Operations at Conley Fisheries (from B&F text)

Clint Conley, president of Conley Fisheries, Inc., operates a fleet of cod fishing boats out of Newbury point, Massachusetts. Clint's Father started the company forty years ago but recently turned the business over to Clint, who has been working for the family business since earning his MBA ten years ago. Every weekday of the year, each boats leaves early in the morning, fishes for the most of the day and completes its codfish (3500 lbs. of codfish) by mid-afternoon. The boat then has a number of ports where it can sell its daily catch. The price of some codfish at some ports is very uncertain and can change quite a bit even on daily basis. Also, the price of codfish tends to be different at different ports. Furthermore, some ports have only have limited demand for codfish, and so if a boat arrives relatively later than other fishing boats at that port, the catch of fish cannot be sold and must be disposed of in ocean waters.

To keep Conley Fisheries' problem simple enough to analyze with ease, assume that Conley Fisheries operates only one boat, and that daily expenses of the boat are $ 10,000 per day. Also assume that the boat is always able to catch all the fish that it can hold, which is 3,500 lb. of codfish.

Assume that Conley fisheries' boat can bring its catch either the port in Gloucester or the port in Rockport, Massachusetts. Gloucester is a major port for the codfish with a well-established market. The price of codfish in Gloucester is $ 3.25/ lb., and this price has been stable for quite some time. The price of the codfish in Rockport is tends to be a bit higher than Gloucester but has a lot of variability. Clint has estimated that the daily codfish in Rockport is Normally distributed with a mean μ = $ 3.65/lb. and with a standard deviation of $\sigma = \$0.20/lb$.

The port of Gloucester has a very large market for codfish, and Conley Fisheries' never has problem selling their codfish in Gloucester. In contrast, the port in Rockport is much smaller, and sometimes the boat is unable is to sell part or all of its daily catch in Rockport. Based on past history Clint has estimated that the demand for codfish in Rockport that he faces his boat arrives at the port in Rockport obeys discrete probability distribution depicted in the following table.

Demand(lbs. of codfish)	Probability
0	0.02
1000	0.03
2000	0.05
3000	0.08
4000	0.33
5000	0.29
6000	0.20

It is assumed that the price in codfish in Rockport and the demand for codfish in Rockport faced by Conley Fisheries are independent of another. Therefore, there is no correlation between the daily price of codfish and daily demand in Rockport faced by Conley Fisheries.

At the start of any given day, the decision Clint Conley faces is which port to use for selling his daily catch. The price of the codfish that the catch might command in Rockport is only known if and when the boat docks at the port and negotiates with the buyers. After the boats docks at one of the two ports, it must sell its catch at that port or not at all, since it takes too much time to pilot the boat out of one port and power it all the way to the other port.