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===== Merger
PROGRAM 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 (MERCH 2004) *ADDED INCLUDE TO DEFINE COMMON Merger
*ADDED TEND LINE IF NO DATA RETRIEVED 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

ORIGINALLY WRITTEN BY Merger
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FOR THIS PROGRA
ALL OF THESE CO
COMMENTS CONCER

AT THE PRESENT
INDEPENDENT PRO
OF A WIDE VARIET
IT WOULD BE APE
COMPILER DIAGNO
IMPROVE THIS PR
THIS PROGRAM WI
COMPUTER.

PURPOSE

THIS PROGRAM IS
1 TO 10 ENDF/B
SINGLE MAT/MF/M

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TERMINOLOGY---E
MEDIUM USED MAY

ENDF/B FORMAT

THIS PROGRAM ON
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OF THE ENDF/B F

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SECTION SIZE

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THE USER MAY CH
THAT ONLY CERTA
SELECTED IS DEE
ZA/MF/MT RANGE
OF MAT/MF/MT OR

REQUEST LIMITS

IN ORDER TO SIM
CONVENTIONS HAV
LIMITS OF REQUE
ARE ZERO).

(1) MAT OR ZA -
(2) MF OR MT -

WITH THESE CONV
MERELY SPECIFY

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 617 FORMAT.

- (1) ZA
- (2) MAT
- (3) MF
- (4) MT
- (5) NUMBER OF CARDS IN SECTION
- (6) REQUEST NUMBER THAT CAUSED SECTION TO BE SELECTED

INPUT FILES

UNIT DESCRIPTION

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

OUTPUT FILES

UNIT	DESCRIPTION
3	OUTPUT REPORT LISTING (BCD - 120 CHARACTERS/RECORD)
10	MERGED ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)

OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINES FILIO1 AND FILIO2)

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

INPUT CARDS

CARD	COLUMNS	FORMAT	DESCRIPTION
1	1-60	A60	FILENAME FOR MERGED OUTPUT. (LEAVE BLANK FOR STANDARD = ENDFB.OUT)
2	1-66	16A4,A2	MERGED FILE LABEL IF BLANK - LABEL FROM FIRST FILE READ WILL BE OUTPUT
	67-70	I4	MERGED FILE ENDF/B NUMBER IF ZERO - NUMBER OF FIRST FILE READ WILL BE OUTPUT.
	71-72	I2	RETRIEVAL CRITERIA = 0 - MAT/MF/MT RANGES = 1 - ZA/MF/MT RANGES
3-N	1-60	A60	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
VARY	1- 6	I6	LOWER PRIMARY LIMIT (MAT OR ZA)
	7- 8	I2	LOWER MF LIMIT
	9-11	I3	LOWER MT LIMIT
	12-17	I6	UPPER PRIMARY LIMIT (MAT OR ZA)
	18-19	I2	UPPER MF LIMIT
	20-22	I3	UPPER MT LIMIT

EXAMPLE INPUT NO. 1

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.

[illegible]