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Dictin

Dictin

PROGRAM DICTIN (Renamed from DICTION to eliminate conflict with

Dictin

UNIX diction command - 12/22/02)

Dictin

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Dictin

VERSION 81-1 (SEPTEMBER 1981)

Dictin

VERSION 82-1 (JANUARY 1982)

Dictin

VERSION 83-1 (JANUARY 1983) \*KEEP ORIGINAL MOD. NUMBER

Dictin

\*NEW, MORE COMPATIBLE I/O UNITS.

Dictin

VERSION 84-1 (SEPTEMBER 1984) \*UPDATED TO HANDLE ENDF/B-VI FORMAT.

Dictin

(PROGRAM WILL NOW WORK ON ALL

Dictin

VERSIONS OF THE ENDF/B FORMAT).

Dictin

VERSION 85-1 (AUGUST 1985) \*FORTRAN-77/H VERSION

Dictin

VERSION 86-1 (JANUARY 1986) \*MAT ORDER CHECK.

Dictin

\*IF NO HOLLERITH SECTION COPY MAT.

Dictin

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

Dictin

FILE NAMES (SEE, SUBROUTINE FILEIO

Dictin

FOR DETAILS).

Dictin

\*IMPROVED BASED ON USER COMMENTS.

Dictin

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

Dictin

INSURE PROGRAM WILL NOT DO ANYTHING

Dictin

CRAZY.

Dictin

\*IMPROVED BASED ON USER COMMENTS.

Dictin

\*ADDED LIVERMORE CIVIC COMPILER

Dictin

CONVENTIONS.

Dictin

\*UPDATED TO USE NEW PROGRAM CONVERT

Dictin

KEYWORDS.

Dictin



Dictin WITH UNIX diction COMMAND.

Dictin \*ADDED DOCUMENTATION LINE TO COMMENTS.

Dictin VERS. 2004-1 (JAN. 2004) \*GENERAL UPDATE BASED ON USER FEEDBACK

Dictin \*UP TO 100,000 SECTIONS PER TAPE.

Dictin VERS. 2007-1 (JAN. 2007) \*CHECKED AGAINST ALL ENDF/B-VII.

Dictin \*UP TO 500,000 SECTIONS PER TAPE.

Dictin VERS. 2007-2 (DEC. 2007) \*72 CHARACTER FILE NAMES.

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

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

Dictin \*32 and 64 bit Compatible

Dictin \*Added ERROR stops

Dictin VERS. 2015-1 (Jan. 2015) \*Corrected END = it was saying ERROR.

Dictin \*Replaced ALL 3 way IF Statements.

Dictin **VERS. 2015-2 (Mar. 2015) \*Corrected Sequence Numbers**

**Dictin 1) Restart at 1 for each MAT/MF/MT.**

**Dictin 2) 99999 on section end, MT=0**

**Dictin 3) 0 on MF = 0**

**Dictin 2015-2 Acknowledgment**

**Dictin =====**

**Dictin I thank Jean-Christophe Sublet (UKAEA) for contributing MAC**

**Dictin executables and Bojan Zefran (IJS, Slovenia) for contributing**

**Dictin LINUX (32 or 63 bit) executables. And most of all I must thank**

**Dictin Andrej Trkov (NDS, IAEA) for overseeing the entire PREPRO project**

**Dictin at IAEA, Vienna. This was a truly International team who worked**

**Dictin together to produce PREPRO 2015-2.**

**Dictin**

Dictin

OWNED, MAINTAINED AND DISTRIBUTED BY  
Dictin -----

Dictin  
THE NUCLEAR DATA SECTION  
Dictin  
INTERNATIONAL ATOMIC ENERGY AGENCY  
Dictin  
P.O. BOX 100  
Dictin  
A-1400, VIENNA, AUSTRIA  
Dictin  
EUROPE  
Dictin

Dictin  
ORIGINALLY WRITTEN BY  
Dictin -----

Dictin  
Dermott E. Cullen  
Dictin

Dictin  
PRESENT CONTACT INFORMATION  
Dictin -----

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Dictin  
U.S.A.  
Dictin  
Telephone 925-443-1911  
Dictin  
E. Mail RedCullen1@Comcast.net  
Dictin  
Website <http://home.comcast.net/~redcullen1>  
Dictin

Dictin  
AUTHORS MESSAGE  
Dictin -----

Dictin  
THE COMMENTS BELOW SHOULD BE CONSIDERED THE LATEST DOCUMENTATION  
Dictin  
FOR THIS PROGRAM INCLUDING ALL RECENT IMPROVEMENTS. PLEASE READ  
Dictin  
ALL OF THESE COMMENTS BEFORE IMPLEMENTATION.  
Dictin

Dictin  
AT THE PRESENT TIME WE ARE ATTEMPTING TO DEVELOP A SET OF COMPUTER  
Dictin  
INDEPENDENT PROGRAMS THAT CAN EASILY BE IMPLEMENTED ON ANY ONE  
Dictin  
OF A WIDE VARIETY OF COMPUTERS. IN ORDER TO ASSIST IN THIS PROJECT  
Dictin  
IT WOULD BE APPRECIATED IF YOU WOULD NOTIFY THE AUTHOR OF ANY  
Dictin  
COMPILER DIAGNOSTICS, OPERATING PROBLEMS OR SUGGESTIONS ON HOW TO  
Dictin  
IMPROVE THIS PROGRAM. HOPEFULLY, IN THIS WAY FUTURE VERSIONS OF  
Dictin  
THIS PROGRAM WILL BE COMPLETELY COMPATIBLE FOR USE ON YOUR  
Dictin  
COMPUTER.

Dictin

Dictin  
PURPOSE

Dictin

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Dictin  
THIS PROGRAM IS DESIGNED TO CREATE A REACTION INDEX FOR EACH  
Dictin  
MATERIAL ON AN ENDF/B FORMATTED TAPE AND TO INSERT THIS REACTION  
Dictin  
INDEX IN FILE 1, SECTION 451 OF EACH MATERIAL.

Dictin

Dictin  
IN THE DESCRIPTION THAT FOLLOWS FOR SIMPLICITY THE ENDF/B  
Dictin  
TERMINOLOGY---ENDF/B TAPE---WILL BE USED. IN FACT THE ACTUAL  
Dictin  
MEDIUM MAY BE TAPE, CARDS, DISK, OR ANY OTHER MEDIUM.

Dictin

Dictin  
ENDF/B FORMAT

Dictin

-----

Dictin  
THIS PROGRAM ONLY USES THE ENDF/B BCD OR CARD IMAGE FORMAT (AS  
Dictin  
OPPOSED TO THE BINARY FORMAT) AND CAN HANDLE DATA IN ANY VERSION  
Dictin  
OF THE ENDF/B FORMAT (I.E., ENDF/B-I, II, III, IV, V OR VI FORMAT).

Dictin

Dictin  
THIS PROGRAM WILL AUTOMATICALLY DETERMINE WHICH VERSION OF THE  
Dictin

ENDF/B FORMAT EACH MAT IS IN AND WILL THEN PROPERLY REPLACE THE  
Dictin REACTION INDEX FOR EACH MAT. DIFFERENT MATS ON THE SAME TAPE MAY  
Dictin EVEN BE IN DIFFERENT VERSIONS OF THE ENDF/B FORMAT.  
Dictin

Dictin IT IS ASSUMED THAT THE DATA IS CORRECTLY CODED IN THE ENDF/B  
Dictin FORMAT AND NO ERROR CHECKING IS PERFORMED. IN PARTICULAR IT IS  
Dictin ASSUMED THAT THE MAT, MF AND MT ON EACH LINE IS CORRECT. SEQUENCE  
Dictin NUMBERS (COLUMNS 76-80) NEED NOT BE PRESENT ON INPUT, BUT WILL BE  
Dictin CORRECTLY OUTPUT ON ALL LINES.  
Dictin

Dictin ENDF/B FORMAT VERSION  
Dictin

Dictin -----  
Dictin THE ENDF/B FORMAT CAN BE DETERMINED FROM THE SECOND LINE OF  
Dictin THE HOLLERITH SECTION (MF=1, MT=451).  
Dictin

Dictin ENDF/B-IV = N1 - LINE COUNT (POSITIVE)

Dictin ENDFB/-V = N1 = N2 =0

Dictin ENDF/B-VI = N1 =0, N2= VERSION NUMBER (6 OR MORE)  
Dictin

Dictin SECTION SIZE  
Dictin

Dictin -----  
Dictin SINCE THIS PROGRAM ONLY READS THE DATA ONE LINE AT A TIME THERE  
Dictin IS NO LIMIT TO THE SIZE OF ANY GIVEN SECTION, E.G. THE TOTAL  
Dictin CROSS SECTION MAY BE DESCRIBED BY 200,000 DATA POINTS.  
Dictin

Dictin NUMBER OF SECTIONS PER TAPE  
Dictin

Dictin -----  
Dictin IT IS ASSUMED THAT THE ENDF/B TAPE CONTAINS 100,000 OR FEWER  
Dictin

SECTIONS = 100,000 OR FEWER MAT, MF, MT COMBINATIONS. IF THIS LIMIT  
Dictin IS EXCEEDED THIS PROGRAM WILL TERMINATE EXECUTION. IF NEED BE THIS  
Dictin LIMIT CAN EASILY BE CHANGED BY CHANGING THE DIMENSION STATEMENT  
Dictin BELOW AND RE-DEFINING THE VARIABLE MAXTAB IN THE BELOW DATA  
Dictin STATEMENT. ALTERNATIVELY THE ENDF/B TAPE MAY BE DIVIDED INTO A  
Dictin NUMBER SMALLER TAPES EACH CONTAINING 100,000 OR FEWER SECTIONS.  
Dictin EACH ENDF/B TAPE CAN THEN RUN THROUGH THIS PROGRAM AND THE OUTPUT  
Dictin FOR EACH ENDF/B TAPE CAN THEN BE RE-COMBINED (I.E., MERGED BACK  
Dictin TOGETHER).

Dictin

Dictin

HOLLERITH SECTION

Dictin

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Dictin

IF ANY MATERIAL DOES NOT INITIALLY CONATIN A SECTION MF=1, MT=451

Dictin

A WARNING MESSAGE WILL BE PRINTED AND THE MATERIAL WILL BE COPIED.

Dictin

Dictin

IF ANY MATERIAL INITIALLY CONTAINS A SECTION MF=1, MT=451 A NEW

Dictin

REACTION INDEX WILL BE CREATED AND INSERTED. THE INITIAL SECTION

Dictin

MF=1, MT=451 MAY OR MAY NOT CONTAIN A REACTION INDEX.

Dictin

Dictin

IF THE MATERIAL INITIALLY CONTAINS A REACTION INDEX IT WILL BE

Dictin

USED TO DEFINE THE MOD NUMBER FOR CORRESPONDING SECTIONS IN THE

Dictin

NEW REACTION INDEX (I.E. IF A SECTION FROM THE ORIGINAL REACTION

Dictin

INDEX HAS THE SAME MF/MT NUMBERS AS A SECTION IN THE NEW REACTION

Dictin

INDEX THE MOD NUMBER FROM THE ORIGINAL REACTION INDEX WILL BE USED

Dictin

IN THE NEW REACTION INDEX). OTHERWISE THE MOD NUMBER IN THE NEW

Dictin

REACTION INDEX WILL BE SET EQUAL TO ZERO.

Dictin

Dictin

PROGRAM OPERATION

Dictin

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Dictin

THE ENTIRE ENDF/B TAPE IS FIRST READ AND A DICTIONARY ENTRY IS

Dictin

CREATED FOR EACH SECTION OF THE TAPE. THE ENDF/B TAPE IS THEN

Dictin

REWOUND AND READ A SECOND TIME. DURING THIS SECOND PASS THE

Dictin

DICTIONARY OF EACH MAT IS REPLACED. THIS VERSION OF DICTIN

Dictin

DOES NOT USE SCRATCH FILES AND IS MORE EFFICIENT THAN EARLIER

Dictin

VERSIONS OF DICTIN.

Dictin

Dictin

INPUT LINES

Dictin

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Dictin

LINE	COLS.	DESCRIPTION
1	1-60	ENDF/B INPUT DATA FILENAME (STANDARD OPTION = ENDFB.IN)
2	1-60	ENDF/B OUTPUT DATA FILENAME (STANDARD OPTION = ENDFB.OUT)

Dictin

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Dictin

Dictin

Dictin

Dictin

Dictin

Dictin

EXAMPLE INPUT NO. 1

Dictin

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Dictin

READ \ENDFB6\K300\ENDFB.IN AND WRITE \ENDFB\K300\ENDFB.OUT. THE

Dictin

FOLLOWING 2 INPUT LINES ARE REQUIRED,

Dictin

Dictin

\ENDFB6\K300\ENDFB.IN

Dictin

\ENDFB6\K300\ENDFB.OUT

Dictin

Dictin

EXAMPLE INPUT NO. 2

Dictin

-----  
Dictin  
USE THE DEFAULT FILENAMES TO READ ENDFB.IN AND WRITE ENDFB.OUT.

Dictin  
2 BLANK INPUT LINES ARE REQUIRED

Dictin

Dictin  
INPUT FILES

Dictin

-----  
Dictin  
UNIT DESCRIPTION

Dictin

-----  
Dictin  
2 INPUT PARAMETERS (BCD - 80 CHARACTERS/RECORD)

Dictin

10 ORIGINAL TAPE OF ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)

Dictin

Dictin  
OUTPUT FILES

Dictin

-----  
Dictin  
UNIT DESCRIPTION

Dictin

-----  
Dictin  
3 OUTPUT REPORT (BCD - 120 CHARACTERS/RECORD)

Dictin

11 FINAL TAPE OF ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)

Dictin

Dictin  
OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINE FILIO1 AND FILIO2)

Dictin

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Dictin  
UNIT FILE NAME

Dictin

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Dictin  
2 DICTIN.INP

Dictin

3 DICTIN.LST

Dictin

10 ENDFB.IN

Dictin

11 ENDFB.OUT

Dictin

Dictin

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Dictin