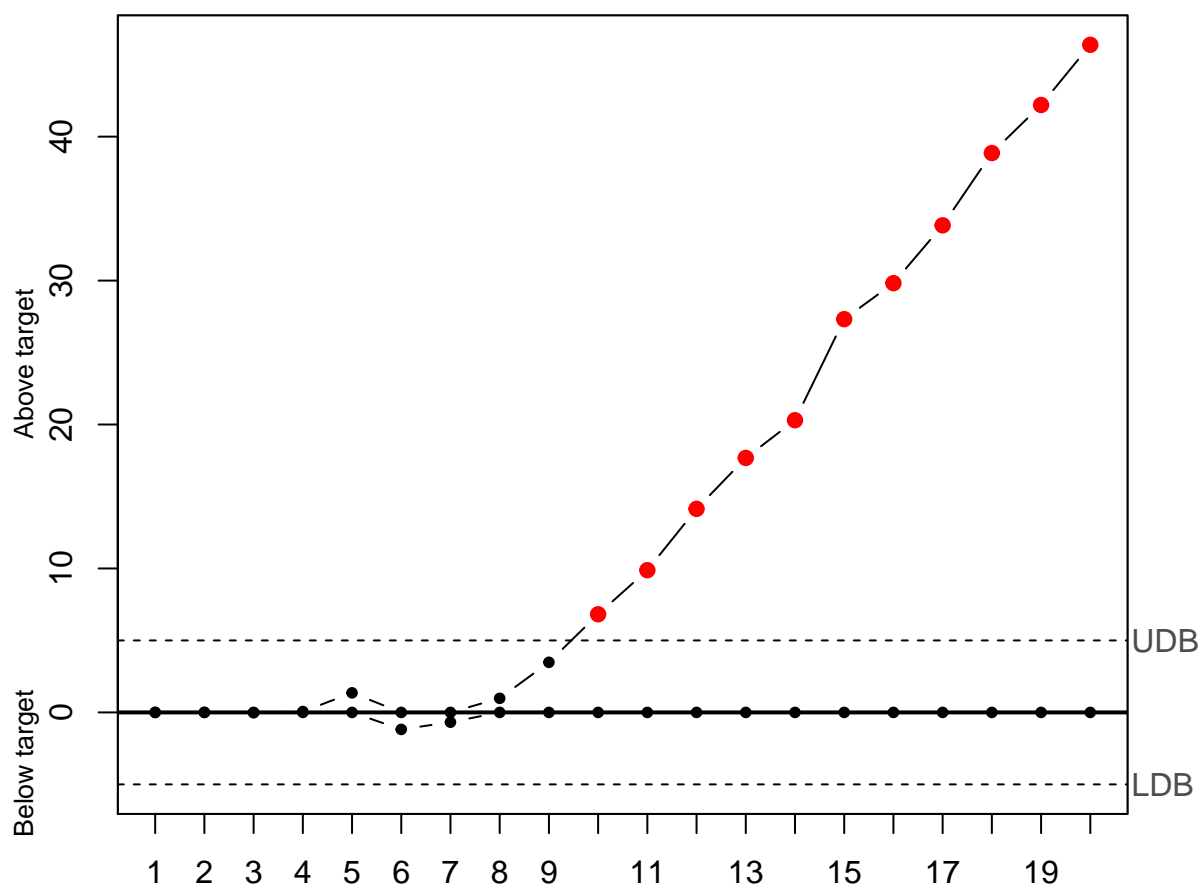


Quiz from Chapter 9

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A quick glance at the scatter plot of the observations would indicate a trend upward in the data. This upward trend is picked up in the cumulative sum chart after around the 9th observation (see plot below).



K is typically 0.5 times the shift that is desired to be detected. Since the desired detection is 1.0σ

$$\frac{1}{2}\sigma = 12.5$$

$$H = 5\sigma = 125$$

b)

The estimate for σ in part a doesn't seem reasonable, $\hat{\sigma} = 34.4344905$.

The observations and plotted data points are

xi	Cplus	Cnegative
1045	0.00	0.00
1055	0.00	0.00
1037	0.00	-0.02
1064	0.06	0.00
1095	1.36	0.00
1008	0.00	-1.18
1050	0.00	-0.68
1087	0.98	0.00
1125	3.48	0.00
1146	6.82	0.00
1139	9.88	0.00
1169	14.14	0.00
1151	17.68	0.00
1128	20.30	0.00
1238	27.32	0.00
1125	29.82	0.00
1163	33.84	0.00
1188	38.86	0.00
1146	42.20	0.00
1167	46.38	0.00