```
 1
 2      POISSON REDUNDANT RELIABILITY OF OPERATING AND STANDBY UNITS (POISSONS.BAS)
 3      ORIGINAL DATE: Circa 1985
 4      REVISION DATE: October 24, 2020
 5      AUTHOR: Phil Rutherford
 6      RUN DATE: 24-10-2020 (DD-MM-YYYY)
 7      RUN TIME: 20:48:34
 8      RUN WITH MMBASIC.EXE (www.mmbasic.com)
 9
10      APPLICABLE TO PROBLEM OF M OPERATNG AND N STANDBY UNITS
11      STANDBY LAMDA ASSUMED ZERO, THEREFORE MU=M*LAMDA*T
12
13      MINIMUM NUMBER OF OPERATING UNITS REQUIRED (M)  ? 10
14      NUMBER OF EXCESS (SPARE) STANDBY UNITS (N)      ? 5
15      OPERATING UNIT FAILURE RATE (PER HOUR)          ? 0.000001
16      MISSION TIME (HOURS)                            ? 87600
17
18      RELIABILITY WITH 0 SPARES IS  0.416445366    P(=> 10/ 10.S)
19      RELIABILITY WITH 1 SPARES IS  0.7812515067   P(=> 10/ 11.S)
20      RELIABILITY WITH 2 SPARES IS  0.9410365963   P(=> 10/ 12.S)
21      RELIABILITY WITH 3 SPARES IS  0.9876938424   P(=> 10/ 13.S)
22      RELIABILITY WITH 4 SPARES IS  0.9979117793   P(=> 10/ 14.S)
23      RELIABILITY WITH 5 SPARES IS  0.9997019619   P(=> 10/ 15.S)
24
```