ENDSEM PROJECT
CRICKET STATS MANAGEMENT SYSTEM
SUBMITTED BY:- DHRUV AGARWAL
BT23CSE186

```sql
CREATE DATABASE cricket_management;
USE cricket_management;


-- ===========================================
--  TABLES
-- ===========================================
CREATE TABLE players (
    player_id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(50),
    role VARCHAR(30),
    debut_year INT,
    retirement_year INT NULL
);

CREATE TABLE player_format_stats (
    stat_id INT AUTO_INCREMENT PRIMARY KEY,
    player_id INT,
    format VARCHAR(20),
    matches INT,
    innings INT,
    runs INT,
    highest_score VARCHAR(10),
    average DECIMAL(5,2),
    strike_rate DECIMAL(5,2),
    centuries INT,
    FOREIGN KEY (player_id) REFERENCES players(player_id)
);


-- ===========================================
```

```sql
--  INSERT DATA
-- ==========================================
INSERT INTO players (name, role, debut_year, retirement_year) VALUES
('Rohit Sharma', 'Batsman', 2007, NULL),
('Virat Kohli', 'Batsman', 2008, NULL),
('MS Dhoni', 'Wicketkeeper Batsman', 2004, 2019),
('Sachin Tendulkar', 'Batsman', 1989, 2013);

INSERT INTO player_format_stats VALUES
(NULL, 1, 'Test', 67, 116, 4301, '212', 40.6, 57.1, 12),
(NULL, 1, 'ODI', 276, 268, 11370, '264', 49.2, 92.7, 33),
(NULL, 1, 'T20I', 159, 151, 4231, '121*', 32.0, 140.9, 5),

(NULL, 2, 'Test', 123, 210, 9230, '254*', 46.9, 55.6, 30),
(NULL, 2, 'ODI', 305, 293, 14255, '183', 57.7, 93.3, 51),
(NULL, 2, 'T20I', 125, 117, 4188, '122*', 48.7, 137.0, 1),

(NULL, 3, 'Test', 90, 144, 4876, '224', 38.1, 59.1, 6),
(NULL, 3, 'ODI', 350, 297, 10773, '183*', 50.6, 87.6, 10),
(NULL, 3, 'T20I', 98, 85, 1617, '56', 37.6, 126.1, 0),

(NULL, 4, 'Test', 200, 329, 15921, '248*', 53.8, 0, 51),
(NULL, 4, 'ODI', 463, 452, 18426, '200*', 44.8, 86.2, 49),
(NULL, 4, 'T20I', 1, 1, 10, '10', 10.0, 83.3, 0);

-- ==========================================
--  25 SIMPLE SQL QUERIES
-- ==========================================

-- 1. Show all players
SELECT * FROM players;
```

-- 2. List all batsmen
SELECT name FROM players WHERE role LIKE '%Batsman%';

-- 3. Active players
SELECT name FROM players WHERE retirement_year IS NULL;

-- 4. Players sorted by debut year
SELECT name, debut_year FROM players ORDER BY debut_year;

-- 5. Total runs by each player
SELECT p.name, SUM(s.runs) AS total_runs
FROM players p JOIN player_format_stats s USING(player_id)
GROUP BY p.player_id;

name	total_runs
Rohit Sharma	19902
Virat Kohli	27673
MS Dhoni	17266
Sachin Tendulkar	34357

-- 6. Average batting average by format
SELECT format, AVG(average)
FROM player_format_stats GROUP BY format;

format	AVG(average)
Test	44.850000
ODI	50.575000
T20I	32.075000

-- 7. Highest ODI run scorer
SELECT name FROM players WHERE player_id = (
    SELECT player_id FROM player_format_stats
    WHERE format='ODI' ORDER BY runs DESC LIMIT 1
);

name
Sachin Tendulkar

-- 8. Player with most centuries
SELECT name FROM players WHERE player_id = (
    SELECT player_id FROM player_format_stats
    ORDER BY centuries DESC LIMIT 1
);

name
Virat Kohli

-- 9. Player, format & runs (JOIN)
SELECT p.name, s.format, s.runs
FROM players p JOIN player_format_stats s USING(player_id);

name	format	runs
Rohit Sharma	Test	4301
Rohit Sharma	ODI	11370
Rohit Sharma	T20I	4231
Virat Kohli	Test	9230
Virat Kohli	ODI	14255
Virat Kohli	T20I	4188
MS Dhoni	Test	4876
MS Dhoni	ODI	10773
MS Dhoni	T20I	1617
Sachin Tendulkar	Test	15921
Sachin Tendulkar	ODI	18426
Sachin Tendulkar	T20I	10

-- 10. ODI stats only
SELECT name, runs FROM players JOIN player_format_stats USING(player_id)
WHERE format='ODI';

name	runs
Rohit Sharma	11370
Virat Kohli	14255
MS Dhoni	10773
Sachin Tendulkar	18426

-- 11. Players with total runs > 15000
SELECT p.name, SUM(s.runs) AS total_runs
FROM players p JOIN player_format_stats s USING(player_id)
GROUP BY p.player_id HAVING total_runs > 15000;

name	total_runs
Rohit Sharma	19902
Virat Kohli	27673
MS Dhoni	17266
Sachin Tendulkar	34357

-- 12. Players debut between 2000-2010
SELECT name FROM players WHERE debut_year BETWEEN 2000 AND 2010;

name
Rohit Sharma
Virat Kohli
MS Dhoni

-- 13. Find player with highest Test average
SELECT name FROM players WHERE player_id = (
    SELECT player_id FROM player_format_stats
    WHERE format='Test' ORDER BY average DESC LIMIT 1
);

name
Sachin Tendulkar

-- 14. List formats played by Virat Kohli
SELECT format FROM player_format_stats s
JOIN players p USING(player_id)
WHERE p.name='Virat Kohli';

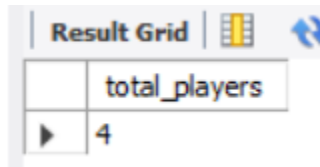| format |
| --- |
| Test |
| ODI |
| T20I |

-- 15. Players whose name contains 'a'
SELECT name FROM players WHERE name LIKE '%a%';

name
Rohit Sharma
Virat Kohli
Sachin Tendulkar

-- 16. Count players

```sql
SELECT COUNT(*) AS total_players FROM players;
```
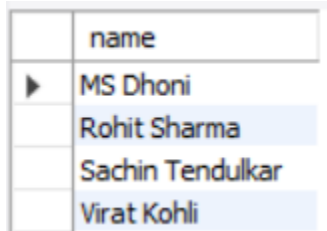
total_players
4

-- 17. Sort by name
```sql
SELECT name FROM players ORDER BY name;
```
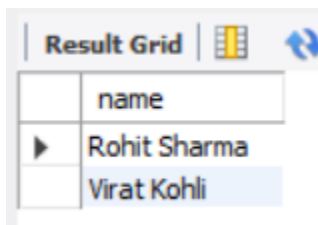
name
MS Dhoni
Rohit Sharma
Sachin Tendulkar
Virat Kohli

-- 18. Limit example
```sql
SELECT name FROM players LIMIT 2;
```
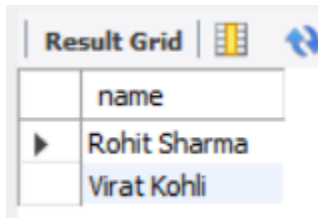
name
Rohit Sharma
Virat Kohli

-- 19. IN example
```sql
SELECT name FROM players WHERE name IN ('Rohit Sharma','Virat Kohli');
```

name
Rohit Sharma
Virat Kohli

-- 20. Change role of Rohit
```sql
UPDATE players SET role='Top Order Batsman' WHERE name='Rohit Sharma';
```

-- 21. Delete dummy low run entries (example)
```sql
DELETE FROM player_format_stats WHERE runs < 20;
```

-- 22. CASE: Player status

```
SELECT name,
CASE WHEN retirement_year IS NULL THEN 'Active' ELSE 'Retired' END AS
status
FROM players;
```

name	status
Rohit Sharma	Active
Virat Kohli	Active
MS Dhoni	Retired
Sachin Tendulkar	Retired

-- 23. Show Test strike rate highest

```
SELECT p.name FROM players p
JOIN player_format_stats s USING(player_id)
WHERE format='Test'
ORDER BY strike_rate DESC LIMIT 1;
```

name
MS Dhoni

-- 24. Total centuries by each player

```
SELECT p.name, SUM(s.centuries) AS total_centuries
FROM players p JOIN player_format_stats s USING(player_id)
GROUP BY p.player_id;
```

name	total_centuries
Rohit Sharma	50
Virat Kohli	82
MS Dhoni	16
Sachin Tendulkar	100

-- 25. Subquery: Players with centuries > 40

```
SELECT name FROM players WHERE player_id IN (
    SELECT player_id FROM player_format_stats WHERE centuries > 40
);
```

	name
▶	Virat Kohli
	Sachin Tendulkar

-- ==
-- VIEW (Total Runs)
-- ==
CREATE VIEW player_total_runs AS
SELECT player_id, SUM(runs) AS total_runs
FROM player_format_stats
GROUP BY player_id;

-- Show view
SELECT p.name, v.total_runs
FROM players p JOIN player_total_runs v USING(player_id);

name	total_runs
Rohit Sharma	19902
Virat Kohli	27673
MS Dhoni	17266
Sachin Tendulkar	34357

Result 27 ✕

Output

Action Output

	#	Time	Action	Message
✓	43	23:40:21	SELECT name FROM players WHERE player_id IN (SELECT player_id FROM player_format_stats WHERE ...	2 row(s) returned
✓	44	23:40:40	CREATE VIEW player_total_runs AS SELECT player_id, SUM(runs) AS total_runs FROM player_format_stats G...	0 row(s) affected
✓	45	23:40:48	SELECT p.name, v.total_runs FROM players p JOIN player_total_runs v USING(player_id) LIMIT 0, 50000	4 row(s) returned