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RANK-ORDERED TEST-TO-FAILURE DATA (TTFTEST.BAS)

ORIGINAL DATE: Circa 1986
REVISION DATE: November 10, 2020
AUTHOR: Phil Rutherford (www.philrutherford.com)
RUN DATE: 10-11-2020 (DD-MM-YYYY)
RUN TIME: 15:42:40
RUN WITH MMBASIC.EXE (www.mmbasic.com)

COMPUTES FAILURE RATE FROM A BATCH OF UNITS ALL RUN UNTIL FAILURE
(E.G. LIGHT BULBS)

TEST ITEM TIMES-TO-FAILURE (HR)

4400	6700	2300	9000	9900
2300	100	2400	1300	3400
9100	8700	7400	3500	5600
1300	3500	200	4500	6700
1600	7400	9300	6300	6300
600	7400	4800	2000	6400
1700	8300	6500	3700	9200
5300	6400	5900	2600	10000
1600	3800	4200	9200	5300
5400	3700	5300	1900	2000
7400	300	900	4500	2400
2300	500	6600	4400	2200
3400	8900	3300	2200	1100
7700	9900	2400	4500	5800
7600	3900	1000	8200	6300
5600	3400	1300	1100	4500
5900	3300	2200	5600	7300
9500	4500	2400	6700	5600
9300	7400	6400	7500	3800
2900	9200	7400	8600	6400

TOTAL ITEMS = 100

FAILURE TIMES (HR) FOR PERIOD 1
100 200 600 300 900 500 1000

FAILURE TIMES (HR) FOR PERIOD 2
1300 1300 1600 2000 1700 1600 1900 2000 1100 1300 1100

FAILURE TIMES (HR) FOR PERIOD 3
2300 2300 2400 2600 2400 2300 2200 2200 2400 2200 2400 2900

FAILURE TIMES (HR) FOR PERIOD 4
3400 3500 3500 3700 3800 3700 3400 3300 3900 3400 3300 3800

FAILURE TIMES (HR) FOR PERIOD 5
4400 4500 4800 4200 4500 4400 4500 4500 4500

FAILURE TIMES (HR) FOR PERIOD 6
5600 5300 5900 5300 5400 5300 5800 5600 5900 5600 5600

FAILURE TIMES (HR) FOR PERIOD 7
6700 6700 6300 6300 6400 6500 6400 6600 6300 6700 6400 6400

FAILURE TIMES (HR) FOR PERIOD 8
7400 7400 7400 7400 7700 7600 7300 7400 7500 7400

FAILURE TIMES (HR) FOR PERIOD 9

67 9000 8700 8300 8900 8200 8600
68
69 FAILURE TIMES (HR) FOR PERIOD 10
70 9900 9100 9300 9200 10000 9200 9900 9500 9300 9200
71
72

73	LIFE (HRS)	# FAILURES	FAILURE RATE	SURVIVERS	RELIABILITY
74					
75	0 - 1000	7	7e-05	93	0.93
76	1000 - 2000	11	0.0001182795699	82	0.82
77	2000 - 3000	12	0.0001463414634	70	0.7
78	3000 - 4000	12	0.0001714285714	58	0.58
79	4000 - 5000	9	0.0001551724138	49	0.49
80	5000 - 6000	11	0.0002244897959	38	0.38
81	6000 - 7000	12	0.0003157894737	26	0.26
82	7000 - 8000	10	0.0003846153846	16	0.16
83	8000 - 9000	6	0.000375	10	0.1
84	9000 - 10000	10	0.001	0	0

85
86 AVERAGE PERIOD FAILURE RATE (/HR) 0.0002961116673

87
88 TOTAL NO. OF FAILURES 100

89 TOTAL TIME ON TEST (HRS) 491900

90 CUMULATIVE FAILURE RATE (/HR) 0.0002032933523

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