

APPENDIX: A-2

PROGRAM IN BASIC:

```
10 DIM X(500)
20 RANDOMIZE TIMER
30 INPUT THETA , T
40 RT=EXP(-T/THETA)
50 LPRINT "THETA=";THETA,"T=";T,"RT=";RT
60 LPRINT "-----"
70 LPRINT "D","EN","VAR(N)","E(RT)"
80 LPRINT "-----"
90 D=0.2
100 EN=0:VN=0:R=0
110 FOR I=1 TO 500
120 S=0:K=5
130 FOR J=1 TO K
140 U=RND
150 IF X(J)<T THEN 170
160 S=S+1
170 NEXT J
180 RTE=S/K
190 SN=(S-K*RTE*RTE)/(K-1)
200 AN=1.96+.01/K
210 IF K<=SN*AN*AN/(D*D) THEN 280
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```
220 K=K+1
230 U=RND
240 X(K)=-THETA*LOG(U)
250 IF X(K)<T THEN 180
260 S=S+1
270 GOTO 180
280 EN=EN+K:VN=VN+K*K:R=R+RTE
290 NEXT I
300 EN=EN/500:VN=VN/500-EN*EN:R=R/500
310 LPRINT D,EN,VN,R
320 D=D-0.02:IF D>=0.06 THEN 100
330 LPRINT *-----*
340 END
```