1. A paper seller boy buys newspaper for 33 cents each & sells them for 50 cents each. Newspapers not sold at the end of the day are sold as scrap at 5 cents each. Newspapers can be purchased in bundles of 10. Thus the paper seller boy can buy 50, 60 & so on. There are 3 types of news days, good, fair & poor with probabilities 0.35, 0.45 and 0.2. The distribution of papers demanded on each of these days is given. The problem is to determine the optimal number of papers the newspaper seller should purchase. This will be accomplished by simulating demands for 20 days & recording profits from sales each day. The news paper seller buys 7 bundles each day.

Distribution of newspapers demanded

Demand	probability		
	Good	Fair	Poor
40	0.03	0.10	0.44
50	0.05	0.18	0.22
60	0.15	0.40	0.16
70	0.20	0.20	0.12
80	0.35	0.08	0.06
90	0.15	0.04	0.00
100	0.07	0.00	0.00

Types of news days	Probability
good	0.35
fair	0.45
poor	0.20

Random digits

i) types of newsdays : 96, 77, 49, 46, 43, 32, 49, 00, 16, 24, 31, 14, 41, 61, 85, 08, 15, 97, 52, 78

ii) Demand : 80, 20, 15, 88, 98, 65, 86, 73, 44, 60, 66, 29, 18, 96, 93, 73, 81, 46, 76, 96

Day	Type of newsday	Demand	Revenue from sales ($)	Lost profit from excess demand	salvag from sale of scrap	Daily profit ($)
1.	poor	60	30	-	0.5	7.4
2.	fair	50	25	-	1	2.9
3.	fair	50	25	-	1	2.9
4.	fair	48	35	-	-	11.9
5.	fair	90	35	20(50-33) 3.4	-	8.5
6.	good	80	35	1.7	-	10.2
7.	fair	70	35	-	-	11.9
8.	good	80	38	1.7	0.5	7.4
9.	good	70	35	-	-	11.9
10.	good	80	35	1.7	-	10.2
11.	good	80	35	1.7	-	10.2
12.	good	70	35	-	-	11.9
13.	fair	50	25	-	1	2.9
14.	fair	80	35	1.7	-	10.2
15.	poor	70	35	-	-	11.9
16.	good	80	35	1.7	-	10.2
17.	good	60	30	-	0.5	7.4
18.	poor	50	25	-	1	2.9
19.	fair	70	35	-	-	11.9
20.	fair	80	35	1.7.	-	10.2