Activity 5 : Car Rent system

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Research:

A car rent system is a program used to calculate the total rent a customer must pay for using a car for a certain number of days. In real life, such systems are used by car rental companies to manage charges, time, and bookings.
In this project, recursion is used instead of loops to calculate the total rent. Recursion is a programming technique where a function calls itself until a certain condition is met

https://www.zoomcar.com/ .

https://www.travelopro.com/car-rental-reservation-system.php

1. **Purpose and Scope**

A car rental system simulates the operations of a real-world rental company. It allows users to:

- View available cars
- Rent and return vehicles
- Calculate rental costs
- Track customer data and rental history

Idea:

The main idea is to find the total rent based on the number of days and rent per day using a recursive formula.
Each recursive call represents the rent for one day, and the process continues until all days are counted.

- **Input:** Number of days and rent per day.
- **Process:** The recursive function adds rent per day repeatedly until the number of days becomes zero.
- **Output:** The total rent to be paid by the customer.

Example:
If rent per day = ₹1000 and number of days = 3
→ Total Rent = 1000 + 1000 + 1000 = ₹3000

Analysis:

The car rent system using recursion is designed to calculate the total rent a customer has to pay based on the number of days they rent the car and the rent per day.

Input:

- Number of days the car is rented (`days`)
- Rent per day (`rentPerDay`)

Process:

- The program uses a **recursive function** to calculate total rent.
- In each recursive call, the function adds the rent for one day to the total rent of the remaining days.
- The recursion continues until the number of days becomes zero (base condition).
- When `days = 0`, the function stops calling itself and returns the total rent.

Output:

- The total rent amount to be paid by the customer.

Build:

```
#include <stdio.h>

int rentPerDay;

int calculateRent(int days) {
    if (days == 0)
        return 0;
    else
        return rentPerDay + calculateRent(days - 1);
}

int main() {
    int days, totalRent;

    printf("Enter number of days you want to rent the car: ");
    scanf("%d", &days);

    printf("Enter rent per day: ");
    scanf("%d", &rentPerDay);

    totalRent = calculateRent(days);

    printf("\nTotal rent for %d days = ₹%d\n", days, totalRent);

    return 0;
}
```

Testing:

```
Enter number of days you want to rent the car: 4
Enter rent per day: 1500

Total rent for 4 days = ₹6000
```

=== Code Execution Successful ===

Implementation: