

Source Code:

# --- Car Inventory Class ---

class CarInventory:

def \_\_init\_\_(self):

self.cars = 100 # Let say we have 100 cars in our inventory

self.available\_cars = 100

def display\_available\_cars(self):

print(f"\n Total available cars: {self.available\_cars}")

def rent\_car(self, num):

if num <= self.available\_cars:

self.available\_cars -= num

return True

else:

print("Not enough cars available")

return False

def return\_car(self, num):

self.available\_cars += num

# --- Rental Service Class ---

class RentalService:

def \_\_init\_\_(self):

self.rates = {

"hourly" : 149,

"daily" : 499,

"weekly:" : 699

}

```

def generate_bill(self, rental_type, num_cars, duration):
    if rental_type in self.rates:
        cost = self.rates[rental_type] * duration * num_cars

        print(f"\n Bill Summary:\nType: {rental_type}\nCars: {num_cars}\nDuration:
{duration}\nTotal: ₹{cost}")

        return cost
    else:
        print("Invalid rental type.")
        return 0

```

# --- Customer Class ---

```

class Customer:

```

```

    def __init__(self, name):
        self.name = name
        self.rented_cars = 0
        self.rental_type = None
        self.duration = 0

```

```

    def request_car(self):

```

```

        try:
            cars = int(input("How many cars would you like to rent? "))
            rental_type = input("Choose rental type (hourly/daily/weekly): ").lower()
            duration = int(input(f"Enter rental duration in {rental_type}: "))

            self.rented_cars = cars
            self.rental_type = rental_type
            self.duration = duration

```

```
    return cars, rental_type, duration
```

```
except ValueError:
```

```
    print(" ❌ Invalid input. Please enter numeric values.")
```

```
    return 0, None, 0
```

```
def return_car(self):
```

```
    return self.rented_cars
```

```
# --- Main Program ---
```

```
def main():
```

```
    inventory = CarInventory()
```

```
    rental_service = RentalService()
```

```
    print("=== Welcome to Car Rental System ===")
```

```
    inventory.display_available_cars()
```

```
    name = input("\nEnter your name: ")
```

```
    customer = Customer(name)
```

```
    cars, rental_type, duration = customer.request_car()
```

```
    if rental_type not in rental_service.rates or cars == 0 or duration == 0:
```

```
        print(" ❌ Rental request failed due to invalid inputs.")
```

```
        return
```

```
    if inventory.rent_car(cars):
```

```
        rental_service.generate_bill(rental_type, cars, duration)
```

```
        return_choice = input("Do you want to return the car? (yes/no): ").lower()
```

```
if return_choice == 'yes':
```

```
    returned = customer.return_car()
```

```
    inventory.return_car(returned)
```

```
    print("✅ Cars returned successfully!")
```

```
inventory.display_available_cars()
```

```
if __name__ == "__main__":
```

```
    main()
```