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Let SAS® Help You Easily Find and Access Your Folders and Files

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ABSTRACT

In this paper, a SAS® macro is introduced that can help users find and access their folders and files very easily. By providing a path to the macro and letting the macro know which folders and files you are looking for under this path, the macro creates an HTML report that lists the matched folders and files. The best part of this HTML report is that it also creates a hyperlink for each folder and file so that when a user clicks the hyperlink, it directly opens the folder or file. Users can also ask the macro to find certain folders or files by providing part of the folder or file name as the search criterion. The results shown in the report can be sorted in different ways so that it can further help users quickly find and access their folders and files.

INTRODUCTION

Below are the screenshots for a sample html report. Figure 1 lists all the files and folders under directory "C:\generate_html". The report in figure 1 is sorted by "Location" column.

Type	Location	Date Modified
Folder	C:\generate_html	
Jpg	C:\generate_html\STBuilding.jpg	2015-02-17 16:55
Jpg	C:\generate html\cchmc logo.jpg	2015-02-17 16:54
Txt	C:\generate html\command.txt	2015-10-06 19:19
Sas	C:\generate html\generate html.sas	2015-10-06 19:19
Folder	C: enerate html\html	2015-10-06 19:07
Html	C:\generate html\html\BarBlock.html	2015-03-06 13:17
Txt	C:\generate html\html\BarBlock.txt	2015-03-06 13:17
Html	C:\generate html\html\Box.html	2015-03-06 13:17
Txt	C: enerate html\html\Box.txt	2015-03-06 13:17
Html	C: enerate html\html\Line.html	2015-03-06 13:17
Txt	C: enerate html\html\Line.txt	2015-03-06 13:17
Html	C:\generate html\html\generate html.html	2015-03-06 13:17
Txt	C:\generate html\html\generate html.txt	2015-03-06 13:17
Html	C:\generate_html\html\index.html	2015-03-06 13:46
Txt	C: enerate html\html\index.txt	2015-03-06 13:17
Folder	C: enerate html\html codes files	2015-10-06 19:19
Pdf	C: enerate html\html codes files\Test.pdf	2015-03-20 16:36
Folder	C:\generate html\html codes files\html images	2015-10-06 19:07
Jpg	C:\generate html\html codes files\html images\cchmc1.jpg	2015-02-20 14:47
Jpg	C:\generate html\html codes files\html images\cchmc2.jpg	2015-02-20 14:48
Jpg	C:\generate html\html codes files\html images\cchmc3.jpg	2015-02-20 14:50
Txt	C:\generate html\html codes files\index1 beginning.txt	2015-03-06 13:22
Txt	C:\generate html\html codes files\index1 end.txt	2015-10-06 19:19
Txt	C:\generate html\html codes files\index2 beginning.txt	2015-02-20 15:14
Txt	C:\generate html\html codes files\index2 end.txt	2015-10-06 19:20
Html	C:\generate html\html codes files\test.html	2015-02-20 16:05

Figure 1. the Screenshot for a Sample HTML File Report

If you only want to select all the folders or select all the "jpg" files inside the folder "C:\generate_html" or find a file whose name is "test.pdf", the macro can help you do those things as well. See the screenshots in Figure 2, 3 and 4.

Туре	Location	Date Modified
Folder	C:\generate html	
Folder	C:\generate html\html	2015-10-06 19:07
Folder	C:\generate html\html codes files	2015-10-06 19:19
Folder	C:\generate html\html codes files\html images	2015-10-06 19:07

Figure 2. Find the Folders inside the "C:\generate_html" Folder

Туре	Location	Date Modified
Jpg	C:\generate html\STBuilding.jpg	2015-02-17 16:55
Jpg	C:\generate html\cchmc logo.jpg	2015-02-17 16:54
Jpg	C:\generate html\html codes files\html images\cchmc1.jpg	2015-02-20 14:47
Jpg	C:\generate html\html codes files\html images\cchmc2.jpg	2015-02-20 14:48
Jpg	C:\generate html\html codes files\html images\cchmc3.jpg	2015-02-20 14:50

Figure 3. Find the "JPG" Files inside the "C:\generate_html" Folder

Туре	Location	Date Modified
Pdf	C:\generate html\html codes files\Test.pdf	2015-03-20 16:36

Figure 4. Find the "Test.pdf" File inside the "C:\generate_html" Folder

Also you can sort the listings using different ways. Figure 5 is the screenshot that sorting the results by the descending modified date.

Туре	Location	Date Modified
Sas	C:\generate html\generate html.sas	2015-10-06 19:19
Folder	C:\generate html\html codes files	2015-10-06 19:19
Folder	C:\generate html\html	2015-10-06 19:07
Folder	C:\generate html\html codes files\html images	2015-10-06 19:07
Html	C:\generate html\html\index.html	2015-03-06 13:46
Html	C:\generate html\html\BarBlock.html	2015-03-06 13:17
Html	C:\generate html\html\Box.html	2015-03-06 13:17
Html	C:\generate html\html\Line.html	2015-03-06 13:17
Html	C:\generate html\html\generate html.html	2015-03-06 13:17
Txt	C:\generate html\html\generate html.txt	2015-03-06 13:17
Html	C:\generate html\html codes files\test.html	2015-02-20 16:05

Figure 5. Find all the "HTML" Files inside the "C:\generate_html" Folder and Sort the Results by Descending Modified Date

If you click the name of the folder or the file, the folder or the file will be opened directly.

THE FINDFILES MACRO

Presented below are the SAS codes for the Findfiles macro:

```
%macro Findfiles(dirnm=,outhtml=,filetype=%str(),sortvars=%str(),
browser type=iexplore);
filename DIRLIST pipe "dir /-c /q /s /t:w ""&dirnm""";
data tmp1;
length path filename $255 line $1024 owner $17 temp $16;
retain path;
infile DIRLIST length=reclen;
input line $varying1024. reclen;
if reclen = 0 then delete;
if scan(line,1," ")='Volume' or scan(line,1," ")='Total' or
scan(line, 2, "") = 'File(s)' or <math>scan(line, 2, "") = 'Dir(s)' then delete;
dir rec=upcase(scan(line,1," "))='DIRECTORY';
if dir rec then path=left(substr(line,length("Directory of")+2));
else do;
date=input(scan(line,1," "),mmddyy10.);
time=input(scan(line,2," "),time5.);
post meridian=(scan(line, 3, " ")='PM');
if post meridian then time=time+'12:00:00'T;
temp = scan(line, 4, "");
if temp='<DIR>' then size=0; else size=input(temp,best.);
owner=scan(line,5," ");
filename=scan(line,6," ");
if filename in ('.' '..') then delete;
ndx=index(line,scan(filename,1));
filename=substr(line,ndx);
end;
run;
data tmp2;
set tmp1;
length Type $20.;
if index(filename,".")=0 then Type="Folder";
else Type=propcase(scan(filename, 2, "."));
if filename ^="" then src=cats(path,"\",filename);
```

```
else src=path;
location=cats("<a href='",src,"'>",src,"</a><br>");
date modified=catx(" ",put(date,yymmdd10.),put(time,time5.));
%if &filetype NE %str() %then %do;
if index(upcase(filename), upcase("&filetype."))>0 or
index(upcase(type), upcase("&filetype."))>0;
%end;
keep Type location date modified;
label location="Location" date modified="Date Modified";
run;
data tmp2;
set tmp2;
if index(lowcase(location), "service") > 0 then delete;
proc sort data=tmp2 nodupkey;by Location;run;
%if &sortvars NE %str() %then %do;
proc sort data=tmp2;by &sortvars.;run;
%end;
ods html file="&outhtml.";
proc print data=tmp2 noobs label;run;
ods html close;
options NOXWAIT NOXSYNC;
%if &browser type.=iexplore %then %do;
x "start iexplore &outhtml.";
%end;
%else %if &browser type.=chrome %then %do;
%let newhtml=%sysfunc(tranwrd(&outhtml.,\backslash,//));
x "start &browser type. file://&newhtml.";
%end;
%mend;
```

- The "dirnm" is used to indicate the directory you want the macro to search for files and folders.
- The "outhtml" is used to indicate the location and the filename for the output html report.

- The "filetype" is used to indicate the type of the files you want to find, you can pass any values that are available for the column "Type" on the output html report. For e.g, if you want to find the folders, you can pass "folder" to the "filetype" parameter. The parameter "filetype" value is case-insensitive. By default, if you don't pass any value to it, it will list all the folders and files.
- The "Sortvars" is used to indicate how you want to sort your results. To sort the results by column "Type", pass "type" value to the macro variable "Sortvars". To sort the results by column "Location", pass "location" value to the macro variable "Sortvars". To sort the results by column "Date Modified", pass "date_modified" value to the macro variable "Sortvars". For example, if you want to sort the results by type and descending modified date, you can pass "type descending modified_date" to the "sortvars" macro parameter. By default, if you don't pass any value to it, it will sort the results by location.
- The "browser_type" is used to indicate which browser you want to use to open your html report. By default, it will use the internet explorer to open the report. You can also pass "chrome" to it to open the file in Google Chrome.

CALL THE MACRO

Below are some examples showing you how to call the macro to find different files and sort the results.

1. To Find all the files and folders inside the "C:\generate_html" folder and sort the results by type and descending modified date. The result will be saved into the "result.html" file on the C: drive. and Google Chrome will be used to open the report. You can call the macro in this way:

```
%Findfiles(dirnm=%str(C:\generate_html),sortvars=%str(type descending
date_modified),outhtml=%str(C:\result.html),browser_type=chrome);
```

2. To find all the html files inside the "C:\generate_html" folder and sort the results by location and type. The result will be saved into the "C:\result.html" file and the file will be opened by internet explorer by default. You can call the macro in this way:

```
%Findfiles(dirnm=%str(C:\generate_html), filetype=%str(.html), sortvars=%str
(location type), outhtml=%str(C:\result.html));
```

3. To find the "test.pdf" file inside the "C:\quad qenerate html" folder, you can call the macro in this way:

```
%Findfiles(dirnm=%str(C:\generate_html),filetype=%str(test.pdf),
outhtml=%str(C:\result.html));
```

4. To find the folders inside the "C:\generate html" folder, you can call the macro in this way:

```
%Findfiles(dirnm=%str(C:\generate_html),filetype=%str(folder),
outhtml=%str(C:\result.html));
```

CONCLUSION

The macro presented in this paper can be used as a helpful tool to help users to access and manage their files and folders. Also the macro can be further extended to have more functions, like adding more information to the report, selecting those read only files or adding more functions or styles to the html report.

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