

NTSHEMBO MALUEKE

Practical : Practical - Microsoft SQL Server

Q1

The screenshot shows the SSMS interface with the Object Explorer on the left and two query panes on the right. The Object Explorer shows the database structure for 'sa_soccer'. The top query pane contains the following SQL code:

```
--1--  
SELECT TOP 100 *  
from dbo.sa_soccer_dataset;
```

The bottom pane displays the results of the query, which lists 13 rows of player data. The columns include player_name, team, date_of_birth, age, marital_status, number_of_kids, nationality, country_of_birth, position, preferred_foot, height_cm, weight_kg, jersey_number, and injur. The results show players from various countries like South Africa, Nigeria, and Zambia, representing different teams and positions.

player_name	team	date_of_birth	age	marital_status	number_of_kids	nationality	country_of_birth	position	preferred_foot	height_cm	weight_kg	jersey_number	injur
Siyanda Dlamini	Stellenbosch FC	1995-05-28	30	Widowed	0	South African	South African	Defender	Right	167	71	35	Rec
Thabo Ntloivo	Cape Town City	2004-06-01	21	Single	1	Zimbabwean	Zimbabwean	Forward	Right	183	73	40	Rec
Vusi Morefe	Stellenbosch FC	2006-09-20	19	Single	0	Nigerian	Nigerian	Forward	Left	167	66	65	Rec
Thembi Mahlangu	Bloemfontein Celtic	2004-02-08	21	Divorced	0	Zambian	Zambian	Goalkeeper	Left	166	93	24	Injur
Nokuthula Sithole	Potokwane City	2003-03-18	22	Divorced	3	Nigerian	Nigerian	Goalkeeper	Both	193	88	79	Injur
Thembi Sithole	Kaizer Chiefs	1989-02-14	36	Married	2	Nigerian	Nigerian	Goalkeeper	Left	193	79	54	Hea
Siyanda Mahlangu	Chippa United	1989-12-08	36	Single	0	Zambian	Zambian	Defender	Both	181	67	27	Hea
Lerato Mashaba	Potokwane City	1998-01-31	27	Widowed	0	Ghanaian	Ghanaian	Forward	Right	181	65	85	Hea
Nomsa Mahlangu	Potokwane City	1991-07-16	34	Divorced	0	Malawian	Malawian	Forward	Left	171	81	83	Rec
Tumelo Khumalo	Kaizer Chiefs	1996-08-28	29	Married	4	Malawian	Malawian	Forward	Both	175	95	62	Hea
Gugu Molefe	TS Galaxy	2007-01-29	18	Widowed	0	South African	South African	Defender	Left	188	85	32	Rec
Thembu Mokoena	Stellenbosch FC	1995-07-03	30	Widowed	0	Zimbabwean	Zimbabwean	Goalkeeper	Right	175	92	42	Hea
Thabo Sithole	Bloemfontein Celtic	2000-12-17	25	Single	0	Zimbabwean	Zimbabwean	Midfielder	Both	173	61	37	Rec

Q2

The screenshot shows the SSMS interface with the Object Explorer on the left and a single query pane on the right. The query pane contains a script for viewing the dataset:

```
--South African Soccer Dataset - SQL- By Ntshembo Maluleke  
  
-- 1. View first 100 rows  
SELECT TOP 100 *  
FROM dbo.sa_soccer_dataset;  
  
-- 2. Count total number of players  
SELECT COUNT(*) AS total_players  
FROM dbo.sa_soccer_dataset;
```

The results pane shows the output of the second query, which returns a single row with the value 300 for 'total_players'.

total_players
300

Q3

The screenshot shows the SQL Server Management Studio interface. The Object Explorer on the left shows the database structure for 'sa_soccer'. The main window contains a query editor with the following T-SQL code:

```
FROM dbo.sa_soccer_dataset;
-- 2. Count total number of players
SELECT COUNT(*) AS total_players
FROM dbo.sa_soccer_dataset;
-- 3. List all unique teams
SELECT DISTINCT team
FROM dbo.sa_soccer_dataset
ORDER BY team;
```

The results pane displays a table with 16 rows, each containing a team name. The table has one column labeled 'team'.

team
1 Amazulu FC
2 Bloemfontein Celtic
3 Cape Town City
4 Chippa United
5 Golden Arrows
6 Kaizer Chiefs
7 Mamelodi Sundowns
8 Moroka Swallows
9 Orlando Pirates
10 Polokwane City
11 Richards Bay FC
12 Royal AM
13 Sekhukhune United

A status bar at the bottom indicates "Query executed successfully."

Q4

The screenshot shows the SQL Server Management Studio interface. The Object Explorer on the left shows the database structure for 'sa_soccer'. The main window contains a query editor with the following T-SQL code:

```
-- 3. List all unique teams
SELECT DISTINCT team
FROM dbo.sa_soccer_dataset
ORDER BY team;
-- 4. Count how many players are in each team
SELECT team, COUNT(*) AS players_per_team
FROM dbo.sa_soccer_dataset
GROUP BY team
ORDER BY players_per_team DESC;
```

The results pane displays a table with 13 rows, each containing a team name and its corresponding player count. The table has two columns: 'team' and 'players_per_team'.

team	players_per_team
1 Polokwane City	27
2 Golden Arrows	23
3 Amazulu FC	22
4 Chippa United	21
5 Stellenbosch FC	20
6 SuperSport United	20
7 TS Galaxy	20
8 Kaizer Chiefs	20
9 Mamelodi Sundowns	19
10 Moroka Swallows	19
11 Royal AM	18
12 Sekhukhune United	17
13 Bloemfontein Celtic	17

A status bar at the bottom indicates "Query executed successfully."

Q5

The screenshot shows the SQL Server Management Studio interface. The Object Explorer on the left shows a database named 'sa_soccer'. The main window contains two tabs: 'SQLQuery2.s...Dallas (70)*' and 'SQLQuery1.sq...\\Dallas (60)*'. The 'SQLQuery2' tab displays the following T-SQL code:

```
-- 4. Count how many players are in each team
SELECT team, COUNT(*) AS players_per_team
FROM dbo.sa_soccer_dataset
GROUP BY team
ORDER BY players_per_team DESC;

-- 5. Top 10 players with most goals
SELECT TOP 10 player_name, goals
FROM dbo.sa_soccer_dataset
ORDER BY goals DESC;
```

The results pane shows a table with columns 'player_name' and 'goals', containing 10 rows of data:

player_name	goals
Siyanda Mabena	118
Kagiso Phiri	117
Zanele Phiri	117
Zanele Molefe	116
Nokuthula Mabena	114
Lindwini Molefe	114
Nokuthula Mthembu	114
Karabo Phiri	114
Lindwini Radebe	113
Vusi Mabena	113

The status bar at the bottom indicates 'Query executed successfully.' and provides session details: DELL-ROY\SQLEXPRESS (16.0 RTM) | DELL-ROY\Dallas (70) | sa_soccer | 00:00:00 | Row: 1, Col: 1 | 10 rows.

Q6

The screenshot shows the SQL Server Management Studio interface. The Object Explorer on the left shows a database named 'sa_soccer'. The main window contains two tabs: 'SQLQuery2.s...Dallas (70)*' and 'SQLQuery1.sq...\\Dallas (60)*'. The 'SQLQuery2' tab displays the following T-SQL code:

```
-- 5. Top 10 players with most goals
SELECT TOP 10 player_name, goals
FROM dbo.sa_soccer_dataset
ORDER BY goals DESC;

-- 6. Average salary per team
SELECT team, AVG(average_salary_zar) AS avg_salary_zar
FROM dbo.sa_soccer_dataset
GROUP BY team
ORDER BY avg_salary_zar DESC;
```

The results pane shows a table with columns 'team' and 'avg_salary_zar', containing 13 rows of data:

team	avg_salary_zar
Royal AM	209078.330729167
Cape Town City	208407.431770833
Golden Arrows	199057.643851902
SuperSport United	195482.980664062
Mamelodi Sundowns	194404.484375
Richards Bay FC	193006.200270433
Kaizer Chiefs	188954.461621094
Monrovia Swallows	186786.628330592
TS Galaxy	184719.574609375
Stellenbosch FC	182326.734960937
Chippa United	180947.63374256
Orlando Pirates	178570.592881944
AmaZulu FC	172467.56726705

The status bar at the bottom indicates 'Query executed successfully.' and provides session details: DELL-ROY\SQLEXPRESS (16.0 RTM) | DELL-ROY\Dallas (70) | sa_soccer | 00:00:00 | Row: 1, Col: 1 | 16 rows.

Q7

The screenshot shows the SQL Server Management Studio interface with two tabs open: 'SQLQuery2.s...Dallas (70)*' and 'SQLQuery1.sq...Dallas (60)*'. The code in the window is as follows:

```
40
41
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45
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51
52
53
54
```

-- 7. Top 10 players with highest market value
SELECT TOP 10 player_name, market_value_zar
FROM dbo.sa_soccer_dataset
ORDER BY market_value_zar DESC;

-- 8. Average passing accuracy per position

The results pane displays a table with 10 rows of player names and their market values:

	player_name	market_value_zar
1	Ayanda Mabaso	24979190
2	Lebogang Mabena	24887822
3	Gugu Mashaba	24868294
4	Kagiso Mokoena	24550182
5	Boitumelo Radebe	24540830
6	Thabo Ndlovu	24380712
7	Sipho Mashaba	24342132
8	Lerato Ngobeni	24231618
9	Thabo Tshabalala	24229792
10	Lerato Tshabalala	24226786

At the bottom of the results pane, it says 'Query executed successfully.' and provides connection information: DELL-ROY\SQLEXPRESS (16.0 RTM) | DELL-ROY\Dallas (70) | sa_soccer | 00:00:00 | Row: 1, Col: 1 | 10 rows.

Q8

The screenshot shows the SQL Server Management Studio interface with two tabs open: 'SQLQuery2.s...Dallas (70)*' and 'SQLQuery1.sq...Dallas (60)*'. The code in the window is as follows:

```
46
47
48
49
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51
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53
54
55
56
57
58
59
60
```

-- 7. Top 10 players with highest market value
SELECT TOP 10 player_name, market_value_zar
FROM dbo.sa_soccer_dataset
ORDER BY market_value_zar DESC;

-- 8. Average passing accuracy per position
SELECT position, AVG(passing_accuracy) AS avg_passing_accuracy
FROM dbo.sa_soccer_dataset
GROUP BY position
ORDER BY avg_passing_accuracy DESC;

The results pane displays a table with 4 rows of average passing accuracy by position:

position	avg_passing_accuracy
Goalkeeper	83.9397055682014
Forward	83.210843373494
Midfielder	82.817721596247
Defender	82.6642859322684

Q9

```
SQLQuery2.s...Dallas (70)*  X  SQLQuery1.sq..\\Dallas (60)*
52
53
54    -- 8. Average passing accuracy per position
55    SELECT position, AVG(passing_accuracy) AS avg_passing_accuracy
56    FROM dbo.sa_soccer_dataset
57    GROUP BY position
58    ORDER BY avg_passing_accuracy DESC;
59
60
61
62    -- 9. Compare shot accuracy with goals
63    SELECT player_name, shot_accuracy, goals
64    FROM dbo.sa_soccer_dataset;
65
66
```

Results Messages

	player_name	shot_accuracy	goals
1	Siyanda Dlamini	83.6999969482422	9
2	Thabo Ndlovu	68.4000015258789	98
3	Vusi Molefe	79	99
4	Thembi Mahlangu	42.9000015258789	1
5	Nokuthula Sithole	74	2
6	Thembi Sithole	70.6999969482422	3
7	Siyanda Mahlangu	54.2000007629395	6
8	Lerato Mashaba	68.5	77
9	Nomsa Mahlangu	56.0999984741211	80
10	Tumelo Khumalo	46	48
11	Gugu Molefe	83.1999969482422	7
12	Thembi Mokoena	56.7000007629395	1
13	Thabo Sithole	80.5999984741211	14

Query executed successfully.

DELL-ROY\SQLEXPRESS (16.0 RTM) DELL-ROY\Dallas (70) sa_soccer 00:00:00 Row: 1, Col: 1 300 rows

Q10

```
SQLQuery2.s...Dallas (70)*  X  SQLQuery1.sq..\\Dallas (60)*
64
65
66
67
68    -- 10. Total goals and assists per team
69    SELECT team,
70           SUM(goals) AS total_goals,
71           SUM(assists) AS total_assists
72    FROM dbo.sa_soccer_dataset
73    GROUP BY team
74    ORDER BY total_goals DESC;
75
76
77
78    -- 11. Count players by marital status
```

Results Messages

	team	total_goals	total_assists
1	Polokwane City	1300	783
2	Sekhukhune United	842	608
3	Moroka Swallows	729	452
4	Stellenbosch FC	725	514
5	Chippa United	684	205
6	Golden Arrows	676	519
7	Bloemfontein Celtic	613	566
8	Kaizer Chiefs	597	481
9	SuperSport United	580	514
10	Mamelodi Sundowns	570	475
11	AmaZulu FC	546	568
12	Royal AM	544	480
13	TS Galaxy	541	337

Query executed successfully.

DELL-ROY\SQLEXPRESS (16.0 RTM) DELL-ROY\Dallas (70) sa_soccer 00:00:00 Row: 1, Col: 1 16 rows

Q11

The screenshot shows the Object Explorer on the left and a query window on the right. The query window contains the following code:

```
70     SUM(goals) AS total_goals,
71     SUM(assists) AS total_assists
72   FROM dbo.sa_soccer_dataset
73   GROUP BY team
74   ORDER BY total_goals DESC;
75
76
77
78
79 -- 11. Count players by marital status
80 SELECT marital_status, COUNT(*) AS total_players
81   FROM dbo.sa_soccer_dataset
82   GROUP BY marital_status;
```

The results pane shows a table with two columns: marital_status and total_players. The data is:

marital_status	total_players
Divorced	78
Married	65
Single	79
Widowed	78

At the bottom of the window, a message says "Query executed successfully."

Q12

The screenshot shows the Object Explorer on the left and a query window on the right. The query window contains the following code:

```
79     COUNT(*) AS total_players
80   FROM dbo.sa_soccer_dataset
81   GROUP BY marital_status;
82
83
84
85
86 -- 12. Count players by nationality
87 SELECT nationality, COUNT(*) AS total_players
88   FROM dbo.sa_soccer_dataset
89   GROUP BY nationality
90   ORDER BY total_players DESC;
91
92
93 -- 13. Average market value by nationality
```

The results pane shows a table with two columns: nationality and total_players. The data is:

nationality	total_players
Ghanaian	47
South African	46
Zimbabwean	45
Zambian	44
Malawian	42
Nigerian	39
Mozambican	37

At the bottom of the window, a message says "Query executed successfully."

Q13

The screenshot shows the SQL Server Management Studio interface with two query panes open. The left pane, titled 'Object Explorer', shows the database structure for 'sa_soccer'. The right pane, titled 'SQLQuery2.s...Dallas (70)*', contains the following SQL code:

```
-- 12. Count players by nationality
SELECT nationality, COUNT(*) AS total_players
FROM dbo.sa_soccer_dataset
GROUP BY nationality
ORDER BY total_players DESC;

-- 13. Average market value by nationality
SELECT nationality, AVG(market_value_zar) AS avg_market_value
FROM dbo.sa_soccer_dataset
GROUP BY nationality
ORDER BY avg_market_value DESC;
```

The results pane shows the output for the second query:

nationality	avg_market_value
Nigerian	15069261.3477564
Mozambican	14736203.474662
Zambian	12777043.0852273
Ghanaian	12298308.0079787
South African	12037870.1983696
Malawian	11727296.014881
Zimbabwean	10367909.4708333

At the bottom, a message bar indicates: 'Query executed successfully.'

Q14

The screenshot shows the SQL Server Management Studio interface with two query panes open. The left pane, titled 'Object Explorer', shows the database structure for 'sa_soccer'. The right pane, titled 'SQLQuery2.s...Dallas (70)*', contains the following SQL code:

```
-- 14. How many contracts end each year
SELECT contract_end_year, COUNT(*) AS players_ending
FROM dbo.sa_soccer_dataset
GROUP BY contract_end_year
ORDER BY contract_end_year;
```

The results pane shows the output:

contract_end_year	players_ending
2026	63
2027	70
2028	52
2029	50
2030	65

At the bottom, a message bar indicates: 'Query executed successfully.'

Q15

The screenshot shows the SQL Server Management Studio interface with two query panes. The left pane contains two numbered queries:

```
-- 14. How many contracts end each year
SELECT contract_end_year, COUNT(*) AS players_ending
FROM dbo.sa_soccer_dataset
GROUP BY contract_end_year
ORDER BY contract_end_year;

-- 15. Players whose contracts end next year
SELECT player_name, team, contract_end_year
FROM dbo.sa_soccer_dataset
WHERE contract_end_year = YEAR(GETDATE()) + 1;
```

The right pane displays the results of the second query, which lists 63 rows of player names, teams, and contract end years. The results table has columns: player_name, team, and contract_end_year.

player_name	team	contract_end_year
Siyanda Dlamini	Stellenbosch FC	2026
Vusi Molefe	Stellenbosch FC	2026
Nokuthula Sithole	Polokwane City	2026
Siyanda Mahlangu	Chippa United	2026
Nomsa Mahlangu	Polokwane City	2026
Thembi Mokoena	Stellenbosch FC	2026
Thabo Sithole	Bloemfontein Celtic	2026
Kagiso Phiri	Bloemfontein Celtic	2026
Thembi Tshabalala	Cape Town City	2026
Mandla Baloyi	Kaizer Chiefs	2026
Tumelo Mokoena	SuperSport United	2026
Thembi Mashaba	Orlando Pirates	2026
Lerato Mabena	Cape Town City	2026

At the bottom, a yellow status bar indicates "Query executed successfully." and provides connection information: DELL-ROY\SQLEXPRESS (16.0 RTM) | DELL-ROY\Dallas (70) | sa_soccer | 00:00:00 | Row: 1, Col: 1 | 63 rows.

Q16

The screenshot shows the SQL Server Management Studio interface with two query panes. The left pane contains two numbered queries:

```
-- 15. Players whose contracts end next year
SELECT player_name, team, contract_end_year
FROM dbo.sa_soccer_dataset
WHERE contract_end_year = YEAR(GETDATE()) + 1;

-- 16. Number of players by injury status
SELECT injury_status, COUNT(*) AS total_players
FROM dbo.sa_soccer_dataset
GROUP BY injury_status;
```

The right pane displays the results of the second query, which lists 3 rows of injury status and total players. The results table has columns: injury_status and total_players.

injury_status	total_players
Healthy	99
Injured	97
Recovering	104

At the bottom, a yellow status bar indicates "Query executed successfully." and provides connection information: DELL-ROY\SQLEXPRESS (16.0 RTM) | DELL-ROY\Dallas (70) | sa_soccer | 00:00:00 | Row: 1, Col: 1 | 3 rows.

Q17

The screenshot shows a SQL Server Management Studio window with two tabs: 'SQLQuery2.s...Dallas (70)*' and 'SQLQuery1.s...Dallas (60)*'. The code in the tab is:

```
118     FROM dbo.sa_soccer_dataset
119     GROUP BY injury_status;
120
121
122
123
124 -- 17. Goals per match ratio per player
125 SELECT player_name,
126        goals,
127        matches_played,
128        CAST(goals AS FLOAT) / NULLIF(matches_played, 0) AS goals_per_match
129
130        FROM dbo.sa_soccer_dataset
131        ORDER BY goals_per_match DESC;
132
```

The results grid shows the following data:

	player_name	goals	matches_played	goals_per_match
1	Thembi Zulu	72	3	24
2	Thabo Mthembu	88	5	17.6
3	Gugu Tshabalala	57	9	6.33333333333333
4	Lindiwe Mabaso	67	13	5.15384615384615
5	Mpho Zulu	5	1	5
6	Sipho Tshabalala	110	26	4.23076923076923
7	Bolitumele Nkosi	96	25	3.84
8	Karabo Tshabalala	106	30	3.53333333333333
9	Lindiwe Zulu	34	11	3.09090909090909
10	Sipho Phin	91	33	2.75757575757576
11	Sipho Dlamini	43	22	1.95454545454545
12	Ayanda Sithole	107	60	1.78333333333333
13	Nomsa Mashaba	90	58	1.55172413793103

Message bar: Query executed successfully.

Q18

The screenshot shows a SQL Server Management Studio window with two tabs: 'SQLQuery2.s...Dallas (70)*' and 'SQLQuery1.s...Dallas (60)*'. The code in the tab is:

```
124
125
126
127
128
129
130
131
132
133
134 -- 18. Count players per agent
135 SELECT agent, COUNT(*) AS players_managed
136
137         FROM dbo.sa_soccer_dataset
138         GROUP BY agent
139         ORDER BY players_managed DESC;
```

The results grid shows the following data:

	agent	players_managed
1	PlayerFirst	63
2	ProSport	62
3	None	62
4	SoccerLink Africa	62
5	SA Elite Agents	51

Message bar: Query executed successfully.

Q19

SQLQuery2.s...Dallas (70)* X SQLQuery1.sq...\\Dallas (60)*

```
136 GROUP BY agent
137 ORDER BY players_managed DESC;
138
139
140
141 -- 19. Average height and weight by position
142 SELECT position,
143     AVG(height_cm) AS avg_height_cm,
144     AVG(weight_kg) AS avg_weight_kg
145 FROM dbo.sa_soccer_dataset
146 GROUP BY position
147 ORDER BY avg_height_cm DESC;
148
149
150
```

Results Messages

	position	avg_height_cm	avg_weight_kg
1	Defender	182	78
2	Forward	179	78
3	Goalkeeper	179	78
4	Midfielder	179	76

Ln: 142, Ch: 1 | (174 chars, 6 lines) | SPC | CRLF | Windows 1252

Query executed successfully. DELL-ROY\\SQLEXPRESS (16.0 RTM) | DELL-ROY\\Dallas (70) | sa_soccer | 00:00:00 | Row: 1, Col: 1 | 4 rows

Q20

SQLQuery2.s...Dallas (70)* X SQLQuery1.sq...\\Dallas (60)*

```
145 FROM dbo.sa_soccer_dataset
146 GROUP BY position
147 ORDER BY avg_height_cm DESC;
148
149
150
151 -- 20. Players with highest goal contributions (goals + assists)
152 SELECT TOP 10 player_name,
153     goals,
154     assists,
155     (goals + assists) AS goal_contribution
156 FROM dbo.sa_soccer_dataset
157 ORDER BY goal_contribution DESC;
158
```

Results Messages

	player_name	goals	assists	goal_contribution
1	Siyanda Mabena	118	75	193
2	Zanele Molefe	116	76	192
3	Vusi Radebe	112	76	188
4	Ayanda Sithole	107	72	179
5	Ayanda Sithole	110	68	178
6	Vusi Molefe	99	77	176
7	Thembisi Phiri	102	71	173
8	Gugu Mahlangu	106	65	171
9	Nokuthula Mabena	114	53	167
10	Khanyi Baloyi	112	51	163

Ln: 152, Ch: 1 | (169 chars, 6 lines) | SPC | CRLF | Windows 1252

Query executed successfully. DELL-ROY\\SQLEXPRESS (16.0 RTM) | DELL-ROY\\Dallas (70) | sa_soccer | 00:00:00 | Row: 1, Col: 1 | 10 rows