

Procédure DEFI_FICHER

1 Drank

To open or close a file associated with a number with logical unit. This number can be indicated in the procedure or obtained in return of the latter. This action can be carried out constantly during work. This procedure makes it possible to associate a logical number of unit with a file FORTRAN of the type ASCII, but this notion can also apply with certain restrictions on files of the binary type.

2 Syntax

```
[nfic [whole] =] DEFI_FICHER (  
  
        ◊ACTION      =   "ASSOCIER",           [DEFAULT]  
                      /"LIBERER",  
                      /"RESERVER",  
  
        ◊FICHER      =   nomfic,               [K255]  
  
        ◊UNITE       =   numul,                 [I]  
  
        ◊TYPE=/      "ASCII",                 [DEFAULT]  
                      /"LIBRE",  
        ◊ACCES=/     "NEW",                   [DEFAULT]  
                      /"OLD",  
                      /"APPEND",  
  
        ◊INFO=/1     ,  
                      /2  
  
    )
```

the compulsory or optional character of unquestionable operands depends on the presence or the value associated with the previously well informed key keys.

This operator has the characteristic to function at the same time like a command by providing result reusable whole type behind a key word of a further order, that is to say like a procedure.

3 Operation of DEFI_FICHIER

the inputs/outputs on files ASCII since *the Code_Aster* are carried out for the majority, using instructions FORTRAN using the notion of **unit logical**, it is a variable integer from 1 to 99 associate using an instruction of the "open" type to a file. By default this number *xx* is associated with the name *fort.xx*, but it is possible to associate it with an unspecified file name. The logical number of unit is used in the interface of access to the code *ask* to recopy the files as starter and in output. In the file of Aster commands the various operators carrying out of the readings or the writings admit key word UNITE like argument. Several

logical units are reserved by the code at the time of the phase of initialization. It is not authorized to modify the logical units 6 and 9 which make it possible to trace the course of an execution. logical

unit name	of the file authorized	modification 6
MESSAGE	not	8
RESULTAT	yes	9
ERREUR	not	

the user can wish to add or modify associations using procedure DEFI_FICHIER to use for example new file names, to print certain results or to differently gather them in files. Procedure DEFI_FICHIER makes it possible moreover to directly indicate the file of the type ASCII which will be associated with the specified logical unit. It can be specified either by a name in absolute (restricted with 255 characters) if the file is localised on the machine, or by a relative name in an agreed directory (./REPE_IN or ./REPE_OUT) when the interface takes care of the distant and total transfer of all the files located under the directory (standard *repe in ask*). OPEN named FORTRAN is then carried out on the files of the type ASCII. The command makes it possible of more than position either at the top of file, or at the end of the file.

The code manages in-house a data structure gathering all of associations logical unit – file name – type of file - type of access. Operands

4

the modifications of association unit logic-name of file relates to the entry and **output files** . Operand

4.1 ACTION ◇

ACTION = "ASSOCIER"

the logical number of unit is associated, when that is allowed, the name defined behind key word FICHIER if it is indicated, in the name *fort.xx* if not . It is not possible to redefine associations of the logical numbers 6 and 9. ◇ACTION

= "LIBERER" the logical

number of unit is released, it is not more licit to use this number of unit, the associated file, when it is of type ASCII, is the object of an order of closing using CLOSED instruction FORTRAN . It then becomes possible to re-use the logical number of unit with an action of the type "LIBERER" . This mechanism is essential if one wants to be able D-to immediately exploit the contents of the file associated in the command file in progress, indeed the buffers must be completely emptied and the file must be able to be accessible, possibly during a call to a software since a command *python* of the *os.system* type . ◇ACTION

= "RESERVER" This kind of

action is used in the macro commands and makes it possible to avoid the conflicts of logical number of unit between FORTRAN and python. The logical number of unit is associated, when that is allowed, the name defined behind key word FICHIER if it is indicated, in the name fort.xx if not . There N "is not D" instruction of the OPEN type carried out, with load for the macro command to carry out the various actions necessary .
Operand

4.2 FICHIER \diamond FICHIER

= nomfic Name physical

of the file (< 255 characters) which one wishes to associate with a logical unit. This file will be created under the directory of execution of the code, but one can directly indicate a file name (respecting UNIX conventions) in the directory of the user. Under the directory of execution, it is possible to use an additional level of tree structure of conventional name REPE_IN (data files) or REPE_OUT (results files) recognized by the interface of access to the code askt. This name must be placed between quotes. Although they are not associated with a logical unit by an OPEN order FORTRAN, the binary files (for example MED) can be treated with this mechanism, it is necessary nevertheless to specify the type of access NEW or OLD to activate the recopy (by a call system since the code) since the data directory or directory as a result. When the operand is absent, it is by default the file name fort.ul where ul is the number of unit which is associated with the logical unit definite behind UNITE. For the files of the type ASCII, an OPEN instruction FORTRAN is carried out on the name associated with the logical unit. Operand UNITE

4.3 \diamond UNITE = numu1

Number of logical

unit associated, its value for file ASCII opened by instructions lies between 1 and 99 included. It is possible

to re-use an already affected number but in this case it is necessary to take the precaution to release this last before. Certain numbers D `units logical cannot be redefined since the Aster commands, it is the numbers 6 and 9 which are respectively allocated with the message files and ERREUR . This number can

be used then in all the Aster commands which have operand UNITE (IMPR_RESU , IMPR_TABLE , IMPR_FONCTION , etc) . Operand

UNITE can sometimes be omitted, it is then the code which will choose to affect a number, according to the availabilities, it is then necessary imperatively to specify operand FICHIER, the code is given the responsibility then in-house to associate the logical number of unit and the associated file. It is then possible to recover a whole value in output of the operator. Operand TYPE

4.4 \diamond TYPE = "ASCII

" the file associated

with the logical unit is of type ASCII. \diamond TYPE = "LIBRE

" the file associated

with the logical unit is of undetermined type within the meaning of FORTRAN, that makes it possible to manage in a more flexible way the access to the file, this type is primarily used for the access to the MED files. The logical unit is not really used in this case, but that makes it possible to have the convention of name fort.ul on the file and being able to easily transmit it through the interface of access to the code. Operand access

4.5

4.6 ◇ACCES = "NEW"

the file of the type

"ASCII" is opened and one positions en tête, a Fortan instruction of the type REWIND is carried out . This key word can also be used in the case as of files of the type "LIBRE", the file is then destroyed before its use. ◇ACCES = "OLD"

the file of the type

"ASCII" is opened and one positions such as it is, i.e. possibly with the position at which one was located the last access during. This key word can also be used in the case as of files of the type "LIBRE" to read again an existing file without notion of position within the file. ◇ACCES = "APPEND"

" the file is opened

and one positions at the end of the file. An instruction of the type BACKSPACE is used to be able to write right before the character of end of file. Is used only in the case as of files of the type ASCII. Operand INFO ◇

4.7 INFO = inf Makes it possible

to print

in the message file the list of the open logical units with command DEFI_FICHER as well as the associated parameters. If INFO = 1, it does not have there feeling. Declaration in

5 the interface of access to the code of the logical unit put in work in DEFI_FICHER Generally

the user will invite DEFI_FICHER in order to carry out postprocessings when it tests the need to create several results files according to the loading cases physically, of the quantities, the steps or times of evolution of computation. The user must

declare and the names physical of the files associated logical units. This declaration is carried out, in the interface astk prior to launching of the completion of the work. It is necessary to add the files in the profile of study by selecting the libr type and to associate the number of logical unit to them selected. The repe type

is used in the interface astk to transmit or receive all the contents of a file directory, with load for the user to call in the command file on DEFI_FICHER to carry out association with the number of logical unit. For convention the data files are transmitted in the directory of nonroom REPE_IN, the files as a result are transmitted in the directory of local name REPE_OUT. In the order DEFI_FICHER, the name placed behind FICHER is form: ./REPE_IN/mon_fichier .