	MANUEL	11	BAYERN
PEDRI	GONZALEZ LOPEZ	9	BARCELONA
RAPHINIA	DIAS BELLOLI	8	BARCELONA
SANCHEZ	ROBERT	4	CHELSEA

11 rows selected.

18

SELECT ft_surname, ft_name, tm_name, ft_goals FROM footballers f JOIN team t ON f.tm_id = t.tm_id WHERE ft_goals = (SELECT MAX(ft_goals) FROM footballers);

Query # e.6

Mbappe first scorer with 16 goals

As expected

```
SQL> SELECT ft_surname, ft_name, tm_name, ft_goals FROM footballers f JOIN team t ON f.tm_id = t.tm_id WHERE ft_goals = (SELECT MAX(ft_goals) FROM footballers);
```

FT_SURNAME	FT_NAME	FT_ID	TM_NAME
MBAPPE	KYLIAN	16	REAL MADRID

19	SELECT tm_city, COUNT(tm_city) "Teams per city" FROM team GROUP BY tm_city;	Query # e.7	1 per city except Madrid with 2 teams	As expected																
<pre>SQL> SELECT tm_city, COUNT(tm_city) "Teams per city" FROM team GROUP BY tm_city;</pre> <table><thead><tr><th>TM_CITY</th><th>Teams per city</th></tr></thead><tbody><tr><td>-----</td><td>-----</td></tr><tr><td>MANCHESTER</td><td>1</td></tr><tr><td>LONDON</td><td>1</td></tr><tr><td>PARIS</td><td>1</td></tr><tr><td>MADRID</td><td>2</td></tr><tr><td>BARCELONA</td><td>1</td></tr><tr><td>MUNICH</td><td>1</td></tr></tbody></table> <pre>6 rows selected.</pre>					TM_CITY	Teams per city	-----	-----	MANCHESTER	1	LONDON	1	PARIS	1	MADRID	2	BARCELONA	1	MUNICH	1
TM_CITY	Teams per city																			
-----	-----																			
MANCHESTER	1																			
LONDON	1																			
PARIS	1																			
MADRID	2																			
BARCELONA	1																			
MUNICH	1																			
20	SELECT tm_name, (tm_goals - tm_concede) AS goal_diff FROM team WHERE (tm_goals - tm_concede) = (SELECT MIN(tm_goals - tm_concede) FROM team);	Query # e.8	Real madrid has conceded more goals (dif = -6)	As expected																
<pre>SQL> SELECT tm_name, (tm_goals - tm_concede) AS goal_diff FROM team WHERE (tm_goals - tm_concede) = (SELECT MIN(tm_goals - tm_concede) FROM team);</pre> <table><thead><tr><th>TM_NAME</th><th>GOAL_DIFF</th></tr></thead><tbody><tr><td>-----</td><td>-----</td></tr><tr><td>REAL MADRID</td><td>-6</td></tr></tbody></table>					TM_NAME	GOAL_DIFF	-----	-----	REAL MADRID	-6										
TM_NAME	GOAL_DIFF																			
-----	-----																			
REAL MADRID	-6																			
21	SELECT COUNT(st_id) "No stadiums built 1980-1990" FROM stadium WHERE st_year BETWEEN 1980 AND 1999;	Query # e.9	Only one stadium was built in 1985	As expected																
<pre>SQL> SELECT COUNT(st_id) "No stadiums built 1980-1990" FROM stadium WHERE st_year BETWEEN 1980 AND 1999;</pre> <pre>No stadiums built 1980-1990</pre> <pre>-----</pre> <pre>1</pre>																				
22	SELECT ft_name, ft_surname, ft_dob FROM footballers WHERE ft_dob LIKE '%JUL%';	Query # e.10	Only Haaland was born on July	As expected																
<pre>SQL> SELECT ft_name, ft_surname, ft_dob FROM footballers WHERE ft_dob LIKE '%JUL%';</pre> <table><thead><tr><th>FT_NAME</th><th>FT_SURNAME</th><th>FT_DOB</th></tr></thead><tbody><tr><td>-----</td><td>-----</td><td>-----</td></tr><tr><td>ERLING</td><td>HAALAND</td><td>21-JUL-00</td></tr></tbody></table>					FT_NAME	FT_SURNAME	FT_DOB	-----	-----	-----	ERLING	HAALAND	21-JUL-00							
FT_NAME	FT_SURNAME	FT_DOB																		
-----	-----	-----																		
ERLING	HAALAND	21-JUL-00																		
23	SELECT COUNT(st_id) FROM stadium WHERE st_id NOT IN (SELECT st_id FROM team);	Query # e.11	1 stadium that do not host a team	As expected																

<pre>SQL> SELECT COUNT(st_id) FROM stadium WHERE st_id NOT IN (SELECT st_id FROM team);</pre> <pre>COUNT(ST_ID)</pre> <pre>-----</pre> <pre>1</pre>				
24	SELECT tm_name FROM team WHERE tm_name LIKE '%SAINT%';	Query # e.12	Paris Saint Germain	As expected
<pre>SQL> SELECT tm_name FROM team WHERE tm_name LIKE '%SAINT%';</pre> <pre>TM_NAME</pre> <pre>-----</pre> <pre>PARIS SAINT GERMAIN</pre>				
25	SELECT ft_name, ft_surname, ft_contract, ft_goals, ft_country FROM footballers WHERE ft_country = 'BRAZIL' AND (ft_contract = (SELECT MAX(ft_contract) FROM footballers WHERE ft_country = 'BRAZIL') OR ft_goals = (SELECT MAX(ft_goals) FROM footballers WHERE ft_country = 'BRAZIL'));	Query # e.13	Raphinia most goals or highest contract as Brazilian	As expected
<pre>SQL> SELECT ft_name, ft_surname, ft_contract, ft_goals, ft_country FROM footballers</pre> <pre>2 WHERE ft_country = 'BRAZIL' AND (ft_contract = (SELECT MAX(ft_contract) FROM footballers WHERE ft_country = 'BRAZIL')</pre> <pre>3 OR ft_goals = (SELECT MAX(ft_goals) FROM footballers WHERE ft_country = 'BRAZIL'));</pre> <pre>FT_NAME</pre> <pre>FT_SURNAME</pre> <pre>FT_CONTRACT</pre> <pre>-----</pre> <pre>FT_GOALS FT_COUNTRY</pre> <pre>-----</pre> <pre>DIAS BELLOLI</pre> <pre>4 BRAZIL</pre> <pre>RAPHINIA</pre> <pre>10500000</pre>				
26	SELECT ft_name, ft_surname, ft_position, ft_contract FROM footballers WHERE (ft_position, ft_contract) IN (SELECT ft_position, MAX(ft_contract) FROM footballers GROUP BY ft_position);	Query # e.14	Haaland ATT Bellingham MID Kimmich DEF NEUER GK Highest contract per position	As expected

```
SQL> SELECT ft_name, ft_surname, ft_position, ft_contract FROM footballers
2 WHERE (ft_position, ft_contract) IN (SELECT ft_position, MAX(ft_contract) FROM footballers GROUP BY ft_position);
```

FT_NAME	FT_SURNAME	FT_	FT_CONTRACT
ERLING	HAALAND	ATT	27300000
JUDE	BELINGHAM	MID	20800000
JOSHUA	KIMMICH	DEF	20000000
MANUEL	NEUER	GK	21000000

27	SELECT ft_name, ft_surname, SUBSTR(ft_country,1,2) SUBSTR(ft_name,1,4) SUBSTR(ft_surname,1,4) "Username" FROM footballers;	Query # e.15	Footballers username NoErliHaal, PoRubeDias	As expected
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```
SQL> SELECT ft_name, ft_surname, SUBSTR(ft_country,1,2)||SUBSTR(ft_name,1,4)||SUBSTR(ft_surname,1,4) "Username" FROM footballers;
```

FT_NAME	FT_SURNAME
Username	
ERLING	HAALAND
NOERLIHAAL	
RUBEN	DIAS
PORUBEDIAS	
MYKHAILO	MUDRYK
UKMYKHMUDR	
FT_NAME	FT_SURNAME
Username	
ROBERT	SANCHEZ
SPROBESANC	
KYLIAN	MBAPPE
FRKYLIBAP	
TONI	KROOS
GETONIKROO	
FT_NAME	FT_SURNAME
Username	
JUDE	BELINGHAM
ENJUDEBELI	
DIAS BELLOLI	RAPHINIA
BRDIASGRAPH	
GONZALEZ LOPEZ	PEDRI
SPGONZPEDR	
FT_NAME	FT_SURNAME
Username	
JOSHUA	KIMMICH
GEJOSHKIMM	
MANUEL	NEUER
GEMANUNEUE	

11 rows selected.

28	SELECT SUM(ft_contract) AS total_contracts FROM footballers;	Query # e.16	Sum of all contracts 165020000	As expected
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```
SQL> SELECT SUM(ft_contract) AS total_contracts FROM footballers;
```

```
TOTAL_CONTRACTS
```

```
-----  
165020000
```

29

```
SELECT sp_name, SUM(sp_fee)
FROM sponsor s1, sponsorship
s2 WHERE s1.sp_id = s2.sp_id
GROUP BY sp_name HAVING
SUM(sp_fee) = (SELECT
MAX(SUM(sp_fee)) FROM
sponsorship GROUP BY sp_id);
```

Query # e.17

Adidas spends
more money on
advertising
2600000000

As
expected

```
SQL> SELECT sp_name, SUM(sp_fee) FROM sponsor s1, sponsorship s2 WHERE s1.sp_id = s2.sp_id GROUP BY sp_name HAVING SUM(sp_fee) = (SELECT MAX(SUM(sp_fee)) FROM sponsorship GROUP BY sp_id);
```

```
SP_NAME          SUM(SP_FEE)
-----
ADIDAS           2600000000
```

30

```
SELECT sp_type, SUM(sp_fee)
FROM sponsor s1 JOIN
sponsorship s2 ON s1.sp_id =
s2.sp_id GROUP BY sp_type
HAVING SUM(sp_fee) =
(SELECT MAX(SUM(sp_fee))
FROM sponsorship s2 JOIN
sponsor s1 ON s2.sp_id =
s1.sp_id GROUP BY sp_type);
```

Query # e.18

Clothing spends
more money on
advertising
34600000000

As
expected

```
SQL> SELECT sp_type, SUM(sp_fee) FROM sponsor s1 JOIN sponsorship s2 ON s1.sp_id = s2.sp_id GROUP BY sp_type HAVING SUM(sp_fee) = (SELECT MAX(SUM(sp_fee)) FROM sponsorship s2 JOIN sponsor s1 ON s2.sp_id = s1.sp_id GROUP BY sp_type);
```

```
SP_TYPE          SUM(SP_FEE)
-----
CLOTHING         34600000000
```

31

```
SELECT ft_name, ft_surname,
sp_name, max_fee FROM
(SELECT s1.sp_id, MAX(sp_fee)
AS max_fee FROM sponsor s1
JOIN sponsorship s2 ON
s1.sp_id = s2.sp_id GROUP BY
s1.sp_id) s3 JOIN sponsor s1
ON s3.sp_id = s1.sp_id JOIN
sponsorship s2 ON s1.sp_id =
s2.sp_id JOIN team t ON
s2.tm_id = t.tm_id JOIN
footballers f ON t.tm_id =
f.tm_id ORDER BY sp_name;
```

Query # e.19

Adidas: Mbappe,
Kroos, Bellingham
Audi: Kimmich,
Neuer
Etihad: Haaland,
Dias
Nike: Raphinia,
Pedri
Spotify: Raphinia,
Pedri
Footballers with
highest sponsors
as their teams

Not
returned

	<pre>SELECT ft_name, ft_surname, sp_name, max_fee FROM (SELECT s1.sp_id, MAX(sp_fee) AS max_fee FROM sponsor s1 JOIN sponsorship s2 ON s1.sp_id = s2.sp_id GROUP BY s1.sp_id) s3 JOIN sponsor s1 ON s3.sp_id = s1.sp_id JOIN sponsorship s2 ON s1.sp_id = s2.sp_id AND s2.sp_fee = s3.max_fee JOIN team t ON s2.tm_id = t.tm_id JOIN footballers f ON t.tm_id = f.tm_id ORDER BY sp_name;</pre>	<p>Use of AI</p> <p>Corrected solution</p> <p>Reason for mistake is incorrect application of the theory and inattention</p>																																																														
<pre>SQL> SELECT ft_name, ft_surname, sp_name, max_fee FROM (SELECT s1.sp_id, MAX(sp_fee) AS max_fee FROM sponsor s1 JOIN sponsorship s2 ON s1.sp_id = s2.sp_id ROUP BY s1.sp_id) s3 JOIN sponsor s1 ON s3.sp_id = s1.sp_id JOIN sponsorship s2 ON s1.sp_id = s2.sp_id AND s2.sp_fee = s3.max_fee JOIN team t ON s2.tm_id = t.tm_id JOIN footballers f ON t.tm_id = f.tm_id ORDER BY sp_name;</pre> <table><tr><th>FT_NAME</th><th>FT_SURNAME</th></tr><tr><td>SP_NAME</td><td>MAX_FEE</td></tr><tr><td>KYLIAN</td><td>MBAPPE</td></tr><tr><td>ADIDAS</td><td>1700000000</td></tr><tr><td>TONI</td><td>KROOS</td></tr><tr><td>ADIDAS</td><td>1700000000</td></tr><tr><td>JUDE</td><td>BELINGHAM</td></tr><tr><td>ADIDAS</td><td>1700000000</td></tr></table> <table><tr><th>FT_NAME</th><th>FT_SURNAME</th></tr><tr><td>SP_NAME</td><td>MAX_FEE</td></tr><tr><td>JOSHUA</td><td>KIMMICH</td></tr><tr><td>AUDI</td><td>500000000</td></tr><tr><td>MANUEL</td><td>NEUER</td></tr><tr><td>AUDI</td><td>500000000</td></tr><tr><td>ERLING</td><td>HAALAND</td></tr><tr><td>ETIHAD</td><td>1000000000</td></tr></table> <table><tr><th>FT_NAME</th><th>FT_SURNAME</th></tr><tr><td>SP_NAME</td><td>MAX_FEE</td></tr><tr><td>RUBEN</td><td>DIAS</td></tr><tr><td>ETIHAD</td><td>1000000000</td></tr><tr><td>DIAS BELLOLI</td><td>RAPHINIA</td></tr><tr><td>NIKE</td><td>400000000</td></tr><tr><td>GONZALEZ LOPEZ</td><td>PEDRI</td></tr><tr><td>NIKE</td><td>400000000</td></tr></table> <table><tr><th>FT_NAME</th><th>FT_SURNAME</th></tr><tr><td>SP_NAME</td><td>MAX_FEE</td></tr><tr><td>DIAS BELLOLI</td><td>RAPHINIA</td></tr><tr><td>SPOTIFY</td><td>900000000</td></tr><tr><td>GONZALEZ LOPEZ</td><td>PEDRI</td></tr><tr><td>SPOTIFY</td><td>900000000</td></tr></table> <p>11 rows selected.</p>					FT_NAME	FT_SURNAME	SP_NAME	MAX_FEE	KYLIAN	MBAPPE	ADIDAS	1700000000	TONI	KROOS	ADIDAS	1700000000	JUDE	BELINGHAM	ADIDAS	1700000000	FT_NAME	FT_SURNAME	SP_NAME	MAX_FEE	JOSHUA	KIMMICH	AUDI	500000000	MANUEL	NEUER	AUDI	500000000	ERLING	HAALAND	ETIHAD	1000000000	FT_NAME	FT_SURNAME	SP_NAME	MAX_FEE	RUBEN	DIAS	ETIHAD	1000000000	DIAS BELLOLI	RAPHINIA	NIKE	400000000	GONZALEZ LOPEZ	PEDRI	NIKE	400000000	FT_NAME	FT_SURNAME	SP_NAME	MAX_FEE	DIAS BELLOLI	RAPHINIA	SPOTIFY	900000000	GONZALEZ LOPEZ	PEDRI	SPOTIFY	900000000
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32	<pre>SELECT tm_name, sp_type, max_fee FROM (SELECT sp_type, MAX(sp_fee) AS max_fee FROM sponsor s1</pre>	Query # e.20	Barcelona Electronics 900000000	Not returned																																																												

	JOIN sponsorship s2 ON s1.sp_id = s2.sp_id WHERE sp_type = 'ELECTRONICS' GROUP BY sp_type) s1 JOIN sponsorship s2 ON s2.sp_fee = s1.max_fee JOIN team t ON s2.tm_id = t.tm_id;		As the team that gets most from Electronics							
	SELECT tm_name, s3.sp_type, max_fee FROM (SELECT sp_type, MAX(sp_fee) AS max_fee FROM sponsor s1 JOIN sponsorship s2 ON s1.sp_id = s2.sp_id GROUP BY s1.sp_type) s1 JOIN sponsorship s2 ON s2.sp_fee = s1.max_fee JOIN team t ON s2.tm_id = t.tm_id JOIN sponsor s3 ON s3.sp_id = s2.sp_id WHERE s3.sp_type = 'ELECTRONICS';	Use of AI Corrected solution Reason for mistake is incorrect application of the theory and inattention								
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<table><tr><th>TM_NAME</th><th>SP_TYPE</th><th>MAX_FEE</th></tr><tr><td>BARCELONA</td><td>ELECTRONICS</td><td>900000000</td></tr></table>					TM_NAME	SP_TYPE	MAX_FEE	BARCELONA	ELECTRONICS	900000000
TM_NAME	SP_TYPE	MAX_FEE								
BARCELONA	ELECTRONICS	900000000								

** AI assistance was used solely for queries ID 31 and 32. All the remaining solutions of this test plan were constructed without the aid of AI tools