# car\_rental.py

from datetime import datetime, timedelta

class CarRental:

def \_\_init\_\_(self, total\_cars):

self.total\_cars = total\_cars

self.available\_cars = total\_cars

self.rented\_cars = {}

def display\_available\_cars(self):

return f"Available Cars: {self.available\_cars}"

def rent\_hourly(self, num\_cars):

return self.\_rent\_car(num\_cars, "hourly")

def rent\_daily(self, num\_cars):

return self.\_rent\_car(num\_cars, "daily")

def rent\_weekly(self, num\_cars):

return self.\_rent\_car(num\_cars, "weekly")

def return\_cars(self, rental\_start\_time, rental\_mode, num\_cars):

if rental\_mode not in ["hourly", "daily", "weekly"]:

return "Invalid rental mode"

if rental\_start\_time not in self.rented\_cars:

return "Invalid rental start time"

rented\_period = datetime.now() - rental\_start\_time

rented\_period\_hours = rented\_period.total\_seconds() / 3600

if rental\_mode == "hourly":

bill = 5 \* rented\_period\_hours \* num\_cars

elif rental\_mode == "daily":

bill = 20 \* rented\_period\_hours / 24 \* num\_cars

elif rental\_mode == "weekly":

bill = 50 \* rented\_period\_hours / (24 \* 7) \* num\_cars

self.available\_cars += num\_cars

del self.rented\_cars[rental\_start\_time]

return f"Rental period: {rented\_period}, Total bill: {bill}$"

def \_rent\_car(self, num\_cars, rental\_mode):

if num\_cars <= 0:

return "Invalid number of cars"

if num\_cars > self.available\_cars:

return "Not enough cars available"

self.available\_cars -= num\_cars

self.rented\_cars[datetime.now()] = (num\_cars, rental\_mode)

return f"Rented {num\_cars} cars for {rental\_mode} mode"

# customer.py

from car\_rental import CarRental

class Customer:

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

self.name = name

def request\_cars(self, rental, num\_cars, rental\_mode):

return rental.\_rent\_car(num\_cars, rental\_mode)

def return\_cars(self, rental, rental\_start\_time, rental\_mode, num\_cars):

return rental.return\_cars(rental\_start\_time, rental\_mode, num\_cars)

# main.ipynb

from car\_rental import CarRental

from customer import Customer

def main():

total\_cars = 10

rental = CarRental(total\_cars)

customer = Customer("John Doe")

while True:

print("1. Display available cars")

print("2. Rent a car")

print("3. Return a car")

print("4. Exit")

choice = int(input("Enter your choice (1-4): "))

if choice == 1:

print(rental.display\_available\_cars())

elif choice == 2:

num\_cars = int(input("Enter the number of cars to rent: "))

rental\_mode = input("Enter rental mode (hourly/daily/weekly): ")

print(customer.request\_cars(rental, num\_cars, rental\_mode))

elif choice == 3:

rental\_start\_time = datetime.strptime(input("Enter rental start time (YYYY-MM-DD HH:MM:SS): "), "%Y-%m-%d %H:%M:%S")

rental\_mode = input("Enter rental mode (hourly/daily/weekly): ")

num\_cars = int(input("Enter the number of cars to return: "))

print(customer.return\_cars(rental, rental\_start\_time, rental\_mode, num\_cars))

elif choice == 4:

print("Exiting program.")

break

else:

print("Invalid choice. Please enter a number between 1 and 4.")

if \_\_name\_\_ == "\_\_main\_\_":

main()