6.18. Scheduling Reservations Reed's Rent-a-Car is a traditional auto rental company facing the problem of assigning vehicles to weekend demands. However, Reed's distinguishes rentals by car type. Its fleet consists of three compact (C) cars, five mid-size (M) cars and three full-size (F) cars. The customer demands that have been logged in are listed below.

Days	C	M	F
Fri–Mon	0	1	0
Fri–Sat	1	2	1
Fri–Sun	2	2	1
Sat–Sun	1	3	0
Sat–Mon	3	0	0
Sun–Sun	0	1	1

The rental rates depend on how many days the contract covers. Prices for compact cars are shown below. Mid-size cars carry a 10 percent premium, and full-size cars carry a 20 percent premium.

Days	1	2	3	4
Rate	39.95	74.95	99.95	119.95

(a) Assume Reed's were to prohibit a customer who ordered one size from renting another size. What is the maximum revenue that can be generated from the list of orders?

(b) Assume Reed's were to permit a customer to substitute a larger size for any order, but with no change in price. What is the maximum revenue that can be generated from the list of orders?

(c) In the optimal solution of **(b),** what percentage of dollar demand is satisfied?