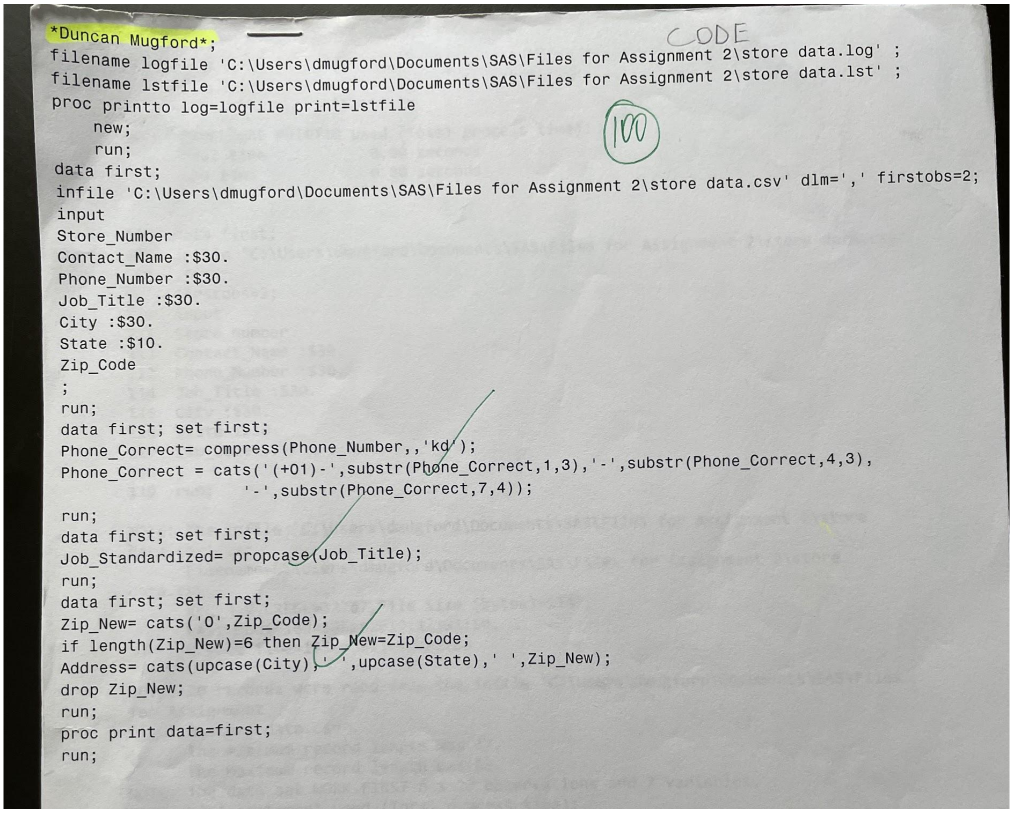
Here are 4 coding examples from some of my SAS experience.
Disclaimer: The hard drive I originally wrote these codes on was wiped and as such the SAS files could not be directly recovered but I had printouts of the code from then:

Code example 1 (cleaning a dataset):



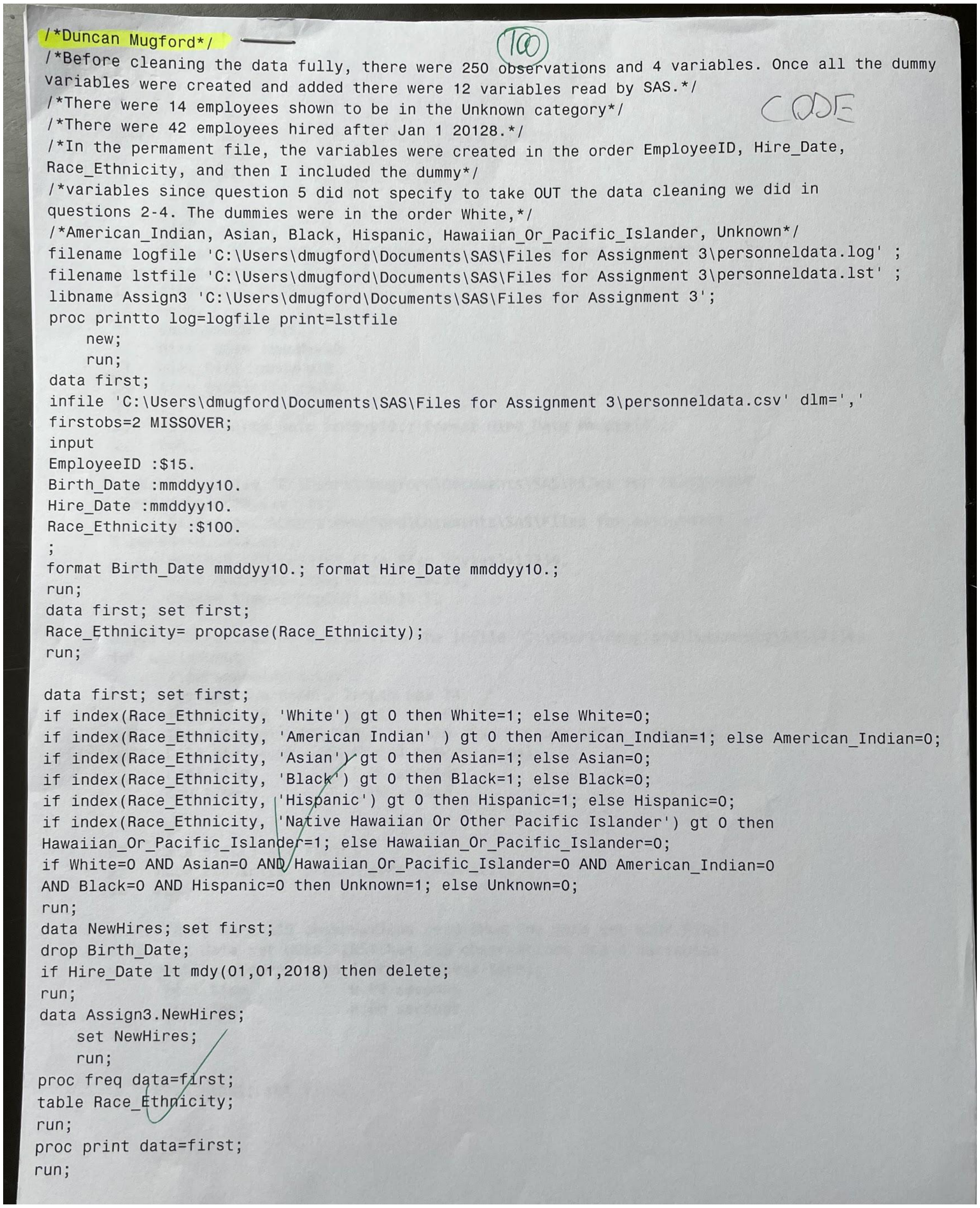
CODE

100

```
*Duncan Mugford*;
filename logfile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 2\store data.log' ;
filename lstfile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 2\store data.lst' ;
proc printto log=logfile print=lstfile
    new;
    run;
data first;
infile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 2\store data.csv' dlm=',' firstobs=2;
input
Store_Number
Contact_Name :$30.
Phone_Number :$30.
Job_Title :$30.
City :$30.
State :$10.
Zip_Code
;
run;
data first; set first;
Phone_Correct= compress(Phone_Number,,'kd');
Phone_Correct = cats('(+01)-',substr(Phone_Correct,1,3),'-',substr(Phone_Correct,4,3),
         '-',substr(Phone_Correct,7,4));

run;
data first; set first;
Job_Standardized= propcase(Job_Title);
run;
data first; set first;
Zip_New= cats('0',Zip_Code);
if length(Zip_New)=6 then Zip_New=Zip_Code;
Address= cats(upcase(City),' ',upcase(State),' ',Zip_New);
drop Zip_New;
run;
proc print data=first;
run;
```

Code example 2 (Cleaning data and running basic tests on it):



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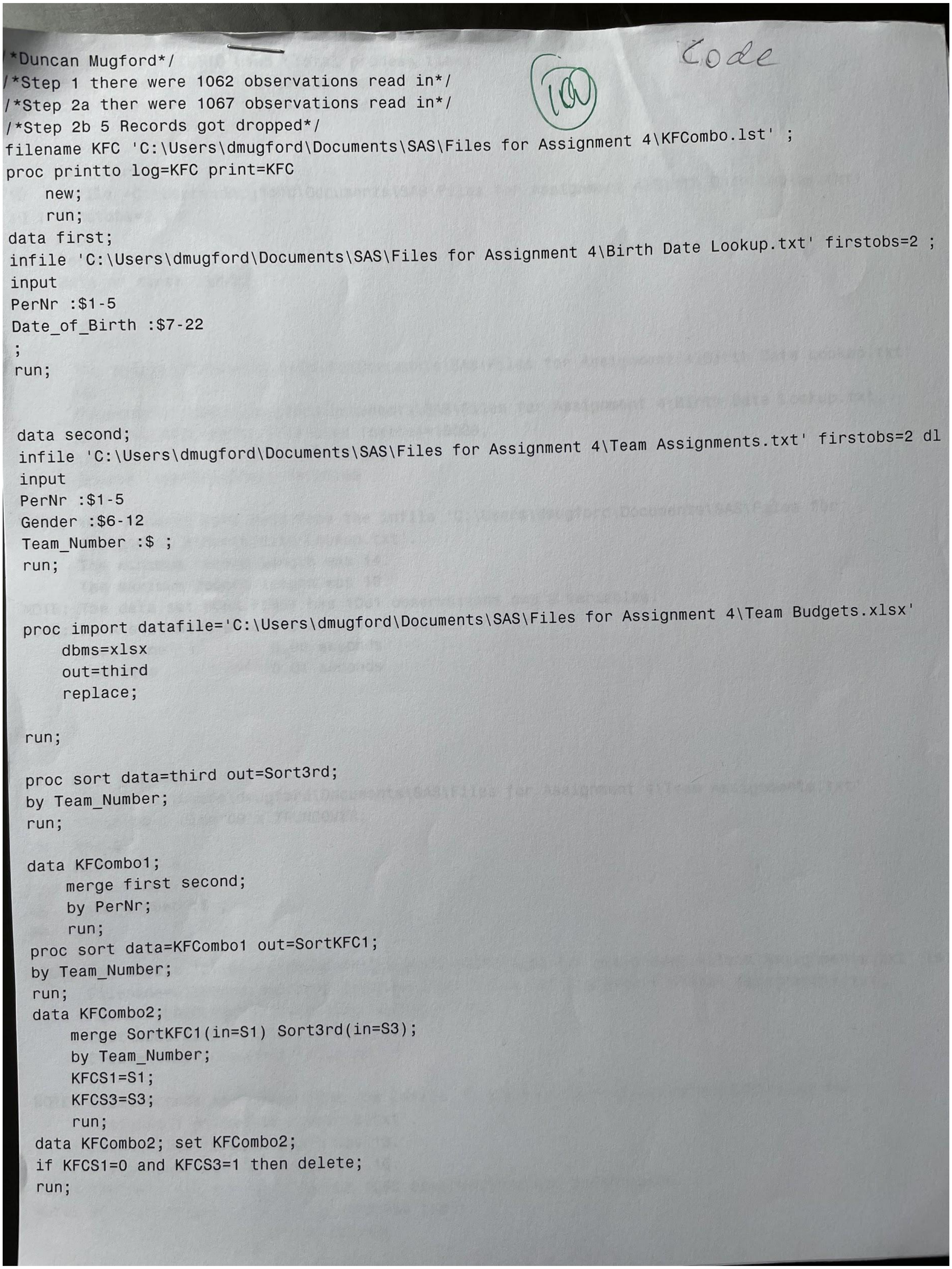
CODE

```
/*Duncan Mugford*/
/*Before cleaning the data fully, there were 250 observations and 4 variables. Once all the dummy
variables were created and added there were 12 variables read by SAS.*/
/*There were 14 employees shown to be in the Unknown category*/
/*There were 42 employees hired after Jan 1 20128.*/
/*In the permament file, the variables were created in the order EmployeeID, Hire_Date,
Race_Ethnicity, and then I included the dummy*/
/*variables since question 5 did not specify to take OUT the data cleaning we did in
questions 2-4. The dummies were in the order White,*/
/*American_Indian, Asian, Black, Hispanic, Hawaiian_Or_Pacific_Islander, Unknown*/
filename logfile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 3\personneldata.log' ;
filename lstfile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 3\personneldata.lst' ;
libname Assign3 'C:\Users\dmugford\Documents\SAS\Files for Assignment 3';
proc printto log=logfile print=lstfile
    new;
    run;
data first;
infile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 3\personneldata.csv' dlm=','
firstobs=2 MISSOVER;
input
EmployeeID :$15.
Birth_Date :mmddyy10.
Hire_Date :mmddyy10.
Race_Ethnicity :$100.
;
format Birth_Date mmddyy10.; format Hire_Date mmddyy10.;
run;
data first; set first;
Race_Ethnicity= propcase(Race_Ethnicity);
run;

data first; set first;
if index(Race_Ethnicity, 'White') gt 0 then White=1; else White=0;
if index(Race_Ethnicity, 'American Indian' ) gt 0 then American_Indian=1; else American_Indian=0;
if index(Race_Ethnicity, 'Asian') gt 0 then Asian=1; else Asian=0;
if index(Race_Ethnicity, 'Black') gt 0 then Black=1; else Black=0;
if index(Race_Ethnicity, 'Hispanic') gt 0 then Hispanic=1; else Hispanic=0;
if index(Race_Ethnicity, 'Native Hawaiian Or Other Pacific Islander') gt 0 then
Hawaiian_Or_Pacific_Islander=1; else Hawaiian_Or_Pacific_Islander=0;
if White=0 AND Asian=0 AND Hawaiian_Or_Pacific_Islander=0 AND American_Indian=0
AND Black=0 AND Hispanic=0 then Unknown=1; else Unknown=0;
run;
data NewHires; set first;
drop Birth_Date;
if Hire_Date lt mdy(01,01,2018) then delete;
run;
data Assign3.NewHires;
    set NewHires;
    run;
proc freq data=first;
table Race_Ethnicity;
run;
proc print data=first;
run;
```

Code Example 3(Merging datasets):

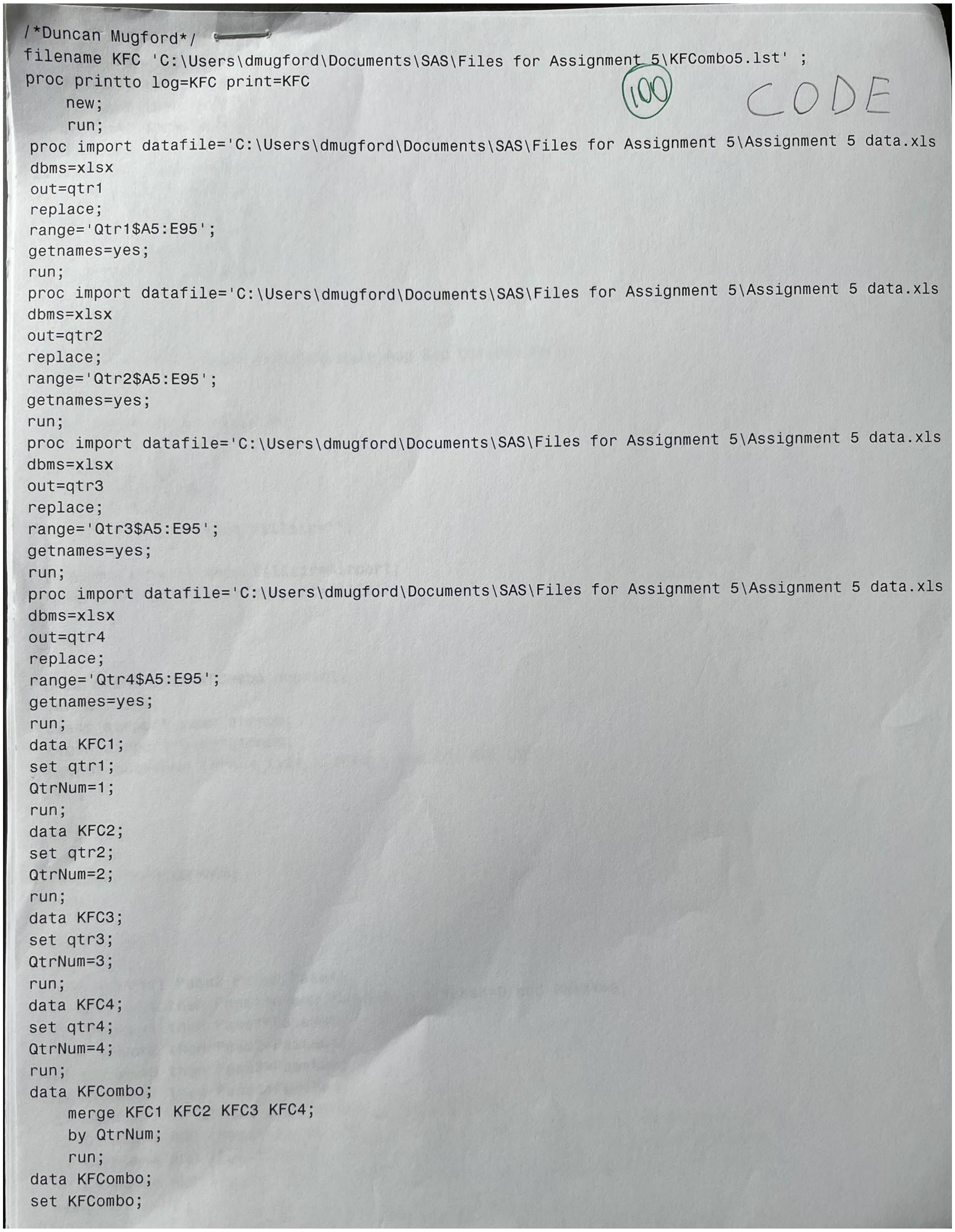


Code

100

```
/*Duncan Mugford*/
/*Step 1 there were 1062 observations read in*/
/*Step 2a ther were 1067 observations read in*/
/*Step 2b 5 Records got dropped*/
filename KFC 'C:\Users\dmugford\Documents\SAS\Files for Assignment 4\KFCombo.lst' ;
proc printto log=KFC print=KFC
   new;
   run;
data first;
infile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 4\Birth Date Lookup.txt' firstobs=2 ;
input
PerNr :$1-5
Date_of_Birth :$7-22
;
run;


data second;
infile 'C:\Users\dmugford\Documents\SAS\Files for Assignment 4\Team Assignments.txt' firstobs=2 dl
input
PerNr :$1-5
Gender :$6-12
Team_Number :$ ;
run;

proc import datafile='C:\Users\dmugford\Documents\SAS\Files for Assignment 4\Team Budgets.xlsx'
    dbms=xlsx
    out=third
    replace;

run;

proc sort data=third out=Sort3rd;
by Team_Number;
run;

data KFCombo1;
    merge first second;
    by PerNr;
    run;
proc sort data=KFCombo1 out=SortKFC1;
by Team_Number;
run;
data KFCombo2;
    merge SortKFC1(in=S1) Sort3rd(in=S3);
    by Team_Number;
    KFCS1=S1;
    KFCS3=S3;
    run;
data KFCombo2; set KFCombo2;
if KFCS1=0 and KFCS3=1 then delete;
run;
```

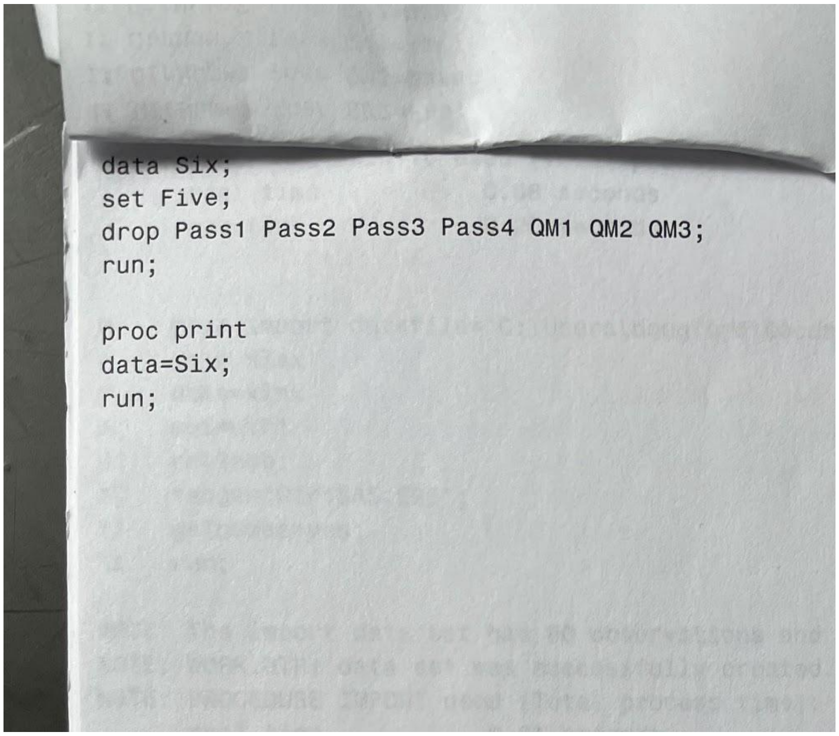
Code example 4(Cleaning data, Merging, and retaining only the highest quarter value):



100 CODE

```
/*Duncan Mugford*/
filename KFC 'C:\Users\dmugford\Documents\SAS\Files for Assignment 5\KFCombo5.lst' ;
proc printto log=KFC print=KFC
    new;
    run;
proc import datafile='C:\Users\dmugford\Documents\SAS\Files for Assignment 5\Assignment 5 data.xls
dbms=xlsx
out=qtr1
replace;
range='Qtr1$A5:E95';
getnames=yes;
run;
proc import datafile='C:\Users\dmugford\Documents\SAS\Files for Assignment 5\Assignment 5 data.xls
dbms=xlsx
out=qtr2
replace;
range='Qtr2$A5:E95';
getnames=yes;
run;
proc import datafile='C:\Users\dmugford\Documents\SAS\Files for Assignment 5\Assignment 5 data.xls
dbms=xlsx
out=qtr3
replace;
range='Qtr3$A5:E95';
getnames=yes;
run;
proc import datafile='C:\Users\dmugford\Documents\SAS\Files for Assignment 5\Assignment 5 data.xls
dbms=xlsx
out=qtr4
replace;
range='Qtr4$A5:E95';
getnames=yes;
run;
data KFC1;
set qtr1;
QtrNum=1;
run;
data KFC2;
set qtr2;
QtrNum=2;
run;
data KFC3;
set qtr3;
QtrNum=3;
run;
data KFC4;
set qtr4;
QtrNum=4;
run;
data KFCombo;
    merge KFC1 KFC2 KFC3 KFC4;
    by QtrNum;
    run;
data KFCombo;
set KFCombo;
```

```
if QtrNum=1 then QM1=Jan;
if QtrNum=1 then QM2=Feb;
if QtrNum=1 then QM3=March;
if QtrNum=2 then QM1=Apr;
if QtrNum=2 then QM2=May;
if QtrNum=2 then QM3=June;
if QtrNum=3 then QM1=July;
if QtrNum=3 then QM2=Aug;
if QtrNum=3 then QM3=Sep;
if QtrNum=4 then QM1=Oct;
if QtrNum=4 then QM2=Nov;
if QtrNum=4 then QM3=Dec;
run;
data KFCombo;
set KFCombo;
drop Jan Feb March Apr May June July Aug Sep Oct Nov Dec;
run;

data KFCombo(drop=fillair);
set KFCombo;
by QtrNum;
length fillair $3.;
retain fillair;
if Airport ne '' then fillair='';

if Airport ne '' then fillair=Airport;
if Airport eq '' then Airport=fillair;

run;

proc means data=KFCombo noprint;
var QM1 QM2;
class airport year qtrnum;
types airport*year*qtrnum;
output out=four (drop=_type_ _freq_) sum(QM1 QM2 QM3)=;
run;

data four;
set four;
PassNum=QM1+QM2+QM3;
run;

data Five;
set four;
retain Pass1 Pass2 Pass3 Pass4;
if QtrNum=1 then Pass1=0 and Pass2=0 and Pass3=0 and Pass4=0;
if QtrNum=1 then Pass1=PassNum;
if QtrNum=2 then Pass2=PassNum;
if QtrNum=3 then Pass3=PassNum;
if QtrNum=4 then Pass4=PassNum;
if QtrNum=1 or QtrNum=2 or QtrNum=3 then delete;
if QtrNum=4 AND (Pass1>Pass2 AND Pass1>Pass3 AND Pass1>Pass4) then QtrNum=1 ;
if QtrNum=4 AND (Pass2>Pass1 AND Pass2>Pass3 AND Pass2>Pass4) then QtrNum=2 ;
if QtrNum=4 AND (Pass3>Pass1 AND Pass3>Pass2 AND Pass3>Pass4) then QtrNum=3 ;
run;
```



```
data Six;
set Five;
drop Pass1 Pass2 Pass3 Pass4 QM1 QM2 QM3;
run;

proc print
data=Six;
run;
```