TOLL MANAGEMENT SYSTEM

Purpose Of TMS

THE PURPOSE OF THIS CODE IS TO CREATE A COMPREHENSIVE TOLL BOOTH MANAGEMENT SYSTEM. THIS SYSTEM ALLOWS THE COLLECTION AND TRACKING OF TOLLS FOR DIFFERENT TYPES OF VEHICLES, AS WELL AS THE ABILITY TO GENERATE REPORTS ON THE TOLL COLLECTIONS BASED ON VARIOUS CRITERIA SUCH AS DATE, MONTH, AND YEAR.

Key Functions:

1. **Toll Rate Display:**
   - displayTollRates(): Displays the toll rates for different types of vehicles.
2. **Toll Collection:**
   - payToll(String vehicleType, String date): Collects toll for a given vehicle type on a specified date and updates the total cash collected and the number of vehicles passed.
   - noPayCar(): Increases the vehicle count without collecting toll (for cases where vehicles pass without paying).
3. **Data Tracking:**
   - Maintains records of toll collected on a daily, monthly, and yearly basis using dateWiseToll, monthWiseToll, and yearWiseToll maps respectively.
   - collectToll(String date, double amount): Updates the maps with the toll collected based on the date.
   - getDateWiseToll(String date), getMonthWiseToll(String month), getYearWiseToll(String year): Retrieves the toll collected on a specific date, month, or year.
4. **Summary Display**:
   - displaySummary(): Displays the total number of vehicles that passed and the total amount of toll collected.

User Interaction

The main method provides a menu-driven interface for the user to interact with the toll booth system. Users can:

- View toll rates.
- Collect tolls for different vehicles by entering the vehicle type and date.
- View a summary of the total vehicles passed and the total amount collected.
- Retrieve toll collection data for specific dates, months, or years.
- Exit the application.

Menu Options:

1. Display Toll Rates: Shows the toll rates for different vehicle types.
2. Collect Toll: Prompts the user to enter the vehicle type and the date, then records the toll for that vehicle.
3. Display Summary: Shows the total number of vehicles and the total toll collected.
4. View Date-wise Toll: Allows the user to query and view the toll collected on a specific date.
5. View Month-wise Toll: Allows the user to query and view the toll collected in a specific month.
6. View Year-wise Toll: Allows the user to query and view the toll collected in a specific year.
7. Exit: Exits the application.

Output Explanation

The "Toll Management System" project in Java aims to streamline toll collection and management processes on highways. It features vehicle identification, toll calculation, and real-time transaction tracking. The system includes a user-friendly interface for operators and comprehensive reporting tools for administrators.

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