ANLT5020 – Unit 4 Assignment 1 Tutorial

SAS Studio

Instructions

Following are the assumptions:

- Claim information (that is, MOS, DOS, YOS, DRG, and Charges) is valid (as there is no way to verify otherwise at this moment).
- Assume that names that look or sound the same represent the same person.
- For this assignment, use the First_Name and Last_Name fields to check for data quality issues. You may need to do additional research about how to use the DO loop to fix the data quality issues.

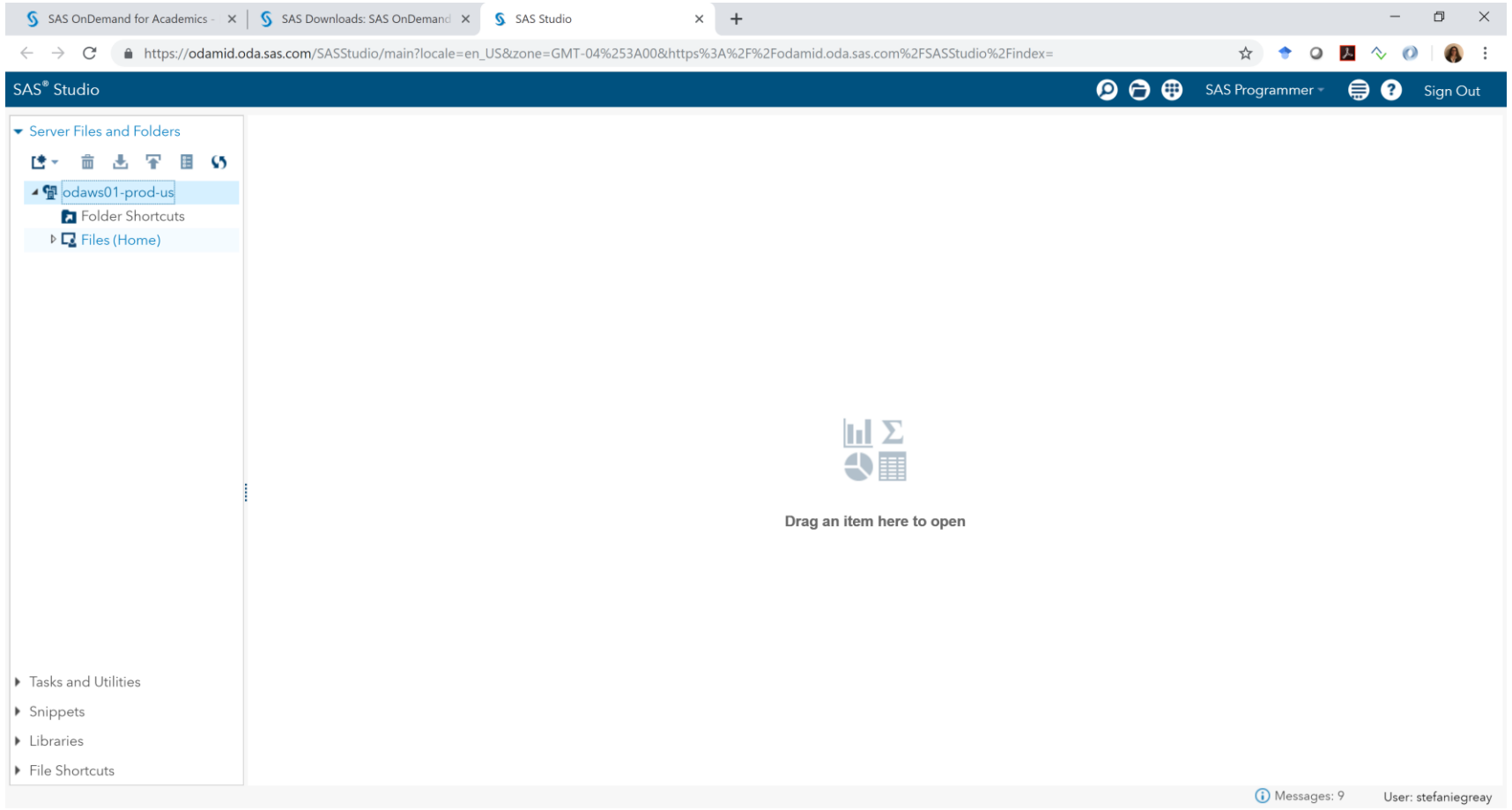
Carry out the following tasks in SAS.

- Use PROC FREQ to check for invalid values for a character value.
- Use DATA Step to check for invalid values.
- Use IF-THEN statement to compute the value of a new variable.
- Debug your code using two types of records or data sets. (You can create these sets by taking a subset from the original data set to test for syntax errors, or you can create test data sets with the specific criteria you have coded for to test your logic.)
- Summarize how to use SAS to standardize character data and identify strategies for data cleansing.
- Explain how debugging techniques may be used as part of the ETL process and to assist in data cleansing activities.
- Use the activities you completed to support your explanations. Attach screenshots of your activity results with your assignment or as addendums to your assignment.

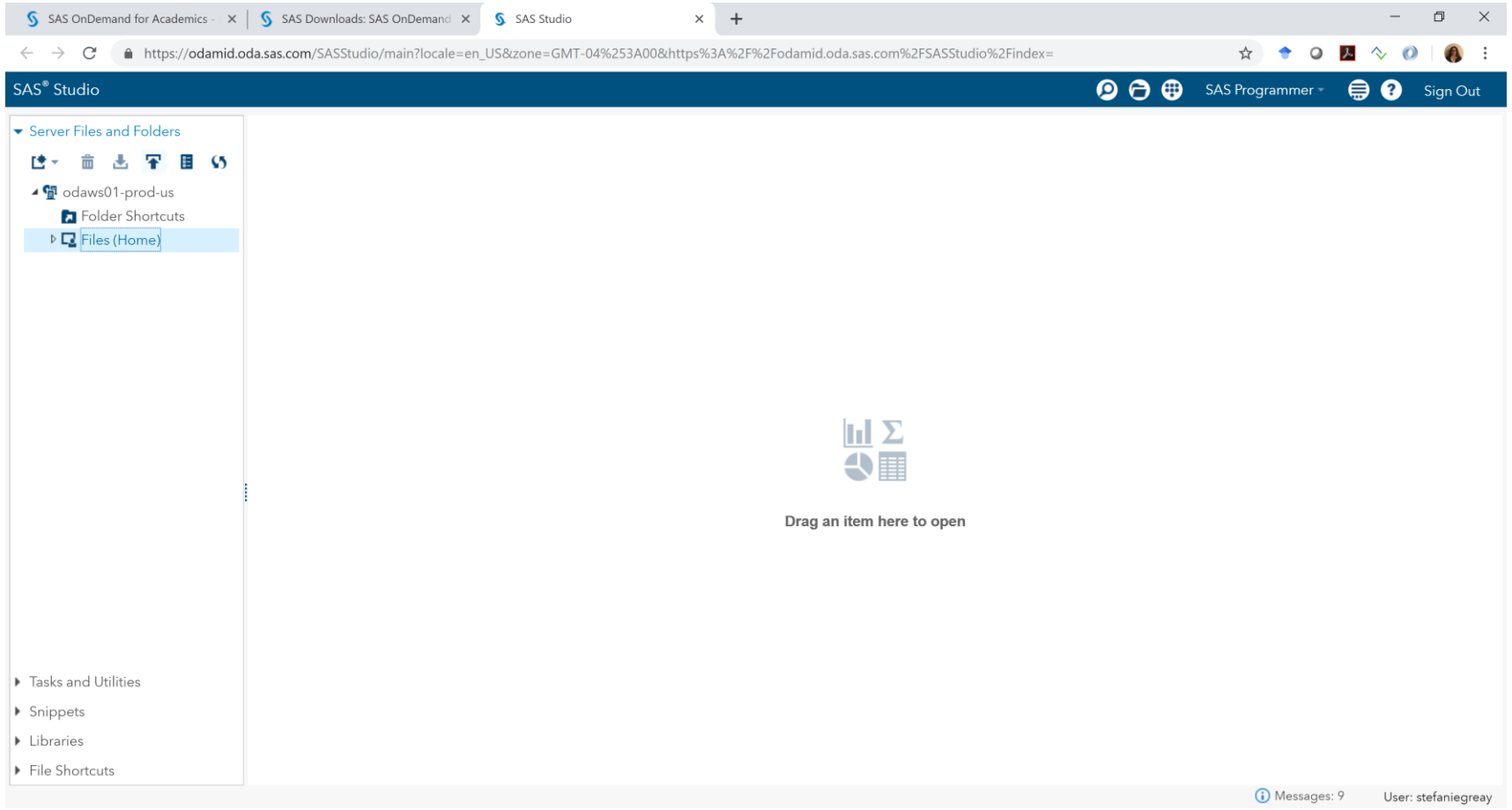
Dataset

- Download the Claims.csv file from the course datasets zip file or from the Unit 4 Welcome announcement in the course announcements.

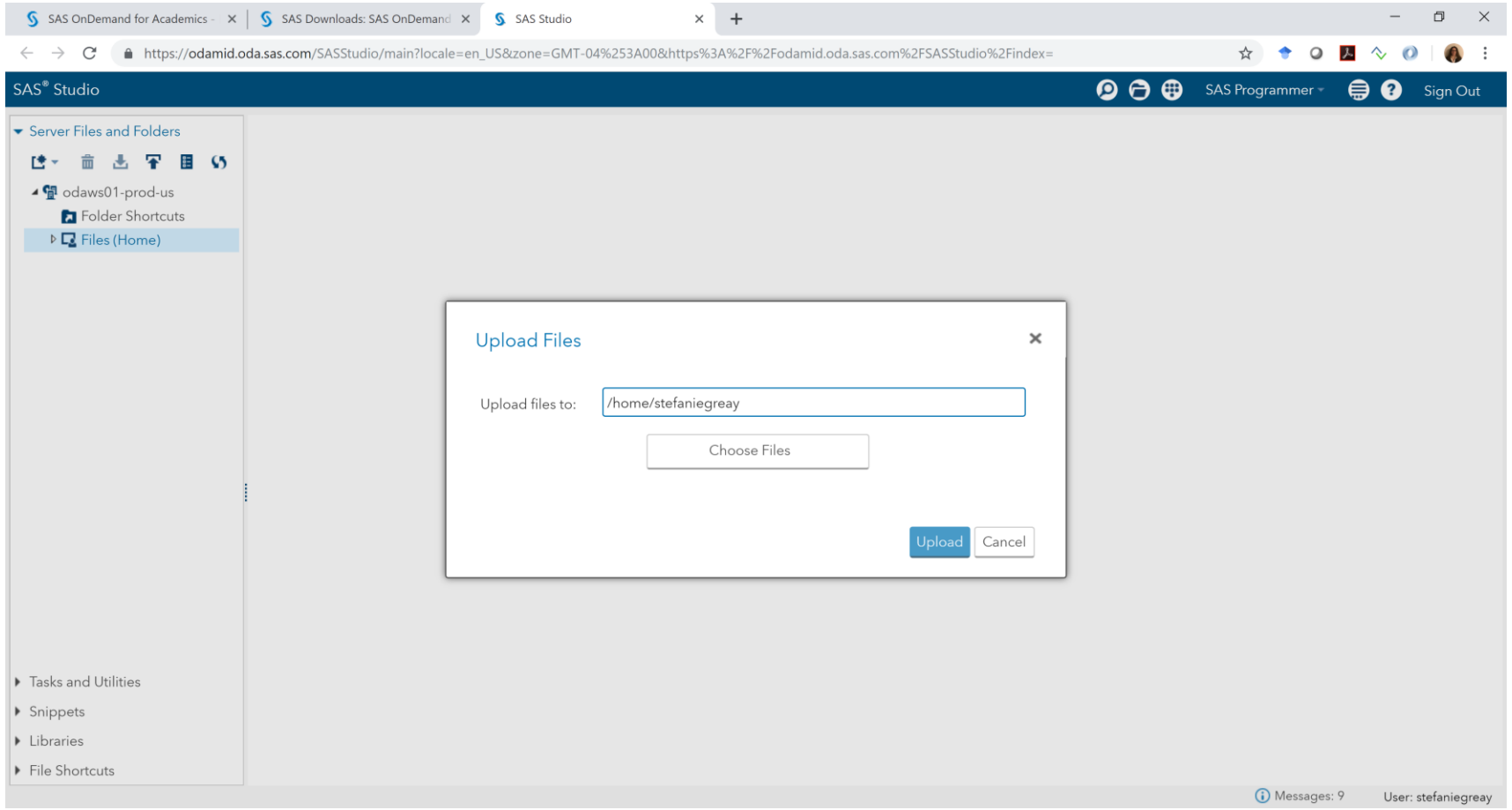
Click on Files(Home)



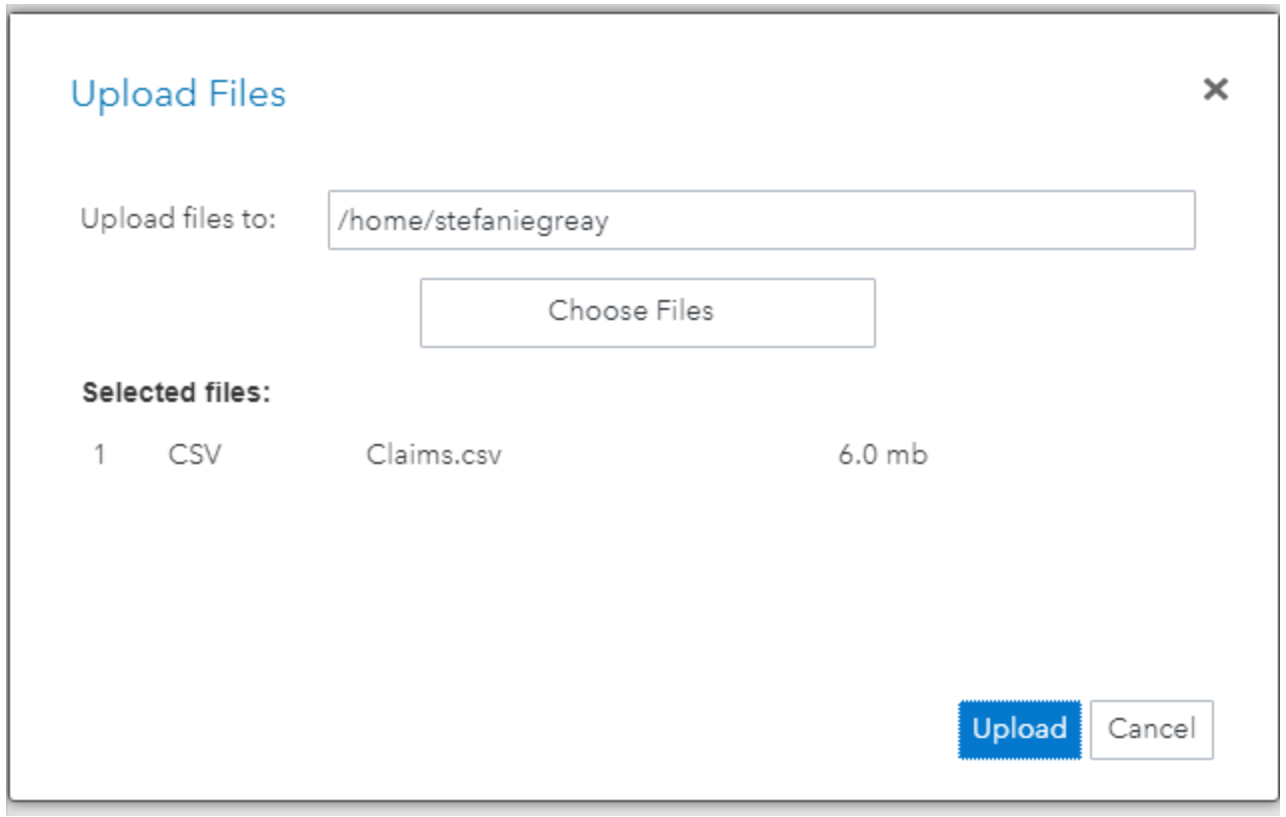
The Upload button will display in dark blue



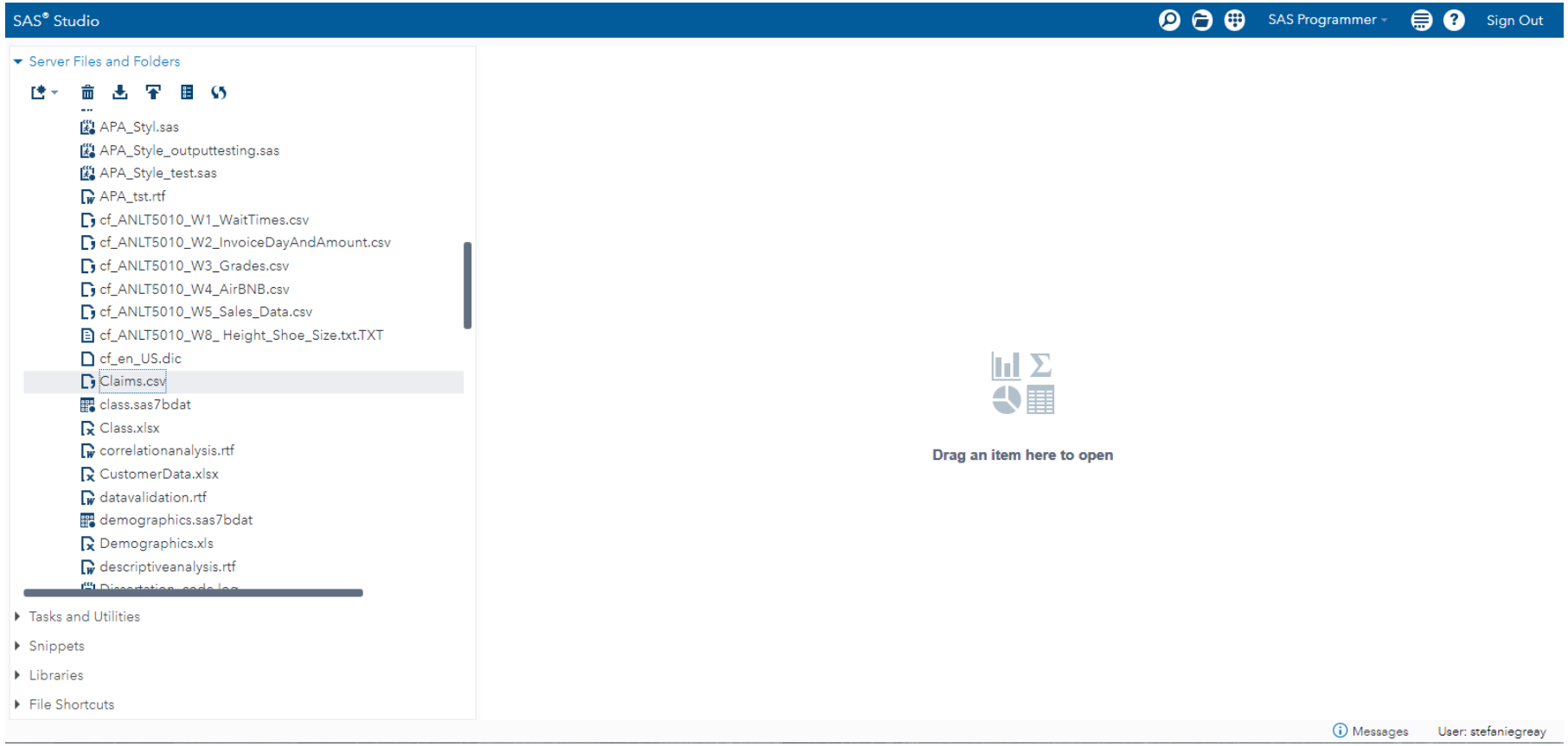
You can create a folder at this point, if you wish, or simply upload to your home directory.



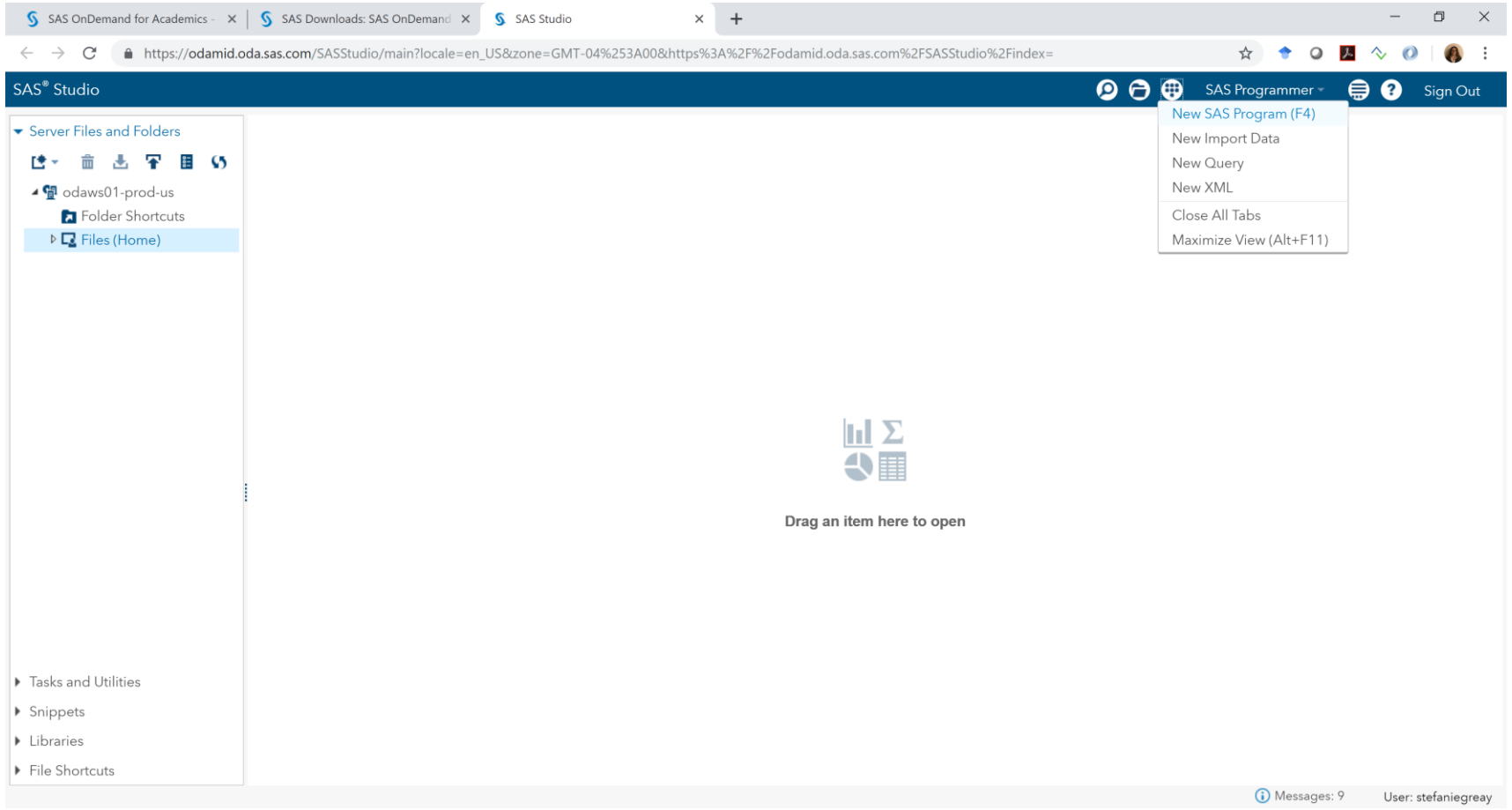
Select “Choose Files” to browse your computer for the dataset you want to upload. Once the dataset has been selected, click “Upload.”



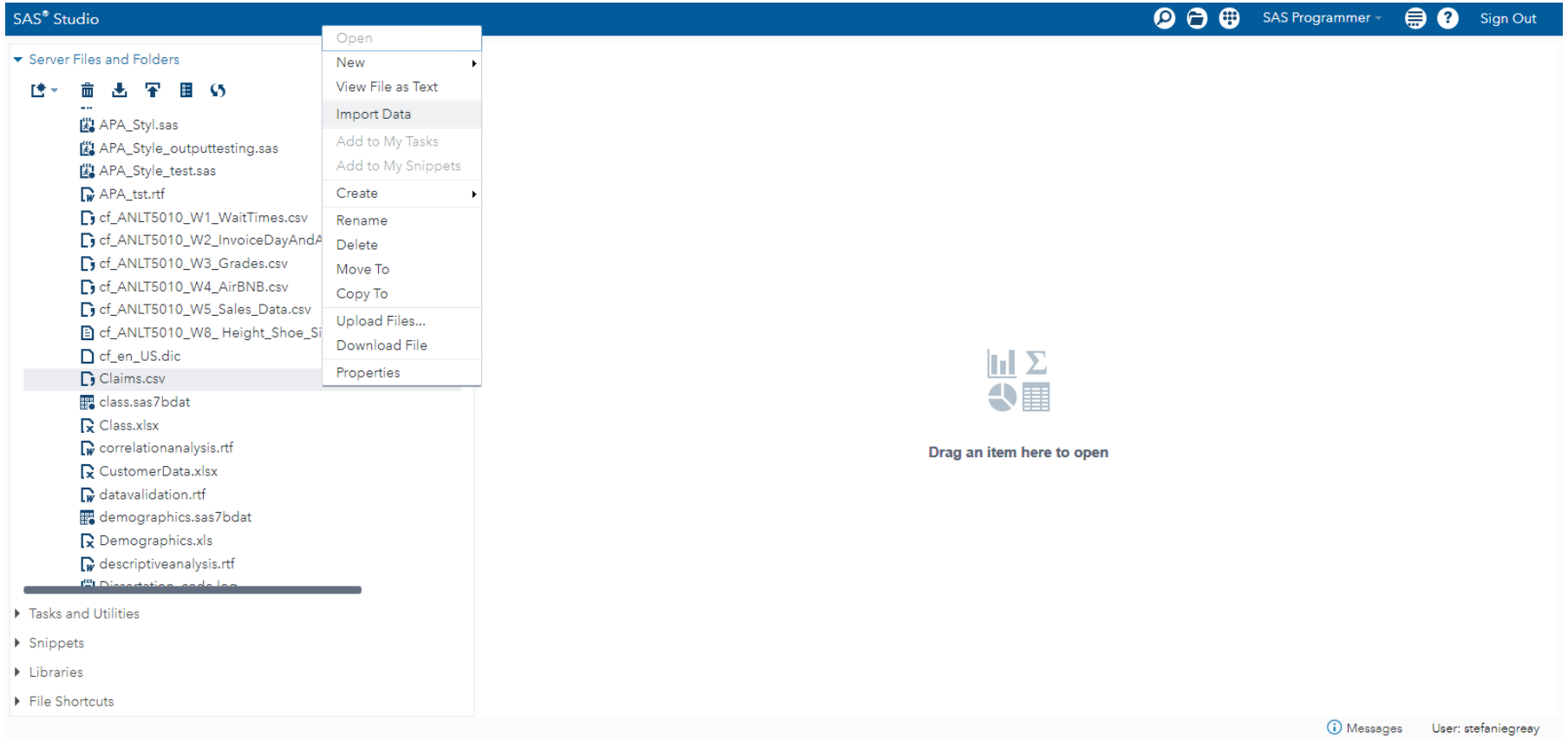
You will be able to view your files by clicking on “Files(Home)” to verify that your file successfully uploaded.



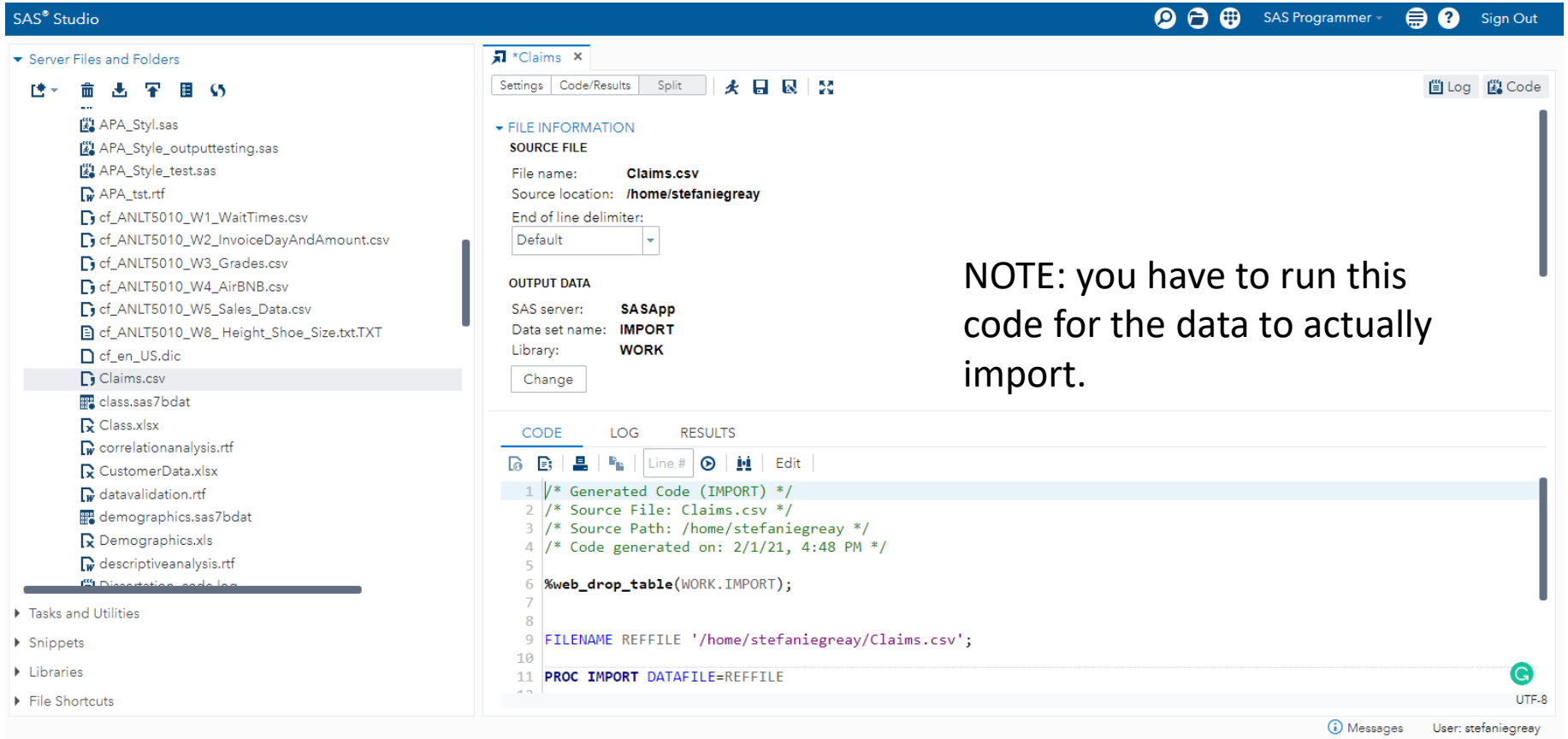
To get started with the SAS portion of the assignment, start a new SAS program.



Import the dataset into a SAS dataset format (from the current csv format)

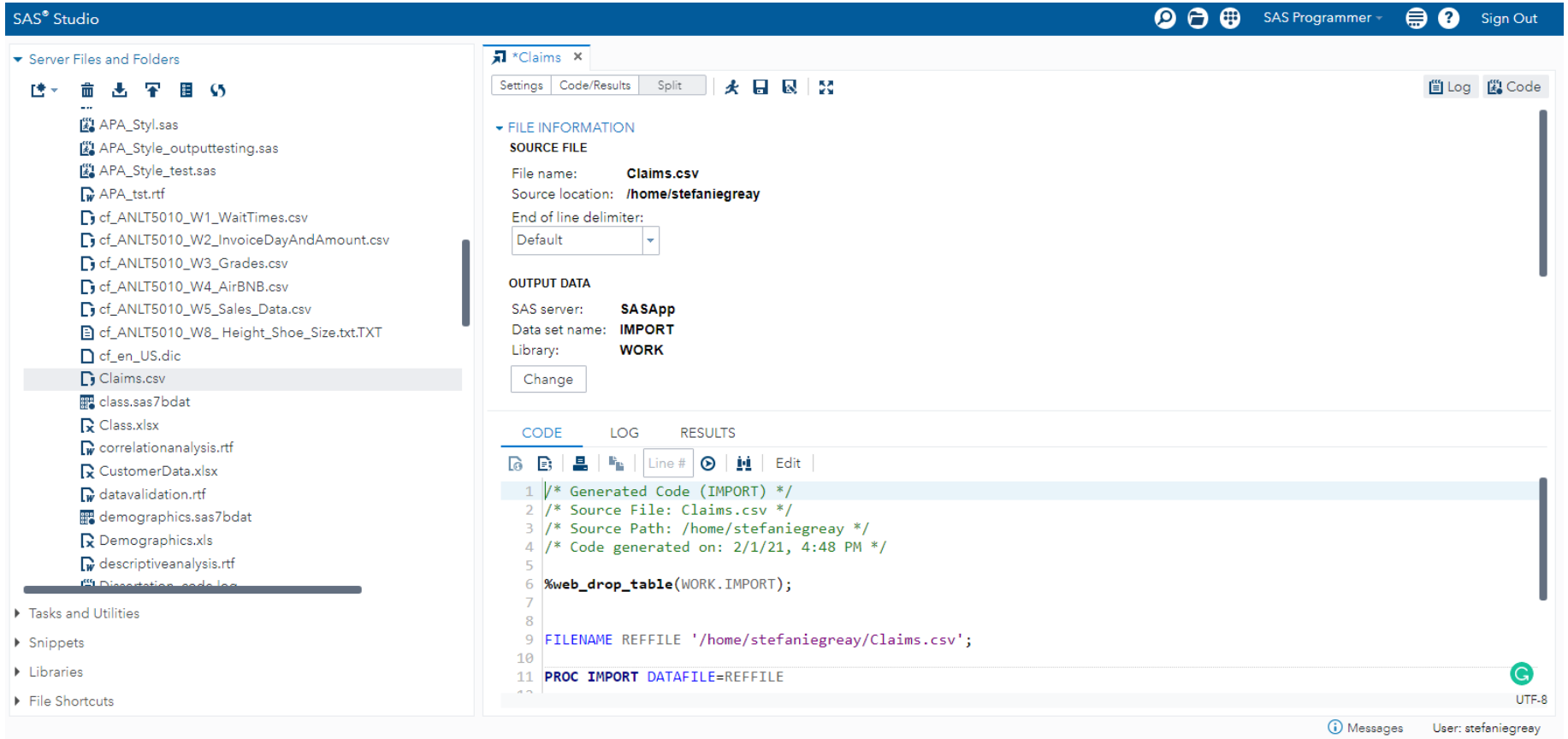


The Proc Import code will be written for you (save this as a template to use for future imports!)

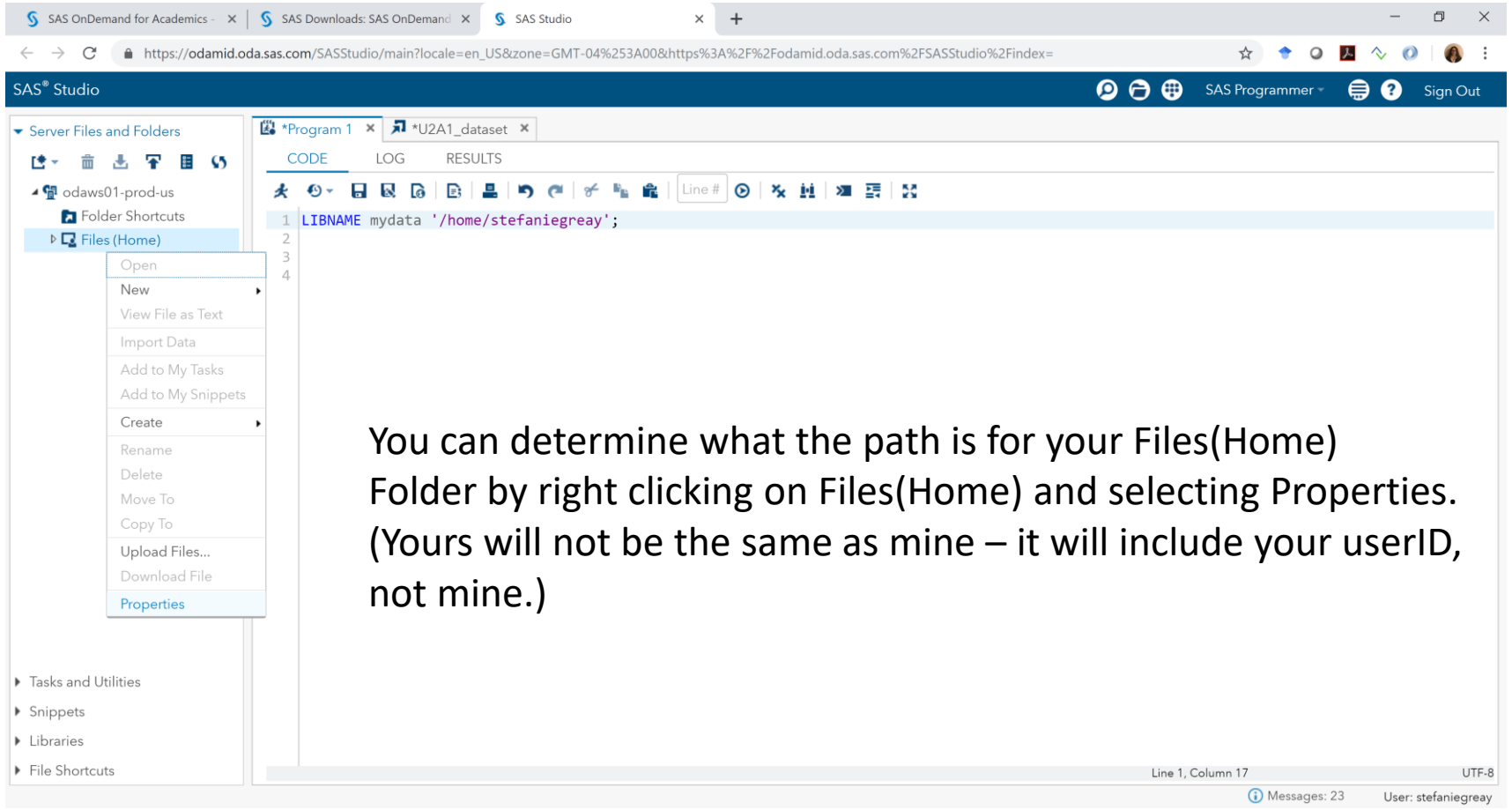


NOTE: you have to run this code for the data to actually import.

To run the code, click the icon that looks like a guy running.

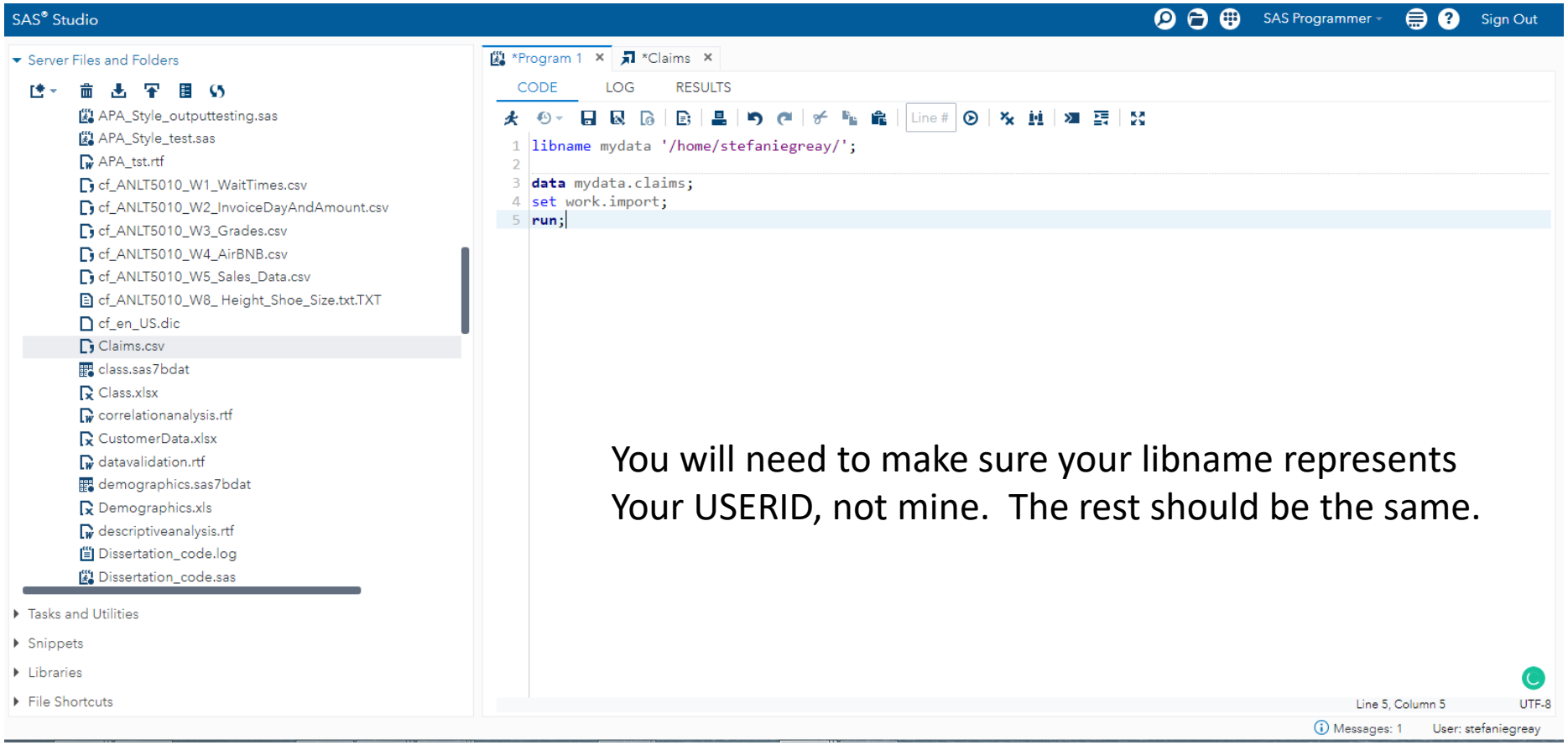


To create a SAS Library for your Files(Home) folder, you need to use a libname statement



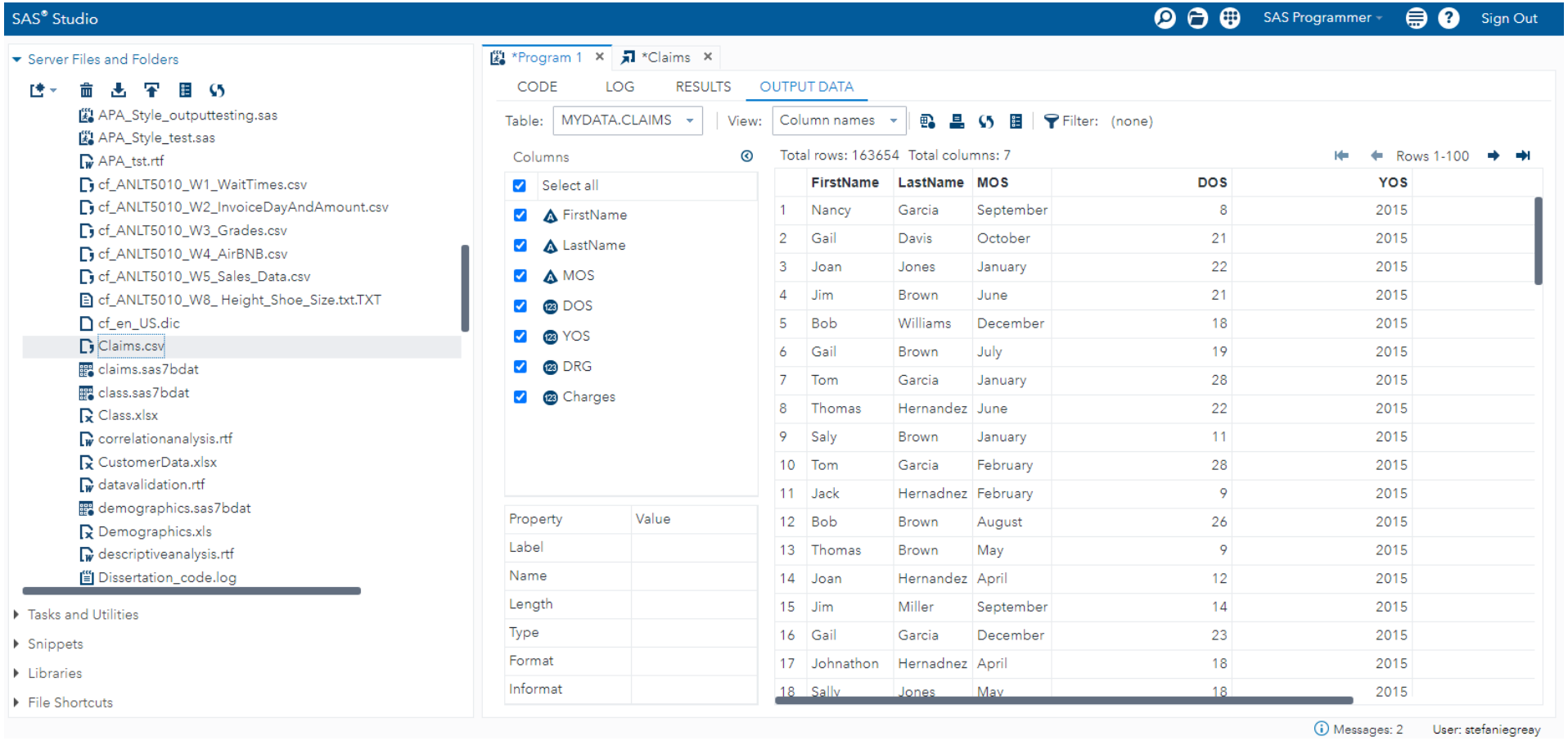
You can determine what the path is for your Files(Home) Folder by right clicking on Files(Home) and selecting Properties. (Yours will not be the same as mine – it will include your userID, not mine.)

Save the temporary SAS dataset created by the import to your library using the following sample code.



You will need to make sure your libname represents Your USERID, not mine. The rest should be the same.

When you run the code, you will see the dataset in the ouput data window and can verify its success.



You can now run any procedures against that dataset via the code window.

SAS® Studio

SAS Programmer | Sign Out

Server Files and Folders

- APA_Style_outputtesting.sas
- APA_Style_test.sas
- APA_tst.rtf
- cf_ANLT5010_W1_WaitTimes.csv
- cf_ANLT5010_W2_InvoiceDayAndAmount.csv
- cf_ANLT5010_W3_Grades.csv
- cf_ANLT5010_W4_AirBNB.csv
- cf_ANLT5010_W5_Sales_Data.csv
- cf_ANLT5010_W8_ Height_Shoe_Size.txt.TXT
- cf_en_US.dic
- Claims.csv
- claims.sas7bdat
- class.sas7bdat
- Class.xlsx
- correlationanalysis.rtf
- CustomerData.xlsx
- datavalidation.rtf
- demographics.sas7bdat
- Demographics.xls
- descriptiveanalysis.rtf
- Dissertation_code.log

Tasks and Utilities

Snippets

Libraries

File Shortcuts

*Program 1 | *Claims

CODE | LOG | RESULTS | OUTPUT DATA

```
libname mydata '/home/stefaniegreay/';

data mydata.claims;
set work.import;
run;

proc contents data=mydata.claims;
run;

/* Note that Proc Freq is appropriate for categorical variables, but only FirstName
LastName and MOS were imported as Char.  However, DOS and YOS can be treated the same here
as they are not true numeric variables, like Charges, and DRG is a categorization represented
by numbers*/
proc freq data=mydata.claims;
tables FirstName LastName MOS DOS YOS DRG;
run;

proc univariate data=mydata.claims;
var Charges;
histogram Charges;
run;
```

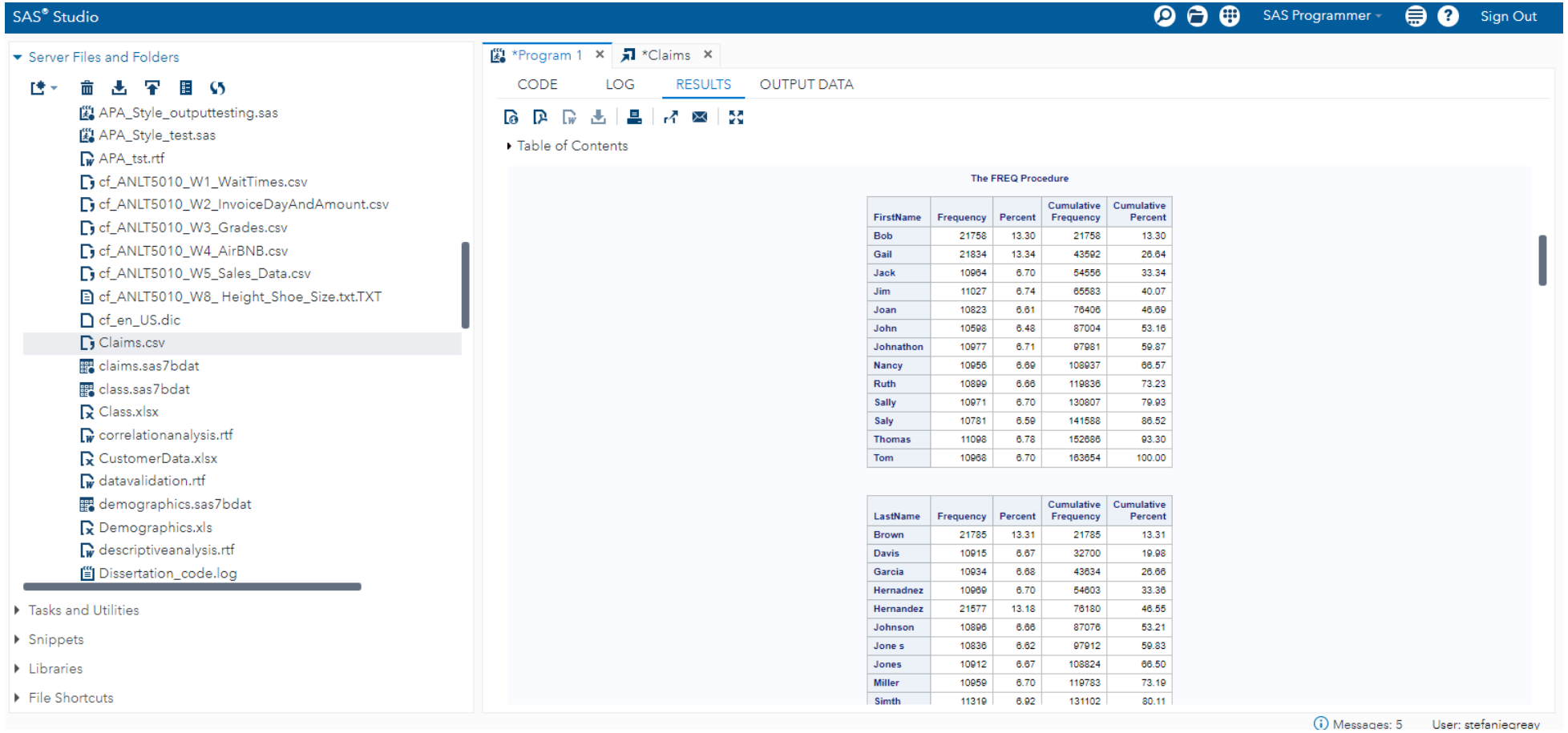
Line 22, Column 1 | UTF-8

Messages: 5 | User: stefaniegreay

Sample Code for identifying issues

```
libname mydata '/home/stefaniegreay/';

data mydata.claims;
set work.import;
run;

proc contents data=mydata.claims;
run;

/* Note that Proc Freq is appropriate for categorical variables, but only FirstName
LastName and MOS were imported as Char.  However, DOS and YOS can be treated the same here
as they are not true numeric variables, like Charges, and DRG is a categorization represented
by numbers*/
proc freq data=mydata.claims;
tables FirstName LastName MOS DOS YOS DRG;
run;

proc univariate data=mydata.claims;
var Charges;
histogram Charges;
run;
```

Once you run the code, you can review the output to identify data issues, like those in the FirstName and LastName variables.



The FREQ Procedure

FirstName	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Bob	21758	13.30	21758	13.30
Gail	21834	13.34	43592	26.64
Jack	10964	6.70	54556	33.34
Jim	11027	6.74	65583	40.07
Joan	10823	6.61	76406	46.69
John	10598	6.48	87004	53.16
Johnathon	10977	6.71	97981	59.87
Nancy	10956	6.69	108937	66.57
Ruth	10899	6.66	119836	73.23
Sally	10971	6.70	130807	79.93
Saly	10781	6.59	141588	86.52
Thomas	11098	6.78	152686	93.30
Tom	10968	6.70	163654	100.00

LastName	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Brown	21785	13.31	21785	13.31
Davis	10915	6.67	32700	19.98
Garcia	10934	6.68	43634	26.66
Hernadnez	10969	6.70	54603	33.36
Hernandez	21577	13.18	76180	46.55
Johnson	10896	6.66	87076	53.21
Jone s	10836	6.62	97912	59.83
Jones	10912	6.67	108824	66.50
Miller	10959	6.70	119783	73.19
Simth	11319	6.92	131102	80.11

Sample Code

```
libname mydata '/home/stefaniegreay/';

data mydata.claims;
set work.import;
run;

proc contents data=mydata.claims;
run;

/* Note that Proc Freq is appropriate for
categorical variables, but only FirstName
LastName and MOS were imported as Char.  However,
DOS and YOS can be treated the same here
as they are not true numeric variables, like
Charges, and DRG is a categorization represented
by numbers*/
proc freq data=mydata.claims;
tables FirstName LastName MOS DOS YOS DRG;
run;

proc univariate data=mydata.claims;
var Charges;
histogram Charges;
run;
```

```
data mydata.claimsnew;
set mydata.claims;
if FirstName='[ENTER INCORRECT FIRSTNAME HERE]' then
FirstName_c='[ENTER CORRECTED FIRSTNAME HERE]';
else FirstName_c=COMPRESS(FirstName);
if LastName='[ENTER INCORRECT FIRSTNAME HERE]' then
LastName_c='[ENTER CORRECTED FIRSTNAME HERE]';
else LastName_c=COMPRESS(LastName);
run;run;
```

Testing Options with Smaller Samples

```
proc surveyselect sampsize=100
data=mydata.claims
out=mydata.claimssamp;
run;
```

```
options obs=100;
```

Options for if-then logic

```
data mydata.claimsnew;
set mydata.claims;
if LastName='Hernadnez' then LastName_c='Hernandez';
else Lastname_c=COMPRESS(LastName);
run;

data mydata.claimsnew2;
set mydata.claims;
if LastName='Simth' then do;
LastName_c='Smith';
end;
else Lastname_c=COMPRESS(LastName);
run;

data mydata.claimsnew3;
set mydata.claims;
if LastName='Hernadnez' then LastName_c='Hernandez';
else if LastName='Simth' then LastName_c='Smith';
else Lastname_c=COMPRESS(LastName);
run;
```