**=======================================================================RELABEL**

 **RELABEL**

 **PROGRAM RELABEL RELABEL**

 **=============== RELABEL**

 **VERSION 69-1 (APRIL 1969) RELABEL**

 **VERSION 73-1 (JUNE 1973) RELABEL**

 **VERSION 77-1 (SEPTEMBER 1977) RELABEL**

 **VERSION 80-1 (AUGUST 1980) IBM VERSION RELABEL**

 **VERSION 83-1 (JANUARY 1983) COMBINED STATEMENT NUMBER SEQUENCE RELABEL**

 **AND LINE I.D. INTO ONE PROGRAM. RELABEL**

 **VERSION 86-1 (JANUARY 1986) FORTRAN-77/H VERSION RELABEL**

 **VERSION 88-1 (JULY 1988) \*OPTION...INTERNALLY DEFINE ALL I/O RELABEL**

 **FILE NAMES (SEE, SUBROUTINES FILIO1 RELABEL**

 **AND FILIO2 FOR DETAILS). RELABEL**

 **\*IMPROVED BASED ON USER COMMENTS. RELABEL**

 **VERSION 89-1 (JANUARY 1989)\*PSYCHOANALYZED BY PROGRAM FREUD TO RELABEL**

 **INSURE PROGRAM WILL NOT DO ANYTHING RELABEL**

 **CRAZY. RELABEL**

 **\*UPDATED TO USE NEW PROGRAM CONVERT RELABEL**

 **KEYWORDS. RELABEL**

 **\*ADDED LIVERMORE CIVIC COMPILER RELABEL**

 **CONVENTIONS. RELABEL**

 **VERSION 92-1 (JANUARY 1992)\*ADDED FORTRAN SAVE OPTION RELABEL**

 **VERSION 94-1 (JANUARY 1994)\*COMPLETE RE-WRITE RELABEL**

 **\*OUTPUT MINIMUM NON-BLANK LENGTH FOR RELABEL**

 **EACH LINE - NO SEQUENCE NUMBERS. RELABEL**

 **\*INCREASED MAXIMUM NUMBER OF LABELS RELABEL**

 **PER ROUTINE FROM 1000 TO 50,000 RELABEL**

 **\*CAN NOW PROCESS UPPER OR LOWER CASE RELABEL**

 **CODING. RELABEL**

 **\*SKIP IMBEDDED BLANKS IN KEYWORDS. RELABEL**

 **\*ADDED WRITE(XX,XX,ERR=YYY,END=ZZZ) RELABEL**

 **\*ADDED OPEN(XX,ERR=YYY,END=ZZZ) RELABEL**

 **\*ADDED CLOSE(XX,ERR=YYY,END=ZZZ) RELABEL**

 **\*INTEGER INSTEAD OF CHARACTERS IS NO RELABEL**

 **LONGER SUPPORTED - ALL CHARACTERS RELABEL**

 **MUST BE IDENTIFIED AS CHARACTERS. RELABEL**

 **\*VARIABLE FILENAMES TO ALLOW ACCESS RELABEL**

 **FILE STRUCTURES RELABEL**

 **(WARNING - INPUT PARAMETER FORMAT RELABEL**

 **HAS BEEN CHANGED) RELABEL**

 **\*CLOSE ALL FILES BEFORE TERMINATING RELABEL**

 **(SEE, SUBROUTINE ENDIT) RELABEL**

 **VERSION 96-1 (JANUARY 1996) \*COMPLETE RE-WRITE RELABEL**

 **\*IMPROVED COMPUTER INDEPENDENCE RELABEL**

 **\*ALL DOUBLE PRECISION RELABEL**

 **\*ON SCREEN OUTPUT RELABEL**

 **\*IMPROVED OUTPUT PRECISION RELABEL**

 **\*DEFINED SCRATCH FILE NAMES RELABEL**

 **\*INCREASED THE NUMBER OF LABELS RELABEL**

 **IN A ROUTINE FOR 5,000 TO 50,000 RELABEL**

 **VERSION 99-1 (MARCH 1999) \*GENERAL IMPROVEMENTS BASED ON RELABEL**

 **USER FEEDBACK RELABEL**

 **VERS. 2000-1 (FEBRUARY 2000)\*UPDATED TO IGNORE ( AND ) IN QUOTES RELABEL**

 **\*GENERAL IMPROVEMENTS BASED ON RELABEL**

 **USER FEEDBACK RELABEL**

 **VERS. 2002-1 (MAY 2002) \*OPTIONAL INPUT PARAMETERS RELABEL**

 **\*CORRECTED END=, ERR=, WHEN I/O UNIT RELABEL**

 **NUMBER IS DIMENSIONED RELABEL**

 **VERS. 2004-1 (MARCH 2004) \*ADDED INCLUDE FOR COMMON RELABEL**

 **\*INCREASED THE NUMBER OF LABELS IN RELABEL**

 **A ROUTINE FOR 50,000 TO 100,000 RELABEL**

 **VERS. 2007-1 (DEC. 2007) \*72 CHARACTER FILE NAMES. RELABEL**

 **VERS. 2010-1 (Apr. 2010) \*General update based on user feedbackRELABEL**

 **VERS. 2012-1 (Aug. 2012) \*Added CODENAME RELABEL**

 **\*32 and 64 bit COMPATIBLE RELABEL**

 **\*Added ERROR stop RELABEL**

 **VERS. 2015-1 (Jan. 2015) \*Replaced ALL 3 way IF Statements. RELABEL**

 **VERS. 2017-1 (May 2017) \*Updated based on user feedback. RELABEL**

 **VERS. 2018-1 (Jan. 2018) \*On-line output for ALL ENDERROR RELABEL**

 **VERS. 2019-1 (June 2019) \*Identical to 2018-1 RELABEL**

 **VERS. 2020-1 (Feb. 2020) \*Identical to 2018-1 RELABEL**

 **VERS. 2021-1 (Jan. 2021) \*Update fot FORTRAN 2018 RELABEL**

 **VERS. 2023-1 (Feb. 2023) \*Identical to 2021-1 RELABEL**

 **RELABEL**

 **OWNED, MAINTAINED AND DISTRIBUTED BY RELABEL**

 **------------------------------------ RELABEL**

 **THE NUCLEAR DATA SECTION RELABEL**

 **INTERNATIONAL ATOMIC ENERGY AGENCY RELABEL**

 **P.O. BOX 100 RELABEL**

 **A-1400, VIENNA, AUSTRIA RELABEL**

 **EUROPE RELABEL**

 **RELABEL**

 **ORIGINALLY WRITTEN BY RELABEL**

 **------------------------------------ RELABEL**

 **Dermott E. Cullen RELABEL**

 **RELABEL**

 **PRESENT CONTACT INFORMATION RELABEL**

 **--------------------------- RELABEL**

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 **RELABEL**

 **PURPOSE RELABEL**

 **------- RELABEL**

 **THIS PROGRAM IS DESIGNED TO RE-LABEL A FORTRAN PROGRAM SO THAT RELABEL**

 **STATEMENT LABELS ARE IN INCREASING ORDER IN INCREMENTS OF 10 RELABEL**

 **WITHIN EACH ROUTINE. RELABEL**

 **RELABEL**

 **THE FOLLOWING TYPES OF FORTRAN STATEMENTS ARE CONSIDERED, RELABEL**

 **RELABEL**

 **GO TO NN RELABEL**

 **GO TO (NN,MM,.....,JJ,KK),LL (MULTI LINE O.K.) RELABEL**

 **DO NN RELABEL**

 **IF(......) NN,MM,...JJ,KK RELABEL**

 **IF(......) GO TO NN RELABEL**

 **IF(......) GO TO (NN,MM,.....,JJ,KK),LL (MULTI LINE O.K.) RELABEL**

 **IF(......) READ(.....,END=NN,ERR=MM) RELABEL**

 **IF(......) WRITE(.....,END=NN,ERR=MM) RELABEL**

 **READ(......,END=NN,ERR=MM) RELABEL**

 **OPEN(......,END=NN,ERR=MM) RELABEL**

 **RELABEL**

 **GO TO STATEMENTS MAY APPEAR IN THE FORM 'GO TO' OR 'GOTO'. IF RELABEL**

 **THERE IS ROOM ON THE LINE 'GOTO' WILL BE CONVERTED TO 'GO TO'. RELABEL**

 **WHETHER OR NOT 'GOTO' IS CONVERTED TO 'GO TO' IT WILL BE TREATED RELABEL**

 **AS IDENTICAL TO 'GO TO' FOR SUBSEQUENT PROCESSING AND RELACEMENT RELABEL**

 **OF STATEMENT NUMBERS. RELABEL**

 **RELABEL**

 **ALL OTHER STATEMENT TYPES ARE NOT CHANGED. IN PARTICULAR ALL I/O RELABEL**

 **STATEMENTS AND ASSOCIATED FORMAT STATEMENTS ARE NOT CONVERTED. RELABEL**

 **RELABEL**

 **WARNING RELABEL**

 **------- RELABEL**

 **THIS PROGRAM IS ONLY DESIGNED TO MAINTAIN ENDF/B PRE-PROCESSING RELABEL**

 **PROGRAMS, WHICH ONLY USE A RESTRICTED SET OF FORTRAN STATEMENT RELABEL**

 **TYPES THAT CAN BE USED ON A VARIETY OF DIFFERENT TYPES OF RELABEL**

 **COMPUTERS. THIS PROGRAM IS NOT DESIGNED TO HANDLE ALL POSSIBLE RELABEL**

 **TYPES OF FORTRAN STATEMENTS. RELABEL**

 **RELABEL**

 **THE FORTRAN STATEMENTS DESCRIBED ABOVE AND TREATED BY THIS PROGRAMRELABEL**

 **DO NOT INCLUDE ALL POSSIBLE FORTRAN STATEMENTS. AS SUCH THIS RELABEL**

 **PROGRAM IS NOT COMPLETELY GENERAL AND SHOULD ONLY BE USED WITH RELABEL**

 **PROGRAMS THAT ONLY USE THE FORTRAN STATEMENTS DESCRIBED ABOVE. RELABEL**

 **RELABEL**

 **FAILURE TO FOLLOW THESE INSTRUCTIONS CAN LEAD TO ERROR IN PROGRAMSRELABEL**

 **RELABEL**

 **OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINES FILIO1 AND FILIO2) RELABEL**

 **---------------------------------------------------------------- RELABEL**

 **UNIT FILE NAME DESCRIPTION RELABEL**

 **---- ---------- ----------- RELABEL**

 **2 RELABEL.INP INPUT PARAMETERS RELABEL**

 **3 RELABEL.LST OUTPUT REPORT RELABEL**

 **10 RELABEL.IN PROGRAM TO READ RELABEL**

 **11 RELABEL.OUT PROGRAM TO WRITE RELABEL**

 **12 (SCRATCH) RELABEL**

 **RELABEL**

 **INPUT CARDS RELABEL**

 **----------- RELABEL**

 **LINE COLUMNS DEFINITION RELABEL**

 **---- ------- ---------- RELABEL**

 **1 1-72 INPUT PROGRAM FILENAME RELABEL**

 **(STANDARD OPTION = RELABEL.IN) RELABEL**

 **2 1-72 OUTPUT PROGRAM FILENAME RELABEL**

 **(STANDARD OPTION = RELABEL.OUT) RELABEL**

 **RELABEL**

 **LEAVE THE DEFINITION OF THE FILENAMES BLANK - THE PROGRAM WILL RELABEL**

 **THEN USE STANDARD FILENAMES. RELABEL**

 **RELABEL**

 **EXAMPLE INPUT NO. 1 RELABEL**

 **------------------- RELABEL**

 **TO READ \PREPRO94\RECENT\RECENT.FOR AND RELABEL**

 **WRITE \PREPRO94\RECENT\RECENT.NEW THE FOLLOWING 2 INPUT LINES RELABEL**

 **ARE REQUIRED, RELABEL**

 **RELABEL**

 **\PREPRO94\RECENT\RECENT.FOR RELABEL**

 **RELABEL**

 **EXAMPLE INPUT NO. 2 RELABEL**

 **------------------- RELABEL**

 **TO READ RELABEL.IN AND WRITE RELABEL.OUT THE FOLOWING 2 INPUT RELABEL**

 **LINES ARE REQUIRED, RELABEL**

 **RELABEL**

 **RELABEL.IN RELABEL**

 **RELABEL.OUT RELABEL**

 **RELABEL**

 **EXAMPLE INPUT NO. 3 RELABEL**

 **------------------- RELABEL**

 **TO READ RELABEL.IN AND WRITE RELABEL.OUT, SINCE THESE ARE THE RELABEL**

 **STANDARD OPTIONS THE 2 INPUT LINES CAN BE COMPLETELY BLANK. RELABEL**

 **RELABEL**

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