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===== Merger
PROGRAM MERGER Merger
===== Merger
VERSION 80-1 (JANUARY 1980) Merger
VERSION 80-2 (DECEMBER 1980) Merger
VERSION 82-1 (JANUARY 1982) Merger
VERSION 83-1 (JANUARY 1983) *NEW, MORE COMPATIBLE I/O UNIT NUMBERS. Merger
VERSION 85-1 (AUGUST 1985) *FORTRAN-77/H VERSION Merger
VERSION 86-1 (JANUARY 1986) *ENDF/B-VI FORMATS Merger
VERSION 88-1 (JULY 1988) *OPTION...INTERNALLY DEFINE ALL I/O Merger
FILE NAMES (SEE, SUBROUTINES FILIO1 Merger
AND FILIO2 FOR DETAILS). Merger
*IMPROVED BASED ON USER COMMENTS. Merger
VERSION 89-1 (JANUARY 1989) *PSYCHOANALYZED BY PROGRAM FREUD TO Merger
INSURE PROGRAM WILL NOT DO ANYTHING Merger
CRAZY. Merger
*UPDATED TO USE NEW PROGRAM CONVERT Merger
KEYWORDS. Merger
*ADDED LIVERMORE CIVIC COMPILER Merger
CONVENTIONS. Merger
VERSION 92-1 (JANUARY 1992) *UPDATED BASED ON USER COMMENTS Merger
*ADDED FORTRAN SAVE OPTION Merger
VERSION 92-2 (JULY 1992) *ALLOW UP TO 99 ENDF/B DATA FILES. Merger
(TO ALLOW MANAGEMENT OF THE ENTIRE Merger
ENDF/B SYSTEM). Merger
VERSION 94-1 (JANUARY 1994) *VARIABLE ENDF/B DATA FILENAMES Merger
TO ALLOW ACCESS TO FILE STRUCTURES Merger
(WARNING - INPUT PARAMETER FORMAT Merger
HAS BEEN CHANGED) Merger
*ONLY SPECIFY FILENAMES - NO UNIT Merger
NUMBERS ON INPUT (WARNING - INPUT Merger
PARAMETERS FORMAT HAS BEEN CHANGED) Merger
*CLOSE ALL FILES BEFORE TERMINATING Merger
(SEE, SUBROUTINE ENDIT) Merger
*REQUEST LOG DELETED Merger
VERSION 96-1 (JANUARY 1996) *COMPLETE RE-WRITE Merger
*IMPROVED COMPUTER INDEPENDENCE Merger
*ALL DOUBLE PRECISION Merger
*ON SCREEN OUTPUT Merger
*UNIFORM TREATMENT OF ENDF/B I/O Merger
*IMPROVED OUTPUT PRECISION Merger
VERSION 99-1 (MARCH 1999) *GENERAL IMPROVEMENTS BASED ON Merger
USER FEEDBACK Merger
VERS. 2000-1 (FEBRUARY 2000) *GENERAL IMPROVEMENTS BASED ON Merger
USER FEEDBACK Merger
VERS. 2002-1 (MAY 2002) *OPTIONAL INPUT PARAMETERS Merger
VERS. 2004-1 (MARCH 2004) *ADDED INCLUDE TO DEFINE COMMON Merger
*ADDED TEND LINE IF NO DATA RETRIEVED Merger
VERS. 2007-1 (JAN. 2007) *CHECKED AGAINST ALL ENDF/B-VII. Merger
VERS. 2007-2 (JUNE 2007) *UP, TO 1,000 ENDF/B FILES. Merger
*72 CHARACTER FILE NAMES. Merger
VERS. 2010-1 (Apr. 2010) *General update based on user feedback Merger
VERS. 2012-1 (Aug. 2012) *Added CODENAME Merger
*32 and 64 bit Compatible Merger
*Added ERROR stop Merger
VERS. 2015-1 (Jan. 2015) *Replaced ALL 3 way IF Statements. Merger
Merger
OWNED, MAINTAINED AND DISTRIBUTED BY Merger
----- Merger
THE NUCLEAR DATA SECTION Merger
INTERNATIONAL ATOMIC ENERGY AGENCY Merger
P.O. BOX 100 Merger
A-1400, VIENNA, AUSTRIA Merger
EUROPE Merger
Merger
ORIGINALLY WRITTEN BY Merger
----- Merger
Dermott E. Cullen Merger
Merger
PRESENT CONTACT INFORMATION Merger

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LIMITS OF REQUESTS IF THEY ARE NOT DEFINED BY INPUT (I.E., IF THEY ARE ZERO) .

- (1) MAT OR ZA - IF THE UPPER LIMIT IS ZERO IT IS SET EQUAL TO THE LOWER LIMIT.
- (2) MF OR MT - IF THE UPPER LIMIT IS ZERO IT IS SET EQUAL TO THE MAXIMUM POSSIBLE VALUE, 99 OR 999 RESPECTIVELY.

WITH THESE CONVENTIONS AN ENTIRE EVALUATION MAY BE SELECTED BY MERELY SPECIFYING THE LOWER LIMIT OF MAT OR ZA. THE UPPER MAT OR ZA LIMIT WILL BE SET EQUAL TO THE LOWER LIMIT, THE LOWER LIMITS OF MF/MT WILL BE 0/0 AND THE UPPER LIMITS OF MF/MT WILL BE SET TO 99/999. THIS WILL CAUSE ALL SECTIONS OF A SINGLE EVALUATION TO BE SELECTED.

SATISFYING SELECTION CRITERIA

IN ORDER FOR A SECTION TO MEET THE SELECTION CRITERIA SPECIFIED BY ONE OF THE RETRIEVAL REQUESTS, EACH OF THE THREE FIELDS (MAT/MF/MT OR ZA/MF/MT) MUST INDIVIDUALLY SATISFY THE CORRESPONDING LIMITS OF THE REQUEST. IT IS NOT SUFFICIENT THAT THE MAT OF A SECTION LIE BETWEEN THE MINIMUM AND MAXIMUM MATS OF A REQUEST. THE MF AND MT WILL ALSO BE INDIVIDUALLY COMPARED TO THE MF AND MT LIMITS OF THE REQUEST. FOR EXAMPLE, A SECTION WITH MAT/MF/MT= 2500/3/2 DOES NOT SATISFY A REQUEST THAT SPECIFIES A REQUEST USING THE RANGE 2000/3/1 THROUGH 3000/3/1. THIS REQUEST SPECIFIES ALL MATERIALS WITH MAT BETWEEN 2000 AND 3000, BUT ONLY THOSE SECTIONS WITH MF/MT=3/1. SIMILARLY A REQUEST FOR 2000/3/1 THROUGH 3000/99/ 999 WILL NOT SELECT ANY SECTIONS WITH MF=1 OR 2, SINCE THE REQUEST SPECIFIES ALL MATERIALS WITH MAT BETWEEN 2000 AND 3000, BUT ONLY THOSE SECTIONS WITH MF= 3, OR MORE.

DUPLICATE SECTIONS

IF TWO OR MORE SECTIONS WITH THE SAME MAT/MF/MT ARE FOUND EITHER ON THE SAME OR DIFFERENT TAPES, THE SECTION FROM THE TAPE DEFINED EARLIEST IN THE INPUT CARDS WILL BE COPIED TO THE FINAL TAPE AND ALL OTHER SECTIONS WITH THE SAME MAT/MF/MT WILL BE SKIPPED. THE OUTPUT REPORT WILL INDICATE WHICH SECTIONS WERE COPIED FROM WHICH TAPES, AS WELL AS WHICH SECTIONS ARE DUPLICATE AND WERE SKIPPED.

REACTION INDEX

THIS PROGRAM DOES NOT UPDATE THE REACTION INDEX IN MF=1, MT=451. FOR EACH MATERIAL THE PROGRAM WILL FOLLOW THE CONVENTIONS DEFINED ABOVE AND ONLY COPY ONE SECTION MF=1, MT=451 AND SKIP ALL OTHERS (IF MORE THAN ONE). THIS CONVENTION HAS BEEN ADOPTED BECAUSE MOST USERS DO NOT REQUIRE A CORRECT REACTION INDEX FOR THERE APPLICATIONS AND IT WAS NOT CONSIDERED WORTHWHILE TO INCLUDE THE OVERHEAD OF CONSTRUCTING A CORRECT REACTION INDEX IN THIS PROGRAM. HOWEVER, IF YOU REQUIRE A REACTION INDEX FOR YOUR APPLICATION AFTER RUNNING THIS PROGRAM YOU MAY USE PROGRAM DICTIN TO CREATE ONE.

RETRIEVAL STATISTICS

THERE WILL ALWAYS BE AN OUTPUT REPORT LISTING INDICATING WHICH SECTIONS WERE SELECTED, WHICH DUPLICATE SECTIONS WERE SKIPPED, WHICH TAPE THE SECTION WAS ON, WHICH REQUEST (MAT/MF/MT OR ZA/MF/MT RANGE) CAUSED THE SECTION TO BE SELECTED AND HOW MANY CARDS WERE IN THE SECTION. IN ADDITION THE USER MAY OPTIONALLY OBTAIN A FILE CONTAINING THE SAME INFORMATION. THIS FILE MAY BE COMBINED WITH OTHER SIMILAR FILES OUTPUT BY THIS PROGRAM IN ORDER TO ACCUMULATE RETRIEVAL STATISTICS OVER A PERIOD OF TIME. IF SPECIFIED THIS FILE WILL CONTAIN THE FOLLOWING INFORMATION IN 6I7 FORMAT.

- (1) ZA
- (2) MAT
- (3) MF
- (4) MT

(5) NUMBER OF CARDS IN SECTION				Merger
(6) REQUEST NUMBER THAT CAUSED SECTION TO BE SELECTED				Merger
INPUT FILES				

UNIT	DESCRIPTION			Merger

2	INPUT CARDS (BCD - 80 CHARACTERS/RECORD)			Merger
VARY	FROM 1 TO 99 ENDF/B DATA FILES (BCD - 80 CHARACTERS/RECORD)			Merger
OUTPUT FILES				

UNIT	DESCRIPTION			Merger

3	OUTPUT REPORT LISTING (BCD - 120 CHARACTERS/RECORD)			Merger
10	MERGED ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)			Merger
OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINES FILIO1 AND FILIO2)				

UNIT	FILE NAME	DESCRIPTION		Merger

2	MERGER.INP	INPUT PARAMETERS		Merger
3	MERGER.LST	OUTPUT LISTING		Merger
11	ENDFB.OUT	RETRIEVED ENDF/B DATA		Merger
12	ENDFB.IN1	ENDF/B DATA TO READ...FILENAME WILL BE DEFINED		Merger
13	ENDFB.IN2	IN THE ORDER ENDFB.IN1, ENDFB.IN2,...ENDFB.I99		Merger
14	ENDFB.IN3	CORRESPONDING TO THE FIRST, SECOND,...99-TH		Merger
15	ENDFB.IN4	ENDF/B DATA FILE TO READ.		Merger
16	ENDFB.IN5			Merger
17	ENDFB.IN6			Merger
18	ENDFB.IN7			Merger
	.			Merger
	.			Merger
110	ENDFB.I99			Merger
INPUT CARDS				

CARD	COLUMNS	FORMAT	DESCRIPTION	Merger

1	1-72	A72	FILENAME FOR MERGED OUTPUT. (LEAVE BLANK FOR STANDARD = ENDFB.OUT)	Merger
2	1-66	16A4,A2	MERGED FILE LABEL IF BLANK - LABEL FROM FIRST FILE READ WILL BE OUTPUT	Merger
	67-70	I4	MERGED FILE ENDF/B NUMBER IF ZERO - NUMBER OF FIRST FILE READ WILL BE OUTPUT.	Merger
	71-72	I2	RETRIEVAL CRITERIA = 0 - MAT/MF/MT RANGES = 1 - ZA/MF/MT RANGES	Merger
3-N	1-72	A72	FILENAME FOR FILE TO RETRIEVE DATA FROM (LEAVE BLANK FOR STANDARD..ENDFB.IN1,ETC.) TERMINATE LIST OF FILES WITH A LINE THAT SAYS END OR end	Merger
VARY	1- 6	I6	LOWER PRIMARY LIMIT (MAT OR ZA)	Merger
	7- 8	I2	LOWER MF LIMIT	Merger
	9-11	I3	LOWER MT LIMIT	Merger
	12-17	I6	UPPER PRIMARY LIMIT (MAT OR ZA)	Merger
	18-19	I2	UPPER MF LIMIT	Merger
	20-22	I3	UPPER MT LIMIT	Merger
			RANGES OF MAT/MF/MT OR ZA/MF/MT TO BE RETRIEVED ARE SPECIFIED BY DEFINING ONE RANGE (LOWER AND UPPER LIMITS) PER CARD. THE USER MAY SPECIFY 0 TO 100 RANGES AND THE LIST OF REQUEST RANGES IS TERMINATED BY A BLANK CARD. IF THE FIRST CARD IS BLANK (0 REQUESTS) ALL DATA WILL BE RETRIEVED. IF THE UPPER PRIMARY CRITERIA (MAT OR ZA) IS LESS THAN THE LOWER PRIMARY CRITERIA, THE UPPER PRIMARY CRITERIA WILL BE SET EQUAL TO	Merger

THE LOWER PRIMARY CRITERIA. IF THE UPPER MF OR MT LIMIT IS ZERO, OR BLANK, IT WILL BE SET TO THE MAXIMUM POSSIBLE VALUE, I.E. MF=99 OR MT=999 (SEE EXAMPLE INPUT).

EXAMPLE INPUT NO. 1

MERGE ENDF/B DATA ONTO UNIT 10 FROM UNITS 11, 12, 13 AND 14.
RETRIEVE DATA BY MAT NUMBER. RETRIEVE MATS 1103, 1106, ALL MATS BETWEEN 1204 AND 1215, MF=1, 3, 4 AND 5 OF MAT 1219 AND MF=3, MT=1 OF MAT 1304. USE STANDARD FILENAMES.

THE FOLLOWING 13 INPUT CARDS ARE REQUIRED.

ENDFB.OUT
EXAMPLE FILE LABEL FOR MERGER 0 0
ENDFB.IN1
ENDFB.IN2
ENDFB.IN3
ENDFB.IN4
END
1103 4317 (UPPER LIMIT SET TO 1103/99/999)
1106 4317 (UPPER LIMIT SET TO 1106/99/999)
1204 1215 4317 (UPPER LIMIT SET TO 1215/99/999)
1219 1 1219 1 4317 (UPPER LIMIT SET TO 1219/ 1/999)
1219 3 1219 5 4317 (UPPER LIMIT SET TO 1219/ 5/999)
1304 3 1 1304 3 1 4317 (UPPER LIMIT COMPLETELY DEFINED)
(BLANK CARD TERMINATES REQUESTS)

EXAMPLE INPUT NO. 2

THE SAME AS EXAMPLE 1, EXCEPT SPECIFY FILENAMES

\ENDFB6\MERGED.LIB
EXAMPLE FILE LABEL FOR MERGER 0 0
ENDFB6.PART1
ENDFB6.PART2
ENDFB6.PART3
ENDFB6.PART4
END
1103 4317 (UPPER LIMIT SET TO 1103/99/999)
1106 4317 (UPPER LIMIT SET TO 1106/99/999)
1204 1215 4317 (UPPER LIMIT SET TO 1215/99/999)
1219 1 1219 1 4317 (UPPER LIMIT SET TO 1219/ 1/999)
1219 3 1219 5 4317 (UPPER LIMIT SET TO 1219/ 5/999)
1304 3 1 1304 3 1 4317 (UPPER LIMIT COMPLETELY DEFINED)
(BLANK CARD TERMINATES REQUESTS)

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