

/\* Deconcatenate variable which contains multiple values separated by a character  
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## MACRO VARIABLES

TABLE : work table which includes variable to deconcatenate.  
TABLEEND : table which contains variables obtained  
VARDECONCA : variable with multiple values separated by a character  
NEWVAR : prefix of different variables obtained  
CHARACTER : character which separates subvariables in the same variable.  
This separator must be enter in quotation marks (for example : '|')  
SIZE : length of subvariables. It must be the same for all this variable

Before using this macro, you have to :

- Prepare your database with correct variables
- Compile the macro.
- Execute the macro :

Example to compute on your computer to directly and easily apply the macro:

```
data try;
input maladchron $40.;
cards;
674|675|676
674|675|676
674|675|676
674|675|676|677
674|675|677
674|675|677
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674|676
674|676|677
674|676|677
;
run;

```

```

%deconcatenate(table=try,tableend=end,vardeconca=maladchron,newvar=maladchronsep,character='|',size=3);

```

You can see LOG screen for information of algorithm.

If you use this macro for work to be published please use the following citation:

Francais Adrien and Valérie SIROUX (2007).  
Deconcatenate variable which contains multiple values separated by a character  
\*/

```

/*CODE*/
%macro deconcatenate(table=,tableend=,vardeconca=,newvar=,character=,size=);
%let error=0;
/*some errors messages*/
%if &table = %then %do;
    %put "ERROR: You didn't give the work table : Please enter the name of work
table";%let error=1;
%end;
%if &tableend = %then %do;
    %put "ERROR: You didn't give the name of final table : Please enter the name of the
final table";%let error=1;
%end;
%if &vardeconca = %then %do;

```

```

        %put "ERROR: You didn't give variable to deconcatenate : Please enter a
variable";%let error=1;
%end;
%if &newvar = %then %do;
        %put "ERROR: You didn't give the prefix for variables obtained after
deconcatenation: Please enter a name near from the &vardeconca";
        %let error=1;
%end;
%if &character = %then %do;
        %put "ERROR: You didn't give the character which separate subvariables : Please
enter this character";
        %let error=1;
%end;
%if &size<1 or &size >30 %then %do;
        %put "ERROR: You didn't give a correct size for subvariables : Please enter a number
between 1 and 30";
        %let error=1;
%end;

%if &error = 1 %then %do;
        %put "PLEASE CORRECT ERROR(S) DETAILED ABOVE";
%end;

/*if there is no error then we start the macro*/
%if &error ne 1 %then %do;

        /*we recover the maximal number of terms by variable*/
        %put %upcase("we recover the maximal number of terms for the variable
&vardeconca");
        data sfdsf;set &table;f=1;run;

        /*we recover the maximal length of variable
we divide the maximum by the size of each subvariable
we recover the last maximum to indicate the number maximal of variables to create
because for the "array", we have to put a fixed size array*/
        data dedsf;set sfdsf;by f;retain max;
        u=length(&vardeconca);
        if u>max then max=u;
        max2=(max+1)/(&size+1);
        if last.f then output;
        keep max2 f;run;

        /*we indicate this maximum thanks to a macro variable */
        data dfsdfs;set dedsf;call symput('taille_maxi',trim(left(max2)));run;
        %put %upcase("we recover the last maximum to indicate the number maximal of
variables to create because for the 'array', we have to put a fixed size array");
        %put %upcase("The maximum for the variable &vardeconca was &taille_maxi");

        data dsfdsf;merge sfdsf dedsf;by f;run;
        data &tableend;set dsfdsf;array &newvar {&taille_maxi} $50. ;

```

```

/*at start, we initialize variables
diag : string which remains to treat
y : number of the separator in the string*/
diag=&vardeconca;
y=indexc(&vardeconca,&character);
u=length(&vardeconca);
i=1;
/*do while the number of separator is not null*/
/*we recover the part between the start of the string and the separator*/
do while (y ne 0);
    &newvar{i}=substr(diag,1,y-1);
    diag=substr(diag,y+1,u);
    y=indexc(diag,&character);
    /*when there are two characters side by side (by mistake)*/
    if y=1 then do;diag=substr(diag,y+1,u);y=indexc(diag,&character);end;
    i=i+1;
end;
/*the last variable obtained*/
&newvar{i}=diag;
drop diag y u i f max2 &vardeconca;
run;
%put %upcase ("We deconcatenated the variable &vardeconca in &taille_maxi
variables named with the prefix '&newvar'");

%put %upcase ("You can see table of results &tableend in the Explorator section,
variables &newvar are at the end of this table");
%end;
%mend;

```