

```

1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
51
52      *create a sample brands data table with brand names of between 1 & 5 words;
53
54      data _null_;
55      x=datetime() ;;
56      put x datetime18.;
57
58      run;

05AUG16:18:07:08
NOTE: DATA statement used (Total process time):
real time           0.00 seconds
user cpu time       0.00 seconds
system cpu time     0.00 seconds
memory             776.21k
OS Memory          25764.00k
Timestamp          08/05/2016 05:07:08 PM
Step Count         166   Switch Count  36
Page Faults        0
Page Reclaims     331
Page Swaps         0
Voluntary Context Switches  88
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations  0

59      data brands (drop=i j);
60      length brand $ 60;
61      brand="Apple";output;
62      brand="Apples";output;
63      brand="Applebee";output;
64      brand="Coca-Cola";output;
65      brand="Head & Shoulders";output;
66
67      do i=0 to 5e6-1 by 1; *number of brands in data table will be 5 times this number;
68                          *change to 5E6 to get 25million individual brandnames;
69      brand='';
70
71      do j=1 to 5;
72      brand=strip(branch)||' b'||strip(put(i+j, 10.));
73      brand=strip(branch);
74      output;
75      end;
76      end;
77      run;

NOTE: The data set WORK.BRANDS has 25000005 observations and 1 variables.
NOTE: DATA statement used (Total process time):
real time           45.26 seconds
user cpu time       4.78 seconds
system cpu time     1.14 seconds
memory             1804.31k
OS Memory          26536.00k
Timestamp          08/05/2016 05:07:53 PM
Step Count         167   Switch Count  94
Page Faults        0
Page Reclaims     359
Page Swaps         0
Voluntary Context Switches 2873
Involuntary Context Switches 7
Block Input Operations  64
Block Output Operations 2937360

78
79      *create the sample phrases data table with rows defined by the obs statement;
80      *1 in 3 phrases will contain a brand name;
81      *phrases have 25 words + a brand name;
82
83      data phrases (drop=i brand) ;
84      set brands (keep=brand  obs=400000 );
85      length phrase $ 2000;
86      phrase='';
87      do i=1 to 25; *defines number of words in a phrase;
88      phrase=catx(' ', phrase, put(floor((1E8)*Rand("Uniform")), 12.));
89      if i=3 and (_N_<=5 or mod(_N_,3)=0) then
90      phrase=catx(' ', phrase, brand);
91      end;
92      output;
93      run;

NOTE: There were 400000 observations read from the data set WORK.BRANDS.
NOTE: The data set WORK.PHRASES has 400000 observations and 1 variables.
NOTE: DATA statement used (Total process time):
real time           24.58 seconds
user cpu time       3.60 seconds
system cpu time     0.60 seconds
memory             3458.62k
OS Memory          28588.00k
Timestamp          08/05/2016 05:08:18 PM
Step Count         168   Switch Count  64
Page Faults        0
Page Reclaims     724
Page Swaps         0
Voluntary Context Switches 393
Involuntary Context Switches 5
Block Input Operations  48
Block Output Operations 1575432

94
95
96
97      *create a column to hold a copy of the original phrase, which will be edited;
98
99      data phrases_2;
100     set phrases;
101     length phrasecopy $ 2000;
102     phrasecopy=phrase;
103     phraseid=_N_;
104     run;

NOTE: There were 400000 observations read from the data set WORK.PHRASES.
NOTE: The data set WORK.PHRASES_2 has 400000 observations and 3 variables.
NOTE: DATA statement used (Total process time):
real time           41.23 seconds
user cpu time       0.21 seconds
system cpu time     1.43 seconds
memory             3404.00k

```

```

OS Memory          28588.00k
Timestamp          08/05/2016 05:08:59 PM
Step Count        169  Switch Count  48
Page Faults       0
Page Reclaims     693
Page Swaps        0
Voluntary Context Switches  3166
Involuntary Context Switches  1
Block Input Operations  88
Block Output Operations 3200016

105
106
107      *add a brand word count to the brand data set;
108      data brands_2;
109      set brands;
110      brandwc=countw(brand, ' ');
111      run;

NOTE: There were 25000005 observations read from the data set WORK.BRANDS.
NOTE: The data set WORK.BRANDS_2 has 25000005 observations and 2 variables.
NOTE: DATA statement used (Total process time):
real time          48.20 seconds
user cpu time      3.16 seconds
system cpu time    1.65 seconds
memory             3404.81k
OS Memory          28588.00k
Timestamp          08/05/2016 05:09:47 PM
Step Count        170  Switch Count  36
Page Faults       0
Page Reclaims     695
Page Swaps        0
Voluntary Context Switches  4926
Involuntary Context Switches  5
Block Input Operations  88
Block Output Operations 3524368

112
113      *Need to know the maximum word count in brand name;
114      proc sql noprint;
115      select max(brandwc) into :brandmaxwc from brands_2;
116      quit;
NOTE: PROCEDURE SQL used (Total process time):
real time          1.51 seconds
user cpu time      1.18 seconds
system cpu time    0.34 seconds
memory             6775.46k
OS Memory          31916.00k
Timestamp          08/05/2016 05:09:49 PM
Step Count        171  Switch Count  24
Page Faults       0
Page Reclaims     240
Page Swaps        0
Voluntary Context Switches  40
Involuntary Context Switches  3
Block Input Operations  0
Block Output Operations  0

117      %put &brandmaxwc;
118
119      /*delete any existing 'matches' datatable*/
120      proc datasets lib=work nolist;
121      delete matches;
122      quit;

NOTE: Deleting WORK.MATCHES (memtype=DATA).
NOTE: PROCEDURE DATASETS used (Total process time):
real time          0.00 seconds
user cpu time      0.00 seconds
system cpu time    0.00 seconds
memory             344.96k
OS Memory          26024.00k
Timestamp          08/05/2016 05:09:49 PM
Step Count        172  Switch Count  30
Page Faults       0
Page Reclaims     12
Page Swaps        0
Voluntary Context Switches  66
Involuntary Context Switches  0
Block Input Operations  0
Block Output Operations  8

123
124      %macro repeat;
125      %do phrasepartwords=&brandmaxwc %to 1 %by -1;
126      *Then split phrases into word portions with &phrasepartwords words;
127
128      data phrasesplit (drop=i j wrds phrasewc );
129      set phrases_2 (drop=phrase);
130      length partphrase $ 200;
131      phrasewc=countw(phrasecopy, ' ');
132      wrds=&phrasepartwords;
133      do i=0 to phrasewc-wrds;
134      partphrase='';
135      do j=1 to wrds;
136      partphrase=catx(' ', partphrase, scan(phrasecopy, i+j, ' '));
137      end;
138      output;
139      end;
140      run;
141
142
143      proc sql ;
144      create table temp as
145      select p.phrasecopy, p.phraseid,b.brand
146      from phrasesplit p inner join brands_2 (where =(brandwc=&phrasepartwords)) b
147      on p.partphrase=b.brand
148      order by phraseid;
149      run;
150      quit;
151
152      data temp;
153      set temp;
154      phrasecopy=transtrn(phrasecopy, strip(brand), '');
155      run;
156
157

```

```

158     proc append base=matches data=temp (drop=phrasecopy);
159     *Update phrase_2 data with the matches.
160     This removes the found brand name from phrasecopy,
161     ready for the next iteration;
162     data phrases_2 ;
163     merge phrases_2 temp (drop=brand);
164     by phraseid;
165     run;
166
167     data null;
168     x=datetime();;
169     put "Loop &phrasepartwords finished at " x datetime18.;
170
171     run;
172     %mend;
173     %mend;
174     %repeat;

```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.  
NOTE: The data set WORK.PHRASESPLIT has 8800002 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time	8:16.95
user cpu time	13.44 seconds
system cpu time	13.87 seconds
memory	3464.09k
OS Memory	28588.00k
Timestamp	08/05/2016 05:18:06 PM
Step Count	173 Switch Count 96
Page Faults	0
Page Reclaims	702
Page Swaps	0
Voluntary Context Switches	69137
Involuntary Context Switches	21
Block Input Operations	600
Block Output Operations	38183448

NOTE: Table WORK.TEMP created, with 26666 rows and 3 columns.

NOTE: PROC SQL statements are executed immediately; The RUN statement has no effect.

NOTE: PROCEDURE SQL used (Total process time):

real time	7:13.64
user cpu time	3:13.73
system cpu time	2:30.10
memory	130052.42k
OS Memory	156492.00k
Timestamp	08/05/2016 05:25:19 PM
Step Count	174 Switch Count 177
Page Faults	0
Page Reclaims	6392
Page Swaps	0
Voluntary Context Switches	10911
Involuntary Context Switches	207
Block Input Operations	0
Block Output Operations	38790216

NOTE: There were 26666 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.TEMP has 26666 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time	0.94 seconds
user cpu time	0.04 seconds
system cpu time	0.05 seconds
memory	3447.46k
OS Memory	29356.00k
Timestamp	08/05/2016 05:25:20 PM
Step Count	175 Switch Count 20
Page Faults	0
Page Reclaims	738
Page Swaps	0
Voluntary Context Switches	36
Involuntary Context Switches	0
Block Input Operations	0
Block Output Operations	108552

NOTE: Appending WORK.TEMP to WORK.MATCHES.

NOTE: BASE data set does not exist. DATA file is being copied to BASE file.

NOTE: There were 26666 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.MATCHES has 26666 observations and 2 variables.

NOTE: PROCEDURE APPEND used (Total process time):

real time	0.01 seconds
user cpu time	0.00 seconds
system cpu time	0.01 seconds
memory	3575.21k
OS Memory	29616.00k
Timestamp	08/05/2016 05:25:20 PM
Step Count	176 Switch Count 26
Page Faults	0
Page Reclaims	483
Page Swaps	0
Voluntary Context Switches	50
Involuntary Context Switches	1
Block Input Operations	0
Block Output Operations	3856

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.

NOTE: There were 26666 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.PHRASES\_2 has 400000 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time	39.13 seconds
user cpu time	0.27 seconds
system cpu time	1.74 seconds
memory	5166.15k
OS Memory	31408.00k
Timestamp	08/05/2016 05:25:59 PM
Step Count	177 Switch Count 26
Page Faults	0
Page Reclaims	1020
Page Swaps	0
Voluntary Context Switches	1965
Involuntary Context Switches	2
Block Input Operations	80
Block Output Operations	3200016

Loop 5 finished at 05AUG16:18:26:00

NOTE: DATA statement used (Total process time):

real time	0.00 seconds
-----------	--------------

```
user cpu time      0.00 seconds
system cpu time    0.00 seconds
memory            776.28k
OS Memory         26532.00k
Timestamp         08/05/2016 05:25:59 PM
Step Count        178  Switch Count  18
Page Faults       0
Page Reclaims     224
Page Swaps        0
Voluntary Context Switches  16
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations  0
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.

NOTE: The data set WORK.PHRASESPLIT has 9066672 observations and 3 variables.

NOTE: DATA statement used (Total process time):

```
real time         7:52.46
user cpu time     11.37 seconds
system cpu time   17.40 seconds
memory           3464.09k
OS Memory        29356.00k
Timestamp         08/05/2016 05:33:52 PM
Step Count        179  Switch Count  95
Page Faults       0
Page Reclaims    702
Page Swaps        0
Voluntary Context Switches  55715
Involuntary Context Switches 27
Block Input Operations  736
Block Output Operations 39340568
```

NOTE: Table WORK.TEMP created, with 26667 rows and 3 columns.

NOTE: PROC SQL statements are executed immediately; The RUN statement has no effect.

NOTE: PROCEDURE SQL used (Total process time):

```
real time         7:42.30
user cpu time     3:17.57
system cpu time   2:40.16
memory           130050.18k
OS Memory        156492.00k
Timestamp         08/05/2016 05:41:34 PM
Step Count        180  Switch Count  202
Page Faults       0
Page Reclaims    6233
Page Swaps        0
Voluntary Context Switches  11933
Involuntary Context Switches 224
Block Input Operations  0
Block Output Operations 39934536
```

NOTE: There were 26667 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.TEMP has 26667 observations and 3 variables.

NOTE: DATA statement used (Total process time):

```
real time         1.07 seconds
user cpu time     0.04 seconds
system cpu time   0.06 seconds
memory           3447.46k
OS Memory        29356.00k
Timestamp         08/05/2016 05:41:35 PM
Step Count        181  Switch Count  20
Page Faults       0
Page Reclaims    723
Page Swaps        0
Voluntary Context Switches  36
Involuntary Context Switches 0
Block Input Operations  8
Block Output Operations 108552
```

NOTE: Appending WORK.TEMP to WORK.MATCHES.

NOTE: There were 26667 observations read from the data set WORK.TEMP.

NOTE: 26667 observations added.

NOTE: The data set WORK.MATCHES has 53333 observations and 2 variables.

NOTE: PROCEDURE APPEND used (Total process time):

```
real time         0.02 seconds
user cpu time     0.01 seconds
system cpu time   0.01 seconds
memory           3654.28k
OS Memory        29104.00k
Timestamp         08/05/2016 05:41:35 PM
Step Count        182  Switch Count  24
Page Faults       0
Page Reclaims    467
Page Swaps        0
Voluntary Context Switches  41
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations 4368
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.

NOTE: There were 26667 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.PHRASES\_2 has 400000 observations and 3 variables.

NOTE: DATA statement used (Total process time):

```
real time         42.04 seconds
user cpu time     0.26 seconds
system cpu time   1.73 seconds
memory           5166.18k
OS Memory        31408.00k
Timestamp         08/05/2016 05:42:17 PM
Step Count        183  Switch Count  34
Page Faults       0
Page Reclaims    1019
Page Swaps        0
Voluntary Context Switches  3749
Involuntary Context Switches 3
Block Input Operations  56
Block Output Operations 3200016
```

Loop 4 finished at 05AUG16:18:42:18

NOTE: DATA statement used (Total process time):

```
real time         0.00 seconds
user cpu time     0.00 seconds
system cpu time   0.00 seconds
```

```
memory          776.28k
OS Memory       26532.00k
Timestamp       08/05/2016 05:42:17 PM
Step Count      184  Switch Count  18
Page Faults     0
Page Reclaims   222
Page Swaps      0
Voluntary Context Switches  16
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations  0
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.  
NOTE: The data set WORK.PHRASESPLIT has 9360004 observations and 3 variables.

```
NOTE: DATA statement used (Total process time):
real time       7:59.58
user cpu time   9.70 seconds
system cpu time 17.82 seconds
memory         3464.09k
OS Memory       29356.00k
Timestamp       08/05/2016 05:50:17 PM
Step Count      185  Switch Count  102
Page Faults     0
Page Reclaims   700
Page Swaps      0
Voluntary Context Switches  61086
Involuntary Context Switches 24
Block Input Operations  632
Block Output Operations 40613400
```

NOTE: Table WORK.TEMP created, with 26667 rows and 3 columns.

NOTE: PROC SQL statements are executed immediately; The RUN statement has no effect.

```
NOTE: PROCEDURE SQL used (Total process time):
real time       8:00.33
user cpu time   3:21.87
system cpu time 2:39.30
memory         130052.60k
OS Memory       156492.00k
Timestamp       08/05/2016 05:58:17 PM
Step Count      186  Switch Count  218
Page Faults     0
Page Reclaims   6234
Page Swaps      0
Voluntary Context Switches  12933
Involuntary Context Switches 218
Block Input Operations  232
Block Output Operations 41199176
```

NOTE: There were 26667 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.TEMP has 26667 observations and 3 variables.

```
NOTE: DATA statement used (Total process time):
real time       0.88 seconds
user cpu time   0.04 seconds
system cpu time 0.07 seconds
memory         3447.46k
OS Memory       29356.00k
Timestamp       08/05/2016 05:58:18 PM
Step Count      187  Switch Count  20
Page Faults     0
Page Reclaims   746
Page Swaps      0
Voluntary Context Switches  35
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations 108552
```

NOTE: Appending WORK.TEMP to WORK.MATCHES.

NOTE: There were 26667 observations read from the data set WORK.TEMP.

NOTE: 26667 observations added.

NOTE: The data set WORK.MATCHES has 80000 observations and 2 variables.

```
NOTE: PROCEDURE APPEND used (Total process time):
real time       0.02 seconds
user cpu time   0.00 seconds
system cpu time 0.03 seconds
memory         3655.25k
OS Memory       29104.00k
Timestamp       08/05/2016 05:58:18 PM
Step Count      188  Switch Count  24
Page Faults     0
Page Reclaims   467
Page Swaps      0
Voluntary Context Switches  40
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations 4368
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.

NOTE: There were 26667 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.PHRASES\_2 has 400000 observations and 3 variables.

```
NOTE: DATA statement used (Total process time):
real time       49.74 seconds
user cpu time   0.27 seconds
system cpu time 1.80 seconds
memory         5166.15k
OS Memory       31408.00k
Timestamp       08/05/2016 05:59:08 PM
Step Count      189  Switch Count  30
Page Faults     0
Page Reclaims   1018
Page Swaps      0
Voluntary Context Switches  2676
Involuntary Context Switches 3
Block Input Operations  88
Block Output Operations 3200016
```

Loop 3 finished at 05AUG16:18:59:08

```
NOTE: DATA statement used (Total process time):
real time       0.00 seconds
user cpu time   0.00 seconds
system cpu time 0.00 seconds
memory         776.28k
OS Memory       26532.00k
```

```
Timestamp      08/05/2016 05:59:08 PM
Step Count     190 Switch Count  18
Page Faults    0
Page Reclaims  224
Page Swaps     0
Voluntary Context Switches  16
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations  0
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.  
NOTE: The data set WORK.PHRASESPLIT has 9680003 observations and 3 variables.

```
NOTE: DATA statement used (Total process time):
real time      10:06.56
user cpu time   8.22 seconds
system cpu time 18.40 seconds
memory         3464.09k
OS Memory      29356.00k
Timestamp      08/05/2016 06:09:14 PM
Step Count     191 Switch Count  109
Page Faults    0
Page Reclaims  702
Page Swaps     0
Voluntary Context Switches  52227
Involuntary Context Switches 20
Block Input Operations  736
Block Output Operations  42001688
```

NOTE: Table WORK.TEMP created, with 26666 rows and 3 columns.

NOTE: PROC SQL statements are executed immediately; The RUN statement has no effect.

```
NOTE: PROCEDURE SQL used (Total process time):
real time      8:19.16
user cpu time   3:26.96
system cpu time 2:47.11
memory         130050.18k
OS Memory      156748.00k
Timestamp      08/05/2016 06:17:34 PM
Step Count     192 Switch Count  230
Page Faults    0
Page Reclaims  5214
Page Swaps     0
Voluntary Context Switches  14581
Involuntary Context Switches 261
Block Input Operations  8
Block Output Operations  42584136
```

NOTE: There were 26666 observations read from the data set WORK.TEMP.  
NOTE: The data set WORK.TEMP has 26666 observations and 3 variables.

```
NOTE: DATA statement used (Total process time):
real time      1.16 seconds
user cpu time   0.03 seconds
system cpu time 0.07 seconds
memory         3447.46k
OS Memory      29356.00k
Timestamp      08/05/2016 06:17:35 PM
Step Count     193 Switch Count  20
Page Faults    0
Page Reclaims  721
Page Swaps     0
Voluntary Context Switches  37
Involuntary Context Switches 0
Block Input Operations  8
Block Output Operations  108552
```

NOTE: Appending WORK.TEMP to WORK.MATCHES.

NOTE: There were 26666 observations read from the data set WORK.TEMP.

NOTE: 26666 observations added.

NOTE: The data set WORK.MATCHES has 106666 observations and 2 variables.

```
NOTE: PROCEDURE APPEND used (Total process time):
real time      0.02 seconds
user cpu time   0.00 seconds
system cpu time 0.02 seconds
memory         3654.28k
OS Memory      29104.00k
Timestamp      08/05/2016 06:17:35 PM
Step Count     194 Switch Count  24
Page Faults    0
Page Reclaims  467
Page Swaps     0
Voluntary Context Switches  40
Involuntary Context Switches 0
Block Input Operations  0
Block Output Operations  4112
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.

NOTE: There were 26666 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.PHRASES\_2 has 400000 observations and 3 variables.

```
NOTE: DATA statement used (Total process time):
real time      37.67 seconds
user cpu time   0.26 seconds
system cpu time 1.81 seconds
memory         5166.18k
OS Memory      31408.00k
Timestamp      08/05/2016 06:18:12 PM
Step Count     195 Switch Count  30
Page Faults    0
Page Reclaims  1018
Page Swaps     0
Voluntary Context Switches  2019
Involuntary Context Switches 3
Block Input Operations  72
Block Output Operations  3200016
```

Loop 2 finished at 05AUG16:19:18:13

```
NOTE: DATA statement used (Total process time):
real time      0.00 seconds
user cpu time   0.00 seconds
system cpu time 0.00 seconds
memory         776.28k
OS Memory      26532.00k
Timestamp      08/05/2016 06:18:12 PM
Step Count     196 Switch Count  18
```

```
Page Faults 0
Page Reclaims 222
Page Swaps 0
Voluntary Context Switches 16
Involuntary Context Switches 0
Block Input Operations 0
Block Output Operations 0
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.  
NOTE: The data set WORK.PHRASESPLIT has 10026671 observations and 3 variables.

NOTE: DATA statement used (Total process time):

```
real time 8:30.98
user cpu time 6.71 seconds
system cpu time 18.39 seconds
memory 3464.09k
OS Memory 29356.00k
Timestamp 08/05/2016 06:26:43 PM
Step Count 197 Switch Count 108
Page Faults 0
Page Reclaims 700
Page Swaps 0
Voluntary Context Switches 64234
Involuntary Context Switches 18
Block Input Operations 688
Block Output Operations 43505944
```

NOTE: Table WORK.TEMP created, with 26671 rows and 3 columns.

NOTE: PROC SQL statements are executed immediately; The RUN statement has no effect.

NOTE: PROCEDURE SQL used (Total process time):

```
real time 9:12.74
user cpu time 3:41.45
system cpu time 2:52.14
memory 130052.67k
OS Memory 156492.00k
Timestamp 08/05/2016 06:35:56 PM
Step Count 198 Switch Count 270
Page Faults 0
Page Reclaims 6233
Page Swaps 0
Voluntary Context Switches 16966
Involuntary Context Switches 284
Block Input Operations 0
Block Output Operations 44089416
```

NOTE: There were 26671 observations read from the data set WORK.TEMP.  
NOTE: The data set WORK.TEMP has 26671 observations and 3 variables.

NOTE: DATA statement used (Total process time):

```
real time 1.08 seconds
user cpu time 0.04 seconds
system cpu time 0.06 seconds
memory 3447.46k
OS Memory 29356.00k
Timestamp 08/05/2016 06:35:57 PM
Step Count 199 Switch Count 20
Page Faults 0
Page Reclaims 745
Page Swaps 0
Voluntary Context Switches 35
Involuntary Context Switches 0
Block Input Operations 0
Block Output Operations 108552
```

NOTE: Appending WORK.TEMP to WORK.MATCHES.

NOTE: There were 26671 observations read from the data set WORK.TEMP.  
NOTE: 26671 observations added.

NOTE: The data set WORK.MATCHES has 133337 observations and 2 variables.

NOTE: PROCEDURE APPEND used (Total process time):

```
real time 0.02 seconds
user cpu time 0.01 seconds
system cpu time 0.02 seconds
memory 3655.25k
OS Memory 29104.00k
Timestamp 08/05/2016 06:35:57 PM
Step Count 200 Switch Count 24
Page Faults 0
Page Reclaims 467
Page Swaps 0
Voluntary Context Switches 40
Involuntary Context Switches 0
Block Input Operations 0
Block Output Operations 4368
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.  
NOTE: There were 26671 observations read from the data set WORK.TEMP.

NOTE: The data set WORK.PHRASES\_2 has 400000 observations and 3 variables.

NOTE: DATA statement used (Total process time):

```
real time 41.20 seconds
user cpu time 0.24 seconds
system cpu time 1.79 seconds
memory 5166.15k
OS Memory 31408.00k
Timestamp 08/05/2016 06:36:39 PM
Step Count 201 Switch Count 30
Page Faults 0
Page Reclaims 1018
Page Swaps 0
Voluntary Context Switches 2129
Involuntary Context Switches 2
Block Input Operations 96
Block Output Operations 3200016
```

Loop 1 finished at 05AUG16:19:36:39

NOTE: DATA statement used (Total process time):

```
real time 0.00 seconds
user cpu time 0.00 seconds
system cpu time 0.00 seconds
memory 776.28k
OS Memory 26532.00k
Timestamp 08/05/2016 06:36:39 PM
Step Count 202 Switch Count 18
Page Faults 0
Page Reclaims 224
```

```
Page Swaps 0
Voluntary Context Switches 16
Involuntary Context Switches 0
Block Input Operations 0
Block Output Operations 0
```

```
175
176 proc sort data=matches;
177 by phraseid;
178 run;
```

NOTE: There were 133337 observations read from the data set WORK.MATCHES.  
NOTE: The data set WORK.MATCHES has 133337 observations and 2 variables.

```
NOTE: PROCEDURE SORT used (Total process time):
real time 0.04 seconds
user cpu time 0.03 seconds
system cpu time 0.02 seconds
memory 15952.40k
OS Memory 41300.00k
Timestamp 08/05/2016 06:36:39 PM
Step Count 203 Switch Count 36
Page Faults 0
Page Reclaims 3388
Page Swaps 0
Voluntary Context Switches 74
Involuntary Context Switches 1
Block Input Operations 0
Block Output Operations 18952
```

```
179 data want;
180 merge phrases_2 (drop=phrasecopy) matches (in=a);
181 by phraseid;
182 if a ;
183 run;
```

NOTE: There were 400000 observations read from the data set WORK.PHRASES\_2.  
NOTE: There were 133337 observations read from the data set WORK.MATCHES.  
NOTE: The data set WORK.WANT has 133337 observations and 3 variables.

```
NOTE: DATA statement used (Total process time):
real time 6.88 seconds
user cpu time 0.14 seconds
system cpu time 0.54 seconds
memory 5170.93k
OS Memory 31408.00k
Timestamp 08/05/2016 06:36:45 PM
Step Count 204 Switch Count 42
Page Faults 0
Page Reclaims 1020
Page Swaps 0
Voluntary Context Switches 184
Involuntary Context Switches 0
Block Input Operations 16
Block Output Operations 541960
```

```
184
185
186
187
188
189 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
199
```