

n	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
[1,]	-1.19142464	0.2898152	1.82160152	-0.543182582	-1.3744056	1.1268205
[2,]	0.54930055	0.4543784	-1.52253272	-0.001281222	-0.9876912	0.2234988
[3,]	-0.06240514	2.0553488	0.16721145	0.282081085	-0.3447839	-0.7278158
[4,]	0.2654415	0.9102364	-1.31293452	0.25322813	0.807361	-0.2769147
[5,]	-0.23459751	-0.383977	0.73865928	-0.396630139	0.2729853	-0.3595373
[6,]	-0.9972716	1.2410075	0.05183421	0.273353999	1.2166924	0.1815539
[7,]	-1.39796525	0.1973786	-0.49913639	-0.402116226	0.1723414	-1.1987178
[8,]	-0.22628218	-0.9612897	0.81962471	0.269584781	1.2505752	0.1697855

Step 1 First we have generated 6 samples from a univariate distribution

Step 2 For each of the 6 samples we have calculated the T2 at point k = 3, 4, 5, 6 keeping at least 2 observations in each sample

> a

Sample #	T2 at k = 3	T2 at k = 4	T2 at k = 5	T2 at k = 6
1	0.19762562	1.18928439	1.88299804	0.6060744
2	0.86844319	1.61662263	0.37236989	2.09678543
3	0.03487597	0.25756367	0.02126758	0.02298761
4	0.07142481	0.03850383	0.1594644	0.01403302
5	14.50264785	3.46340996	3.20205735	0.74381224
6	0.68755159	0.42903856	0.19737253	0.60546422

Remove at k = 3

Step 1	Find 90% quantile from "T2 at k = 3" column
Step 2	Remove Row 5 since it is >= value of STEP 1
Step 3	Find 90% quantile from "T2 at k = 4" column that contains 5 values now
Step 4	Remove Row 2 Since it is >= value of STEP 3
Step 5	Find 90% Quantile from "T2 at k = 5" column that contains 4 values now
Step 6	Remove Row 1 Since it is >= value of STEP 5
Step 7	Find 90% Quantile from "T2 at k = 6" column that contains 3 values now

So Finally we found the following

k	Quantile
3	14.5026479
4	1.6166226
5	1.882998
6	0.6054642