WISC LIBRARY

File # 2.01.02

Operation: Exponential Routine, Series

$r = e^b$

EXP ~~EXS~~

Use

a) Calling Linkage

L :	100	8	[L + 2]	[35f]	[35f]
L + 1:	—	5	[—]	[—]	[EXP 1]
L + 2:	—	0	] b [	] r [	[β]

b) Adaptation Link Word

L + 2: ~~35 0~~ 021]W[~~35 0~~ 01e β

c) Storage

j = ~~32~~ 33 words

k = ~~30~~ 30 orders

3 // constants

7 // opstos: ~~35a~~ 359 to 35f

new working version 11-27-59 CWMc

Requirements and Performance

a) Method of operation Floating point, series expansion

b) Additional routines required None

c) Range and form of variable ~~b must be real and normalized, resulting in positive or negative such that, $-174.65 = -255 \ln 2 < b < 255 \ln 2 = 176.97$.~~ b ≤ 255 ln 2

d) Accuracy $\pm 3 \times 2^{-40}$ of the significant number.

e) Performance time ~~Average 1.9 seconds~~ Maximum 2.7 seconds

If b ≥ 255 ln 2 Routine Halts (3e8)