

Do the Meta Data Step

LEO[®]



Do the Meta Data Step

6 June 2017

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Introduction

- Add a variable to a dataset
 - Quick and dirty style
 - No time to utilize metadata repositories
 - Swapping back and forth between SAS metadata and operational data using copy/paste
 - Using a small data step to reformat data
 - Adding EPOCH to a SV domain as an example
 - 2 minute operation

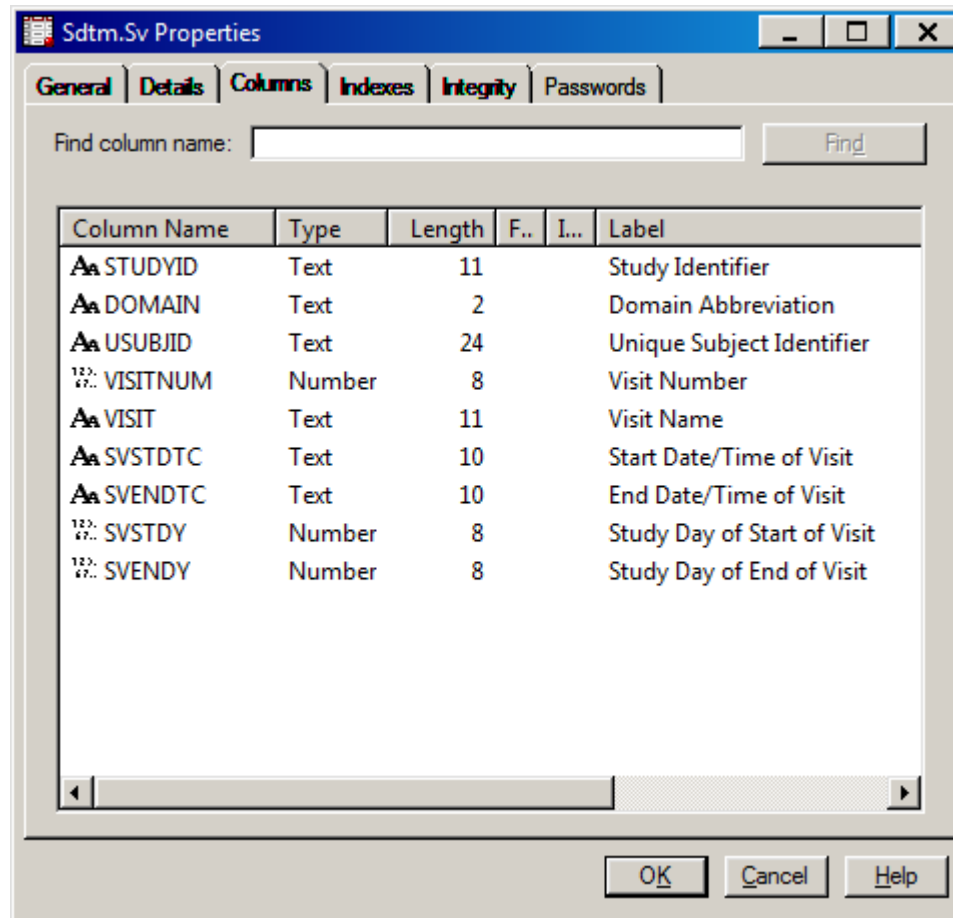


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Familiar picture

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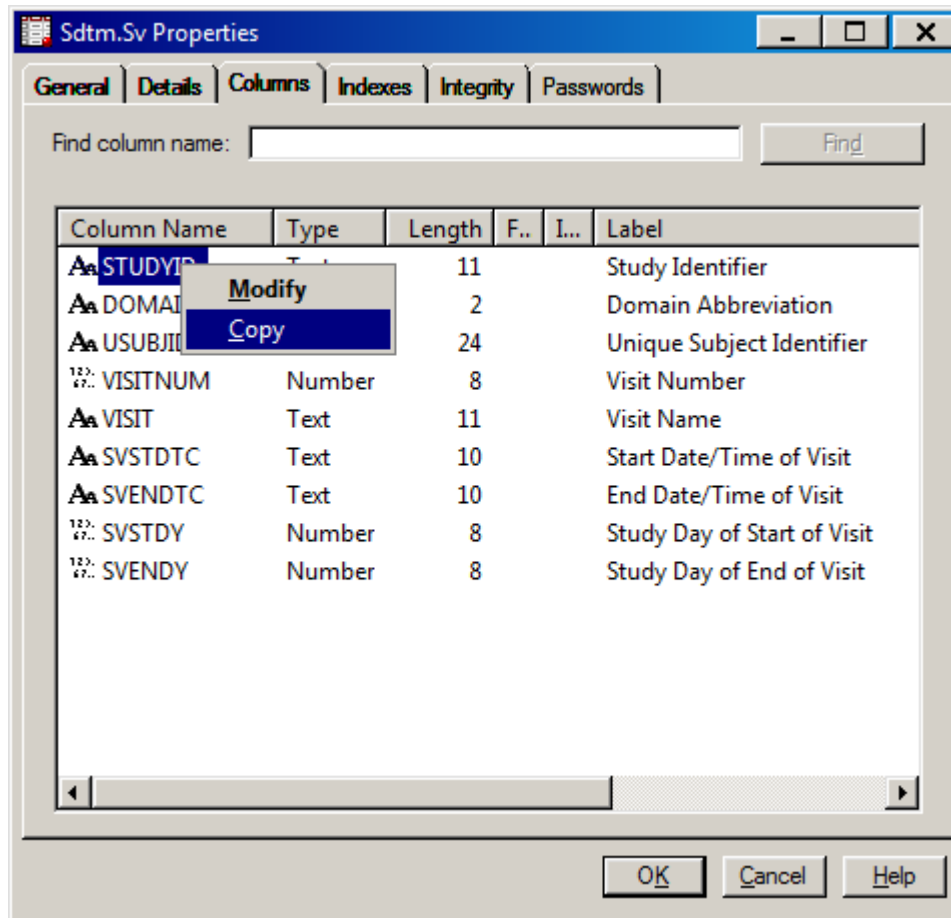


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Copy the metadata defining the dataset

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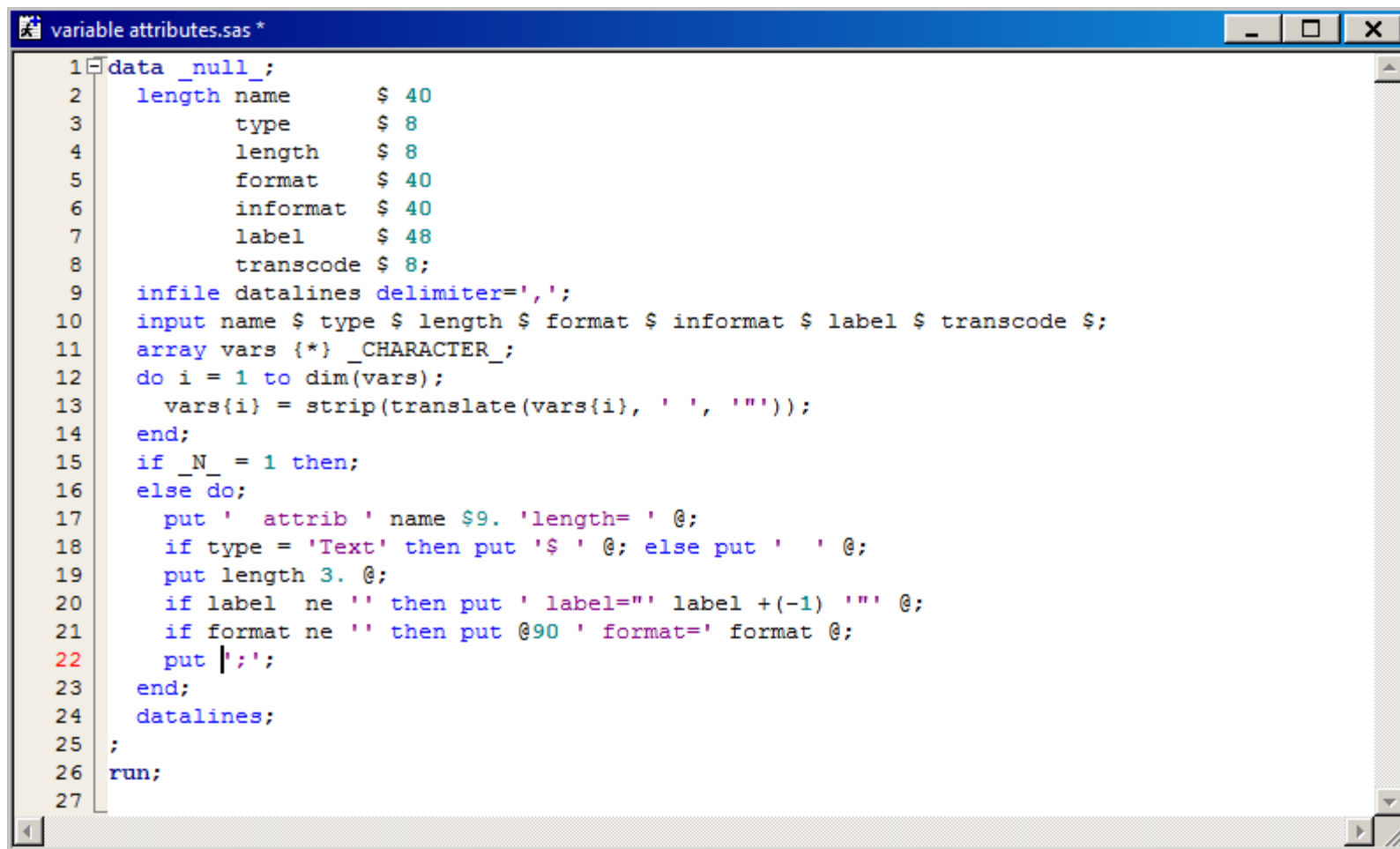


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Load the program into the Program Editor



```
1 data _null_;
2   length name      $ 40
3         type       $ 8
4         length     $ 8
5         format     $ 40
6         informat   $ 40
7         label      $ 48
8         transcode  $ 8;
9   infile datalines delimiter=',';
10  input name $ type $ length $ format $ informat $ label $ transcode $;
11  array vars {*} _CHARACTER_;
12  do i = 1 to dim(vars);
13    vars{i} = strip(translate(vars{i}, ' ', ''));
14  end;
15  if _N_ = 1 then;
16  else do;
17    put ' attrib ' name $9. 'length= ' @;
18    if type = 'Text' then put '$ ' @; else put ' ' @;
19    put length 3. @;
20    if label ne '' then put ' label=' label +(-1) ' ' @;
21    if format ne '' then put @90 ' format=' format @;
22    put '|';
23  end;
24  datalines;
25  ;
26  run;
27
```



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Paste the 'View Columns' data as datalines, unaltered!

```
variable attributes.sas *
11  array vars {*} _CHARACTER_;
12  do i = 1 to dim(vars);
13      vars{i} = strip(translate(vars{i}, ' ', '"'));
14  end;
15  if _N_ = 1 then;
16  else do;
17      put '  attrib ' name $9. 'length= ' @;
18      if type = 'Text' then put '$ ' @; else put ' ' @;
19      put length 3. @;
20      if label ne '' then put ' label="' label +(-1) '"' @;
21      if format ne '' then put @90 ' format=' format @;
22      put ';;';
23  end;
24  datalines;
25  "Column Name", "Type", "Length", "Format", "Informat", "Label", "Transcode",
26  "STUDYID", "Text", "11", "", "", "Study Identifier", "Yes",
27  "DOMAIN", "Text", "2", "", "", "Domain Abbreviation", "Yes",
28  "USUBJID", "Text", "24", "", "", "Unique Subject Identifier", "Yes",
29  "VISITNUM", "Number", "8", "", "", "Visit Number", "No",
30  "VISIT", "Text", "11", "", "", "Visit Name", "Yes",
31  "SVSTDTC", "Text", "10", "", "", "Start Date/Time of Visit", "Yes",
32  "SVENDTC", "Text", "10", "", "", "End Date/Time of Visit", "Yes",
33  "SVSTDY", "Number", "8", "", "", "Study Day of Start of Visit", "No",
34  "SVENDY", "Number", "8", "", "", "Study Day of End of Visit", "No",
35  ;
36  run;
37
```



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Run the program and switch to the log window

```
23      end;
24      datalines;

      attrib STUDYID   length= $ 11  label="Study Identifier";
      attrib DOMAIN   length= $  2  label="Domain Abbreviation";
      attrib USUBJID   length= $ 24  label="Unique Subject Identifier";
      attrib VISITNUM  length=  8    label="Visit Number";
      attrib VISIT     length= $ 11  label="Visit Name";
      attrib SVSTDTC   length= $ 10  label="Start Date/Time of Visit";
      attrib SVENDTC   length= $ 10  label="End Date/Time of Visit";
      attrib SVSTDY    length=  8    label="Study Day of Start of Visit";
      attrib SVENDY    length=  8    label="Study Day of End of Visit";
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds
```

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Select the 'attrib' statements and copy (ctrl-c)

```
23     end;  
24     datalines;
```

```
attrib STUDYID length= $ 11 label="Study Identifier";  
attrib DOMAIN length= $ 2 label="Domain Abbreviation";  
attrib USUBJID length= $ 24 label="Unique Subject Identifier";  
attrib VISITNUM length= 8 label="Visit Number";  
attrib VISIT length= $ 11 label="Visit Name";  
attrib SVSTDTC length= $ 10 label="Start Date/Time of Visit";  
attrib SVENDTC length= $ 10 label="End Date/Time of Visit";  
attrib SVSTDY length= 8 label="Study Day of Start of Visit";  
attrib SVENDY length= 8 label="Study Day of End of Visit";
```

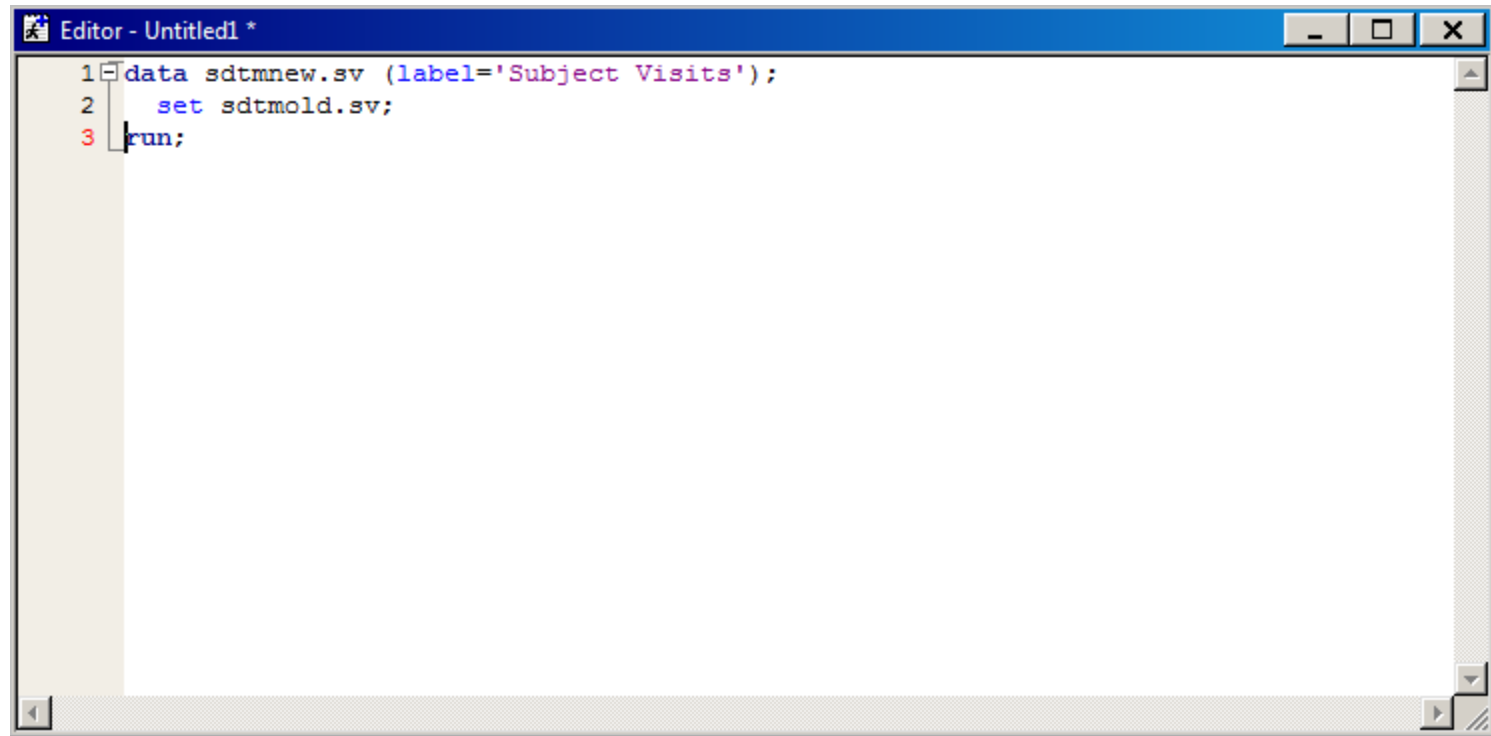
```
NOTE: DATA statement used (Total process time):  
      real time          0.00 seconds  
      cpu time           0.00 seconds
```

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Construct the correction program

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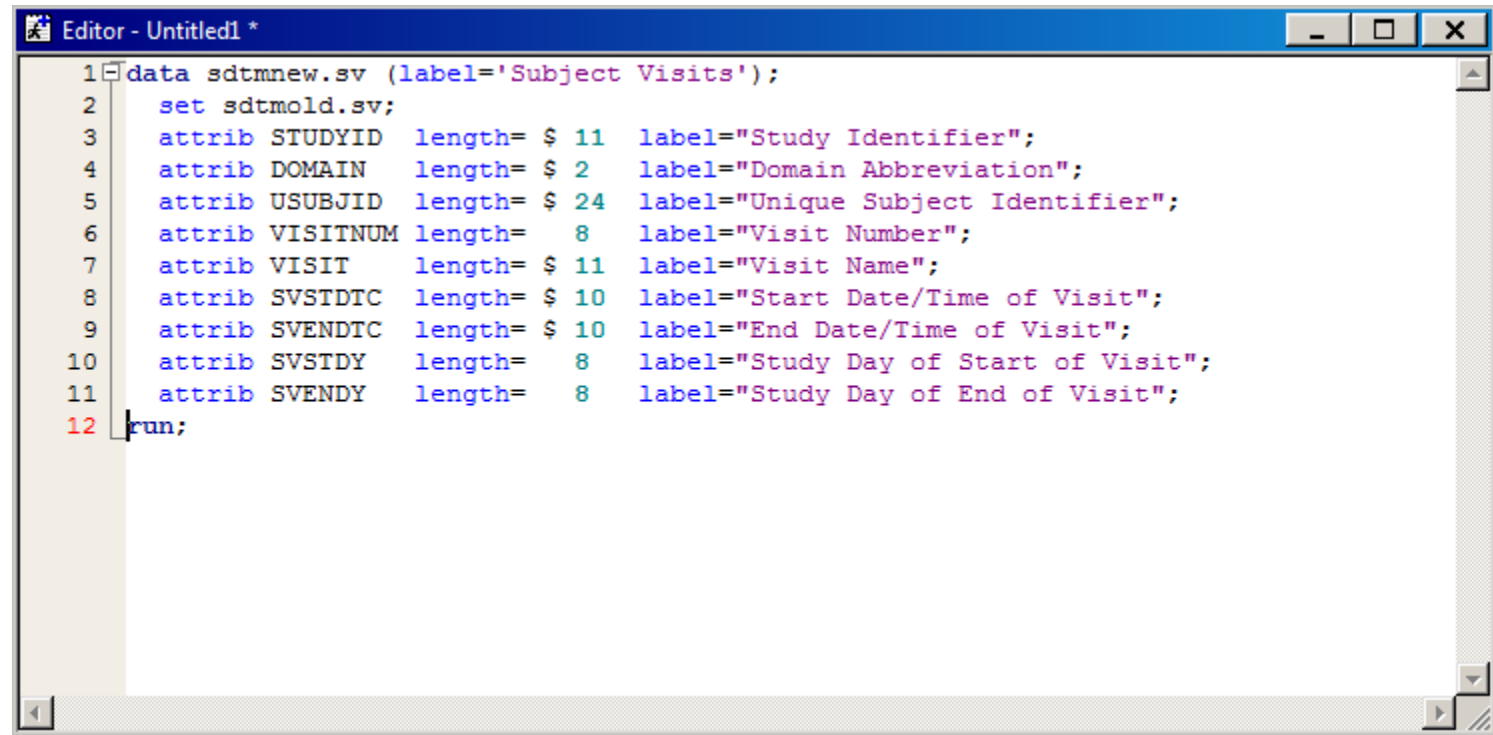
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```
1 data sdtmnew.sv (label='Subject Visits');  
2 set sdtmold.sv;  
3 run;
```

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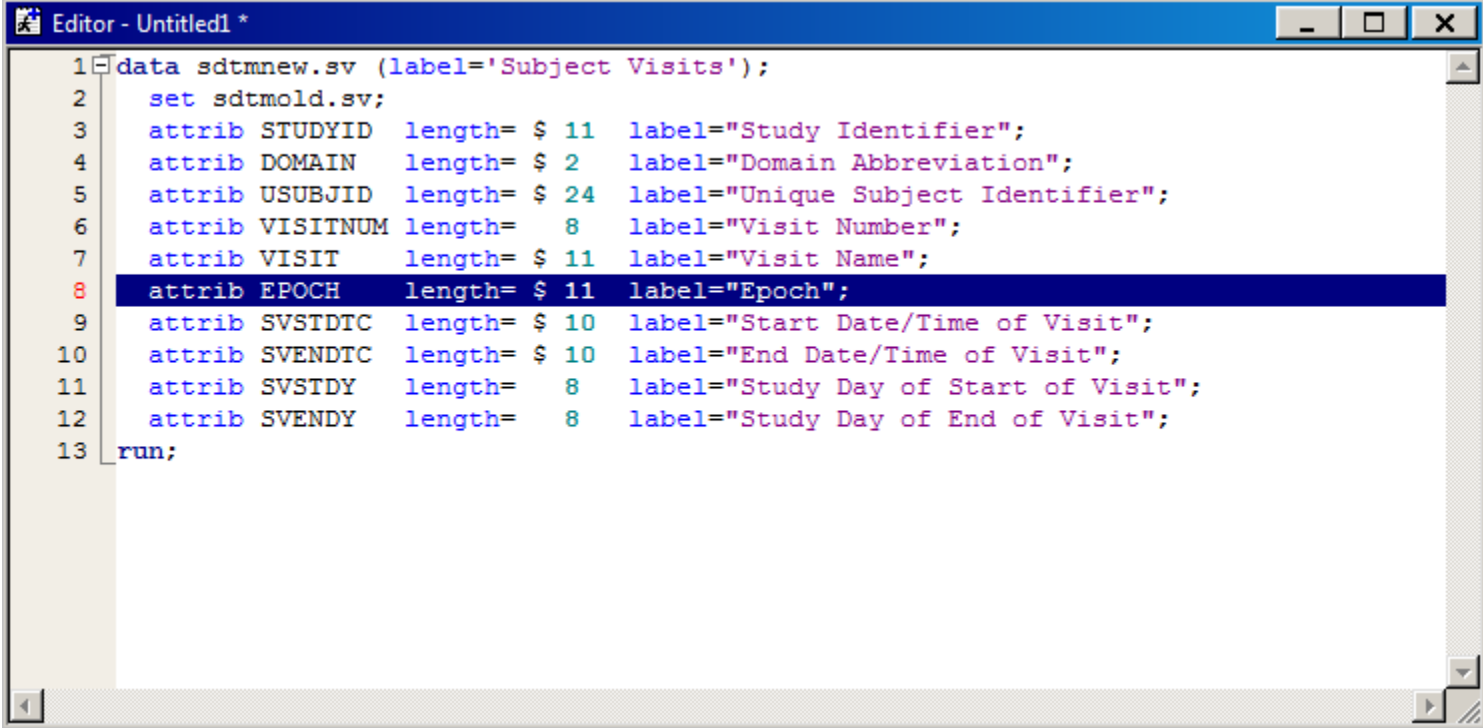
Insert the 'attrib' statements from the clipboard (ctrl-v)



```
1 data sdtmnew.sv (label='Subject Visits');
2   set sdtmold.sv;
3   attrib STUDYID length= $ 11 label="Study Identifier";
4   attrib DOMAIN length= $ 2 label="Domain Abbreviation";
5   attrib USUBJID length= $ 24 label="Unique Subject Identifier";
6   attrib VISITNUM length= 8 label="Visit Number";
7   attrib VISIT length= $ 11 label="Visit Name";
8   attrib SVSTDTC length= $ 10 label="Start Date/Time of Visit";
9   attrib SVENDTC length= $ 10 label="End Date/Time of Visit";
10  attrib SVSTDY length= 8 label="Study Day of Start of Visit";
11  attrib SVENDY length= 8 label="Study Day of End of Visit";
12  run;
```

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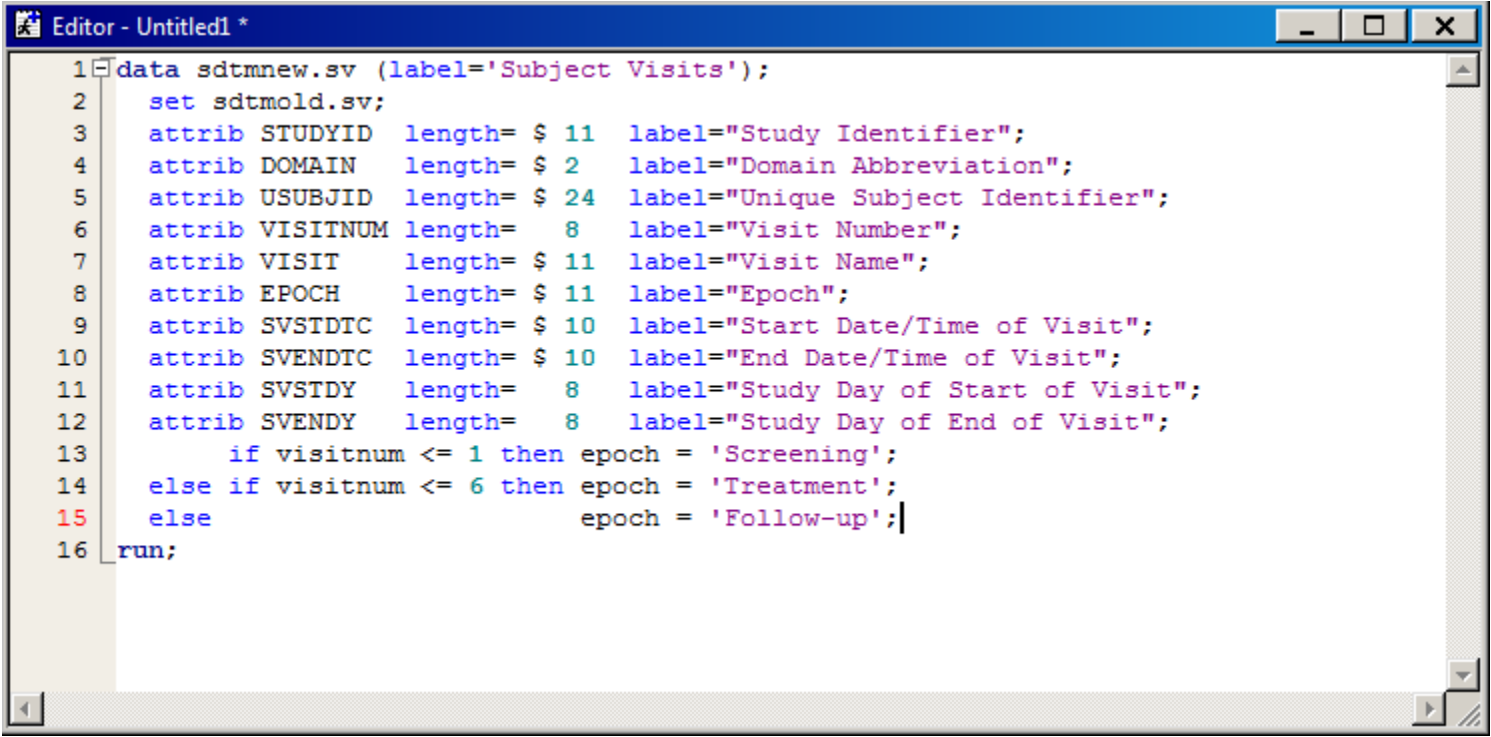
Insert a new 'attrib' statement at the proper location



```
1 data sdmnew.sv (label='Subject Visits');
2   set sdmold.sv;
3   attrib STUDYID length= $ 11 label="Study Identifier";
4   attrib DOMAIN length= $ 2 label="Domain Abbreviation";
5   attrib USUBJID length= $ 24 label="Unique Subject Identifier";
6   attrib VISITNUM length= 8 label="Visit Number";
7   attrib VISIT length= $ 11 label="Visit Name";
8   attrib EPOCH length= $ 11 label="Epoch";
9   attrib SVSTDC length= $ 10 label="Start Date/Time of Visit";
10  attrib SVENDTC length= $ 10 label="End Date/Time of Visit";
11  attrib SVSTDY length= 8 label="Study Day of Start of Visit";
12  attrib SVENDY length= 8 label="Study Day of End of Visit";
13 run;
```

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Insert the program logic to populate EPOCH



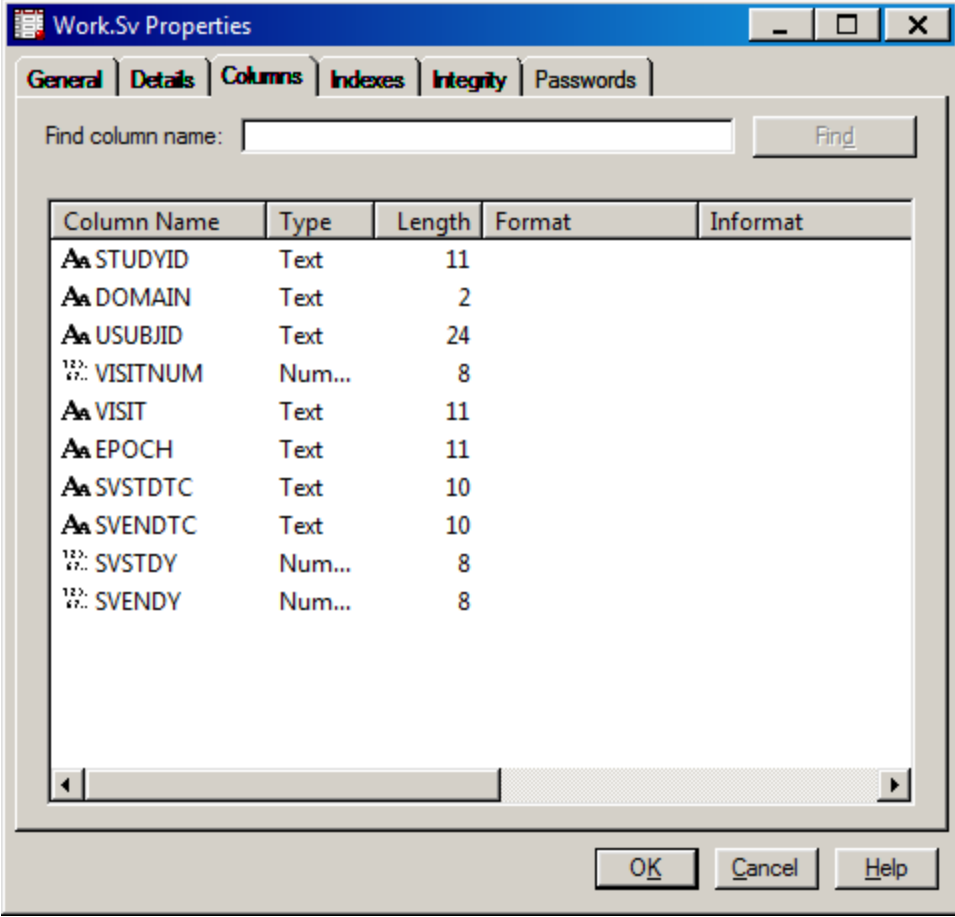
```
1 data sdtmnew.sv (label='Subject Visits');
2   set sdtmold.sv;
3   attrib STUDYID length= $ 11 label="Study Identifier";
4   attrib DOMAIN length= $ 2 label="Domain Abbreviation";
5   attrib USUBJID length= $ 24 label="Unique Subject Identifier";
6   attrib VISITNUM length= 8 label="Visit Number";
7   attrib VISIT length= $ 11 label="Visit Name";
8   attrib EPOCH length= $ 11 label="Epoch";
9   attrib SVSTDTC length= $ 10 label="Start Date/Time of Visit";
10  attrib SVENDTC length= $ 10 label="End Date/Time of Visit";
11  attrib SVSTDY length= 8 label="Study Day of Start of Visit";
12  attrib SVENDY length= 8 label="Study Day of End of Visit";
13      if visitnum <= 1 then epoch = 'Screening';
14  else if visitnum <= 6 then epoch = 'Treatment';
15  else
16      epoch = 'Follow-up';
run;
```

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Updated metadata

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Work.Sv Properties

General Details **Columns** Indexes Integrity Passwords

Find column name: Find

Column Name	Type	Length	Format	Informat
STUDYID	Text	11		
DOMAIN	Text	2		
USUBJID	Text	24		
VISITNUM	Num...	8		
VISIT	Text	11		
EPOCH	Text	11		
SVSTDTC	Text	10		
SVENDTC	Text	10		
SVSTDY	Num...	8		
SVENDY	Num...	8		

OK Cancel Help

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Mission accomplished

- Adjust libnames to your standard
- Run the resulting program
- Many variations possible
 - Create LENGTH statements
 - Create SQL statements
 - Create Macro statements
 - Create Macro calls
 - Adapt to metadata infrastructure

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LENGTH statement example

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```
variable lengths.sas *
1 data _null_;
2   length name      $ 40
3     type          $ 8
4     length        $ 8
5     format        $ 40
6     informat      $ 40
7     label         $ 48
8     transcode     $ 8;
9   infile datalines delimiter=',' eof=tail;
10  input name $ type $ length $ format $ informat $ label $ transcode $;
11  array vars {*} _CHARACTER_;
12  do i = 1 to dim(vars);
13    vars{i} = strip(translate(vars{i}, ' ', '"'));
14  end;
15  if _N_ = 1 then put '  length' @;
16  else do;
17    put @10 name $9. @;
18    if type = 'Text' then put '$ ' @; else put ' ' @;
19    put length;
20  end;
21  return;
22 tail:
23  put ' ';
24  return;
25  datalines;
26 ;
27 run;
28
```



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Questions

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