Assignment 2 DESIGN.pdf

Description of Program

This program simulates calculating mathematical constants e and pi. These constants are calculated term by term from summations and terms required are determined by once the error between terms to become less than the given constant EPSILON e $=10^{-14}$. The main program mathlib-test.c compiles all the methods of solving e and pi and allows for the users to use created commands denoted with a '-' .

Files to be included in the "asgn1" files

e.c:
Implements e() and e_terms()

mathlib-test.c:
Implements the methods such as e.c to print out e and terms base off commands such as -e
mathlib.h:
Header file the provides a link to use sources files within mathlib-test.c

Makefile:

Linked source file to main through command prompt and allowing for new source files to be run quickly. It also cleans up the file format tools and makes it more accessible

DESIGN.pdf:
Describes the entire assignment along with all information regarding the program

Source code for e.c:

Initialize Double error = 1
Initialize Double term = 0
Initilize Double e = 1
initializeDouble preterm =1
Initialize Double pree
Initialize cont =1

While (error>EPSILON(defines as 10^{-14}))

pree=e

E is the summation of (cont/(term*preterm))

Preterm = term *preterm

Term is keeping track for the looping

Error= e-pree

Print out e and term