```
import datetime

class CarRental:

    def __init__(self,stock=0):
        """
        Constructor class to instantiate car rental shop.
        """

        self.stock = stock

    def displaystock(self):
        """
        Displays the currently available cars for rent.
        """

        print("We have currently {} cars available to
rent.".format(self.stock))
        return self.stock

    def rentCarOnHourlyBasis(self, n):
        """
        Rent a car on hourly basis to a customer.
        """
        if n <= 0:
            print("Number of cars should be positive!")
            return None

        elif n > self.stock:
            print("Sorry! We have currently {} cars available to
rent.".format(self.stock))
            return None

        else:
            now = datetime.datetime.now()
            print("You have rented a {} car(s) on hourly basis today
at {} hours.".format(n,now.hour))
            print("You will be charged $5 for each hour per car.")
            print("We hope that you enjoy our service.")

            self.stock -= n
            return now

    def rentCarOnDailyBasis(self, n):
        """
        Rents a car on daily basis to a customer.
        """
        if n <= 0:
            print("Number of cars should be positive!")
            return None
```

```
        elif n > self.stock:
            print("Sorry! We have currently {} cars available to
rent.".format(self.stock))
            return None

        else:
            now = datetime.datetime.now()
            print("You have rented {} car(s) on daily basis today at
{} hours.".format(n, now.hour))
            print("You will be charged $20 for each day per car.")
            print("We hope that you enjoy our service.")

            self.stock -= n
            return now

    def rentCarOnWeeklyBasis(self, n):
        """
        Rents a car on weekly basis to a customer.
        """
        if n <= 0:
            print("Number of cars should be positive!")
            return None

        elif n > self.stock:
            print("Sorry! We have currently {} cars available to
rent.".format(self.stock))
            return None

        else:
            now = datetime.datetime.now()
            print("You have rented {} car(s) on weekly basis today at
{} hours.".format(n, now.hour))
            print("You will be charged $60 for each week per car.")
            print("We hope that you enjoy our service.")
            self.stock -= n

            return now



    def returnCar(self, request):
        """
        1. Accept a rented car from a customer
        2. Replensihes the inventory
        3. Return a bill
        """
        rentalTime, rentalBasis, numOfCars = request
        bill = 0
```

```
        if rentalTime and rentalBasis and numOfCars:
            self.stock += numOfCars
            now = datetime.datetime.now()
            rentalPeriod = now - rentalTime

            # hourly bill calculation
            if rentalBasis == 1:
                bill = round(rentalPeriod.seconds / 3600) * 5 *
numOfCars

            # daily bill calculation
            elif rentalBasis == 2:
                bill = round(rentalPeriod.days) * 20 * numOfCars

            # weekly bill calculation
            elif rentalBasis == 3:
                bill = round(rentalPeriod.days / 7) * 60 * numOfCars


            if (3 <= numOfCars <= 5):
                print("You are eligible for Family rental promotion of
30% discount")
                bill = bill * 0.7

            print("Thanks for returning your car. Hope you enjoyed our
service!")
            print("That would be ${}".format(bill))
            return bill
        else:
            print("Are you sure you rented a car with us?")
            return None



class Customer:

    def __init__(self):
        """
        Constructor method to instantiate various customer objects.
        """

        self.cars = 0
        self.rentalBasis = 0
        self.rentalTime = 0
        self.bill = 0


    def requestCar(self):
        """
        Takes a request from the customer for the number of cars.
```

```
        """

        cars = input("How many cars would you like to rent?")
        try:
            cars = int(cars)
        except ValueError:
            print("That's not a positive integer!")
            return -1

        if cars < 1:
            print("Invalid input. Number of cars should be greater
than zero!")
            return -1
        else:
            self.cars = cars
        return self.cars

    def returnCar(self):
        """
        Allows customers to return their cars to the rental shop.
        """
        if self.rentalBasis and self.rentalTime and self.cars:
            return self.rentalTime, self.rentalBasis, self.cars
        else:
            return 0,0,0

def main():
    shop = CarRental(1000)
    customer = Customer()

    while True:
        print("""
        ====== Car Rental Shop =======
        1. Display available cars
        2. Request a car on hourly basis $5
        3. Request a car on daily basis $20
        4. Request a car on weekly basis $60
        5. Return a car
        6. Exit
        """)

        choice = input("Enter choice: ")

        try:
            choice = int(choice)
        except ValueError:
            print("That's not an integer value!")
            continue

        if choice == 1:
```

```
            shop.displaystock()

        elif choice == 2:
            customer.rentalTime =
shop.rentCarOnHourlyBasis(customer.requestCar())
            customer.rentalBasis = 1

        elif choice == 3:
            customer.rentalTime =
shop.rentCarOnDailyBasis(customer.requestCar())
            customer.rentalBasis = 2

        elif choice == 4:
            customer.rentalTime =
shop.rentCarOnWeeklyBasis(customer.requestCar())
            customer.rentalBasis = 3

        elif choice == 5:
            customer.bill = shop.returnCar(customer.returnCar())
            customer.rentalBasis, customer.rentalTime, customer.cars =
0,0,0
        elif choice == 6:
            break
        else:
            print("Invalid input. Please enter number between 1-6 ")

    print("Thank you for using the car rental system.")


if __name__=="__main__":
    main()
```

```
        ====== Car Rental Shop =======
        1. Display available cars
        2. Request a car on hourly basis $5
        3. Request a car on daily basis $20
        4. Request a car on weekly basis $60
        5. Return a car
        6. Exit

Enter choice: 5
Are you sure you rented a car with us?

        ====== Car Rental Shop =======
        1. Display available cars
        2. Request a car on hourly basis $5
        3. Request a car on daily basis $20
        4. Request a car on weekly basis $60
        5. Return a car
```

```
        6. Exit

Enter choice: 4
How many cars would you like to rent?3
You have rented 3 car(s) on weekly basis today at 12 hours.
You will be charged $60 for each week per car.
We hope that you enjoy our service.

        ====== Car Rental Shop =======
        1. Display available cars
        2. Request a car on hourly basis $5
        3. Request a car on daily basis $20
        4. Request a car on weekly basis $60
        5. Return a car
        6. Exit

Enter choice: 2
How many cars would you like to rent?6
You have rented a 6 car(s) on hourly basis today at 12 hours.
You will be charged $5 for each hour per car.
We hope that you enjoy our service.

        ====== Car Rental Shop =======
        1. Display available cars
        2. Request a car on hourly basis $5
        3. Request a car on daily basis $20
        4. Request a car on weekly basis $60
        5. Return a car
        6. Exit

Enter choice: 5
Thanks for returning your car. Hope you enjoyed our service!
That would be $0

        ====== Car Rental Shop =======
        1. Display available cars
        2. Request a car on hourly basis $5
        3. Request a car on daily basis $20
        4. Request a car on weekly basis $60
        5. Return a car
        6. Exit
```

class

```
```