1 SUMMARY
To compute values of the exponential integral
\[ E(x) = \int_{x}^{\infty} \frac{e^{-t}}{t} \, dt \quad x > 0 \]

The subroutine uses approximations of the form
(a) for \( 0 < x \leq 4 \)
\[ \sum_{n=0}^{21} a_n \left( \frac{x}{4} \right)^n + \log x \]
(b) for \( x > 4 \)
\[ \sum_{n=0}^{20} b_n \left( \frac{4}{x} \right)^n \exp(-x) \]


2 HOW TO USE THE PACKAGE
The single precision version

CALL FC11A(E,X)

The double precision version

CALL FC11AD(E,X)

E is a REAL (DOUBLE PRECISION in the D version) variable which is set by the subroutine to the computed value of the function \( E(x) \).

X is a REAL (DOUBLE PRECISION in the D version) variable which must be set by the user to the value of the argument \( x \). Restriction: \( x \geq 0 \), if \( x < 0 \) the function is evaluated with \( |x| \).

3 GENERAL INFORMATION
Use of common: none.
Workspace: none.
Other subroutines: none.
Input/Output: none.
Restrictions:
\( x \geq 0 \).
Accuracies:
6 figures using 4-byte arithmetic
12 figures using 8-byte arithmetic