Employee Travel Report Documentation

This module is responsible for generating detailed employee reports based on specific criteria such as travel, orders, vehicle types, and roles. The report is generated by querying multiple databases for different data types and then processing them into a structured response. The report includes daily travel details, monthly travel summaries, and deviation messages based on criteria for various employee roles.

Functions Overview

1. `getAllDates(startDate, endDate)`

- **Description**: This function generates an array of all dates between the `startDate` and endDate (inclusive).
- **Parameters**:
  - `startDate`: The start date in `YYYY-MM-DD` format.
  - endDate: The end date in `YYYY-MM-DD` format.
- **Returns**: An array of dates in the `YYYY-MM-DD` format.

2. `fetchEmpReport(startDate, endDate, emp_id, emp_state_id)`

- **Description**: This function retrieves and processes employee data, including travel data, orders, roles, and vehicle types, to generate a detailed report for the specified date range. The report includes both daily and monthly travel details and checks for deviations from predefined criteria.
- **Parameters**:
  - `startDate`: The start date of the report in `YYYY-MM-DD` format.
  - endDate: The end date of the report in `YYYY-MM-DD` format.
  - `emp_id`: The employee ID (optional). If provided, the report will be filtered for this specific employee.
  - `emp_state_id`: A comma-separated list of state IDs used to filter employees based on their state (optional).
- **Returns**: An array of employee reports, each containing detailed information about the employee's travel data, roles, and deviation messages based on travel and order criteria.

Process Flow

1. **Employee Details Query**:
    a. The `employeeDetailsQuery` retrieves basic employee information (name, ID, role, location, etc.) from the database, filtering by active employees in the "Field" division, and the provided `emp_state_id`.
2. **Travel Data Query**:
    a. The `travelDataQuery` retrieves employee travel data for the specified date range. It includes the date of travel and total kilometers traveled.
3. **Vehicle Type Query**:
    a. The `vehicleTypeQuery` retrieves the type of vehicle used by employees within the specified month.
4. **Invoice Data Query**:
    a. The `invoiceDataQuery` retrieves order data, summing up the total order quantity for employees involved in sales activities.
5. **Employee Roles Query**:
    a. The `employeeRolesQuery` retrieves the roles of the employees, associating them with their respective roles in the company (e.g., Sales Officer, Area Sales Manager, Regional Sales Manager).
6. **Criteria Data Query**:
    a. The `criteriaQuery` retrieves predefined criteria that specify the expected minimum performance metrics (e.g., travel distance and order quantity) for various roles.
7. **Data Processing**:
    a. All retrieved data is processed to map travel data to specific employees and dates, calculating totals and identifying deviations based on the predefined criteria.
    b. The report is structured to include:
        i. **Employee Details**: Personal and employment information.
        ii. **Daily Travel Details**: Travel data for each date in the date range.
        iii. **Monthly Travel Summary**: Aggregated data for the entire month, including total travel, order quantities, and any deviation messages.
        iv. **Deviation Check**: A check against predefined criteria to determine if the employee's performance deviates from the expected norms based on their role.
8. **Deviation Logic**:
    a. Based on the employee's role (SO, ASM, RSM, etc.), the total travel kilometers and order quantities are compared with predefined criteria.

    b. If the travel distance exceeds the allowed limit for the role, and the order quantity is below the required threshold, a deviation message is generated.
    c. If the employee meets the minimum order quantity for their role, no deviation message is generated, but the total travel distance is checked against the allowed limit.
9. **Final Response**:
    a. A structured report is returned containing detailed information about each employee's travel, orders, and performance against the predefined criteria.

Criteria and Role-Based Logic

- **Deviation Calculation**:
    - For each employee, if the total travel kilometers exceed the allowed threshold, a deviation is flagged. The report then checks whether the employee's order quantity meets the minimum expected for their role.
- **Role Mapping**:
    - Employees are assigned a role (e.g., SO, ASM, RSM) based on their profile. Different roles have different travel and order quantity expectations.
- **Deviation Messages**:
    - If a deviation occurs (e.g., exceeding the travel distance limit or failing to meet the order quantity), a message is generated for the employee explaining the reason for the deviation.

Output Format

Each employee’s report will include:

- **Employee Details**: Personal information (ID, name, role, state, district, etc.).
- **Daily Travel Details**: Travel details for each day in the given date range, including travel kilometers and order quantities.
- **Monthly Travel Summary**: Aggregated data for the entire month, including total travel kilometers and order quantities.
- **Deviation Status**: A message indicating whether the employee met the criteria for travel distance and order quantity for their role.

Error Handling

- If any of the queries fail or return no data, the function will throw an error with an appropriate message, such as "Criteria not found for the given date range".
- If no employee data is found or an invalid employee ID is provided, the function will return an empty result or throw an error.

Conclusion

The report provides a comprehensive view of an employee's performance, comparing their travel data with the required criteria for their role. This includes daily summaries, a monthly summary, and checks for deviations. This functionality is critical for monitoring employee performance and ensuring they meet organizational expectations for travel and sales activities.