

USE BUDT703\_Project\_0507\_14

-- Q1) What are the 10 hardest universities to win against for the University of Maryland Softball team?

```
SELECT TOP 10
    o.oppname AS 'Opponent Name',
    SUM(CASE WHEN m.mthResult = 'L' THEN 1 ELSE 0 END) AS Losses,
    COUNT(m.mthResult) AS 'Number of Matches'
FROM
    Opponent o
JOIN
    Match m ON o.oppid = m.oppid
GROUP BY
    o.oppname
ORDER BY
    Losses DESC;
```

-- Q2) What is the average score differential in wins and losses?

```
SELECT
    YEAR(m.MthTimestamp) AS 'Match Year',
    ROUND(AVG(CAST(CASE WHEN m.mthResult = 'W' THEN s.homscrRuns - s.oppscrRuns END
AS FLOAT)),3) AS 'Avg. Score Differential in Wins',
    ROUND(AVG(CAST(CASE WHEN m.mthResult = 'L' THEN s.oppscrRuns - s.homscrRuns END
AS FLOAT)),3) AS 'Avg. Score Differential in Losses'
FROM
    Match m
JOIN
    ScoreSummary s ON m.mthId = s.mthId
GROUP BY
    YEAR(m.MthTimestamp)
ORDER BY
    YEAR(m.MthTimestamp);
```

--- Q3) What is the average win rate for all matches played at each location type?

```
WITH win_rate as (
    SELECT YEAR(MthTimestamp) AS 'Match Year', mthLocType AS LocationType,
        SUM(CASE WHEN mthResult = 'W' THEN 1 ELSE 0 END) AS NumWins,
        COUNT(mthId) AS NumMatches
    FROM
        Match
    GROUP BY
        YEAR(MthTimestamp), mthLocType
)

SELECT LocationType,
    ROUND((CAST(SUM(NumWins) AS FLOAT)/CAST(SUM(NumMatches) AS FLOAT)),3) as
    'Average Win Rate'
FROM
    win_rate
GROUP BY
    LocationType
ORDER BY
    'Average Win Rate' DESC;
```

-- Q4) Who are the top 10 players according to their batting averages?

```
SELECT TOP 10
    plr.plrName AS 'Player Name',
    CASE WHEN SUM(plr.plrAtBats) = 0 THEN 0 ELSE ROUND(AVG(CAST(plr.plrHits AS
FLOAT)/ CAST(NULLIF(plr.plrAtBats,0) AS FLOAT)),3)
    END AS 'Batting Average'
FROM
    Player plr
GROUP BY
    plr.plrName
HAVING
    COUNT(DISTINCT plr.mthId) > 1
ORDER BY
    'Batting Average' DESC;
```

-- Q5) What are the top 5 years with the most wins?

```
SELECT TOP 5
    YEAR(m.MthTimestamp) AS 'Match Year',
    COUNT(*) AS 'Number of Wins'
FROM
    Match m
WHERE
    m.mthResult = 'W'
GROUP BY
    YEAR(m.MthTimestamp)
ORDER BY
    'Number of Wins' DESC;
```