

Objective:

The objective of the question was to find the session duration between the log-on and the log-off time of the user from the data table provided.

Solution:

1. Common Table Expressions (CTEs):

GroupedStatus

Purpose: This CTE groups consecutive rows with the same status together.

Columns:

times: Timestamp of each record.

status: Status ('on' or 'off') at each timestamp.

grp: Assigns a group number to each consecutive set of rows with the same status. This is achieved by subtracting the row number within the entire result set from the row number within each status partition.

2. Derived Table:

OnPeriods

Purpose: This derived table identifies the start and end times of each continuous 'on' period.

Columns:

log_on: The minimum timestamp within each 'on' group, representing the start time of the 'on' period.

log_off: The maximum timestamp within each 'on' group, representing the end time of the 'on' period.

3. Main Query:

Purpose: This query calculates the duration between the start and end times of each 'on' period and adds 1 minute to both the end time and the duration.

Columns:

log_on: The start time of each 'on' period.

log_off: The end time of each 'on' period, with 1 minute added.

duration: The duration in minutes between the start and end times of each 'on' period.