Homework 2 - Solution

Exercise 1:

To reply to this exercise we can do this by more than one way.

I will introduce the corrections (in green)and then show an image of how the program should be in the editor window:

Program 1:

data New-Data; invalid SAS name because of the Dash, use instead an underscore **New_Data**

Infile:\Stat425625\Course\Prob4Data.txt; : The infile statement is misspecified because the drive is not specified and the file location should be in between quotes. It should be:

Infile ‘J:\Stat425625\Course\ Prob4Data.txt’

input x1 x2 **; a semi-colon was missing**

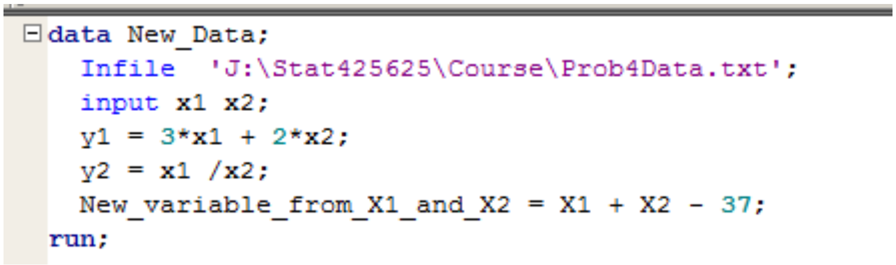
y1 = **3**(x1) + **2**(x2); there’s no need of parentheses and the product symbol is the star, soi t should be instead: **y1 = 3*x1 + 2*x2 ;**

y2 = x1 /x2;

New_variable_from_X1_and_X2 = X1 + X2 - **37**;

Run;

The program should look like this in the Editor Window:



```
data New_Data;
  Infile  'J:\Stat425625\Course\Prob4Data.txt';
  input x1 x2;
  y1 = 3*x1 + 2*x2;
  y2 = x1 /x2;
  New_variable_from_X1_and_X2 = X1 + X2 - 37;
run;
```

Program 2:

data XYZ;

Infile ‘C:\Stat425625\Course\DataXYZ.txt’;

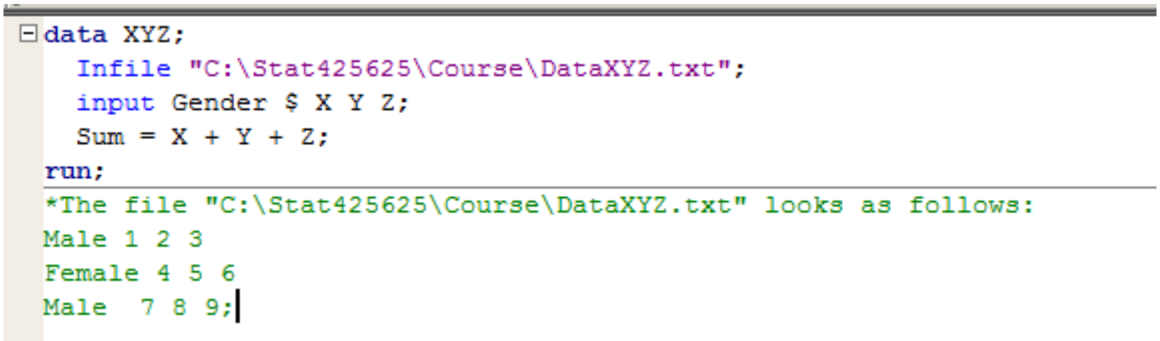
input Gender $ X Y Z; a dollar sign must be included after Gender because it’s a character variable.

Sum = X + Y + Z;
run;

*The file "C:\Stat425625\Course\DataXYZ.txt" looks as follows:
Male 1 2 3
Female 4 5 6
Male 7 8 9 : **This should be put as a comment so it needs a star at the start and a semi-colon in the end as in:**

*The file "C:\Stat425625\Course\DataXYZ.txt" looks as follows:
Male 1 2 3
Female 4 5 6
Male 7 8 9;

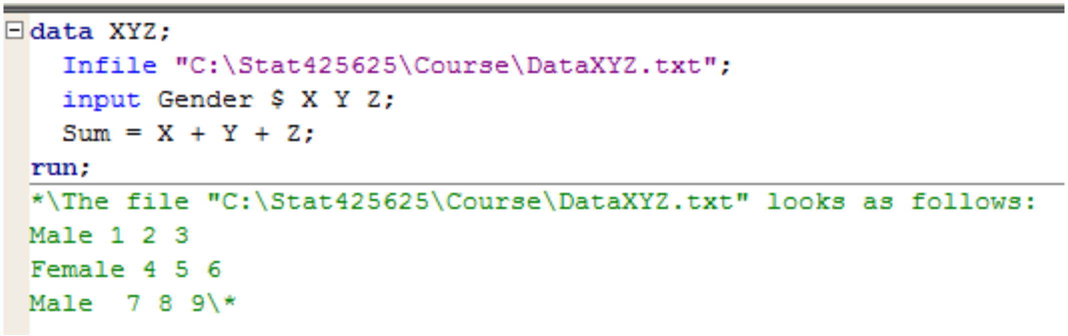
Program2 would look like this in the Editor Window:



```
data XYZ;
  Infile "C:\Stat425625\Course\DataXYZ.txt";
  input Gender $ X Y Z;
  Sum = X + Y + Z;
run;
*The file "C:\Stat425625\Course\DataXYZ.txt" looks as follows:
Male 1 2 3
Female 4 5 6
Male  7 8 9;
```

or:
*\The file "C:\Stat425625\Course\DataXYZ.txt" looks as follows:
Male 1 2 3
Female 4 5 6
Male 7 8 9*

Program2 would look like this in the Editor Window:



```
data XYZ;
   Infile "C:\Stat425625\Course\DataXYZ.txt";
   input Gender $ X Y Z;
   Sum = X + Y + Z;
run;
*\The file "C:\Stat425625\Course\DataXYZ.txt" looks as follows:
Male 1 2 3
Female 4 5 6
Male   7 8 9\*
```

Exercise 3:

The right answer is in green and the wrong answers are in red. An explanation follows.

1. As you write and edit SAS programs, it is a good idea to do the following:
    1. Begin DATA and PROC steps in column one.
    2. Indent statements within a step.
    3. Begin RUN statements in column one.
    4. **Do all of the above.**

   Explanation:

   Although you can write SAS statements in almost any format, a consistent layout enhances readability and enables you to understand the program's purpose. It is a good idea to begin DATA and PROC steps in column one, to indent statements within a step, to begin RUN statements in column one, and to include a RUN statement after every DATA step or PROC step.

2. Suppose you have submitted a SAS program that contains spelling errors. Which set of steps should you perform, in the order shown, to revise and resubmit the program?
    1.
        - **Correct the errors.**
        - **Clear the Log window.**
        - **Resubmit the program.**
        - **Check the Log window.**

Explanation:

To correct errors in programs when you use the Editor window, you usually need to recall the submitted statements from the recall buffer to the Editor window. After correcting the errors, you can resubmit the revised program. However, before doing so, it is a good idea to clear the messages from the Log window so that you do not confuse the old error messages with the new messages. Remember to check the Log window again to verify that your program ran correctly.

2.

- Correct the errors.
- Resubmit the program.
- Check the Output window.
- Check the Log window.

3.

- Correct the errors.
- Clear the Log window.
- Resubmit the program.
- Check the Output window.

4.

- Correct the errors.
- Clear the Output window.
- Resubmit the program.
- Check the Output window.

3. What happens if you submit the following program?

```
proc sort data=sasuser.stress out=maxrates;
  by maxhr;
run;
proc print data=maxrates label double noobs;
  label rechr='Recovery Heart Rate;
  var resthr maxhr rechr date;
  where toler='I' and resthr>90;
  sum fee;
    run;
```

1. Log messages indicate that the program ran successfully.

2. A PROC SORT running message appears at the top of the active window, and a log message might indicate an error in a statement that seems to be valid.
3. A log message indicates that an option is not valid or not recognized.
4. **A PROC PRINT running message appears at the top of the active window, and a log message might indicate that a quoted string has become too long or that the statement is ambiguous.**

Explanation:

The missing quotation mark in the LABEL statement causes SAS to misinterpret the statements in the program. When you submit the program, SAS is unable to resolve the PROC step, and a PROC PRINT running message appears at the top of the active window.

Exercise 4:

Following each Proc Step you will find(in green) the expected output, assuming that the previous part of the program is right.

```
proc print data=flights.laguardia noobs;
  var on changed flight;
  where on>=160;
run;
```

Expected Output

Obs	on	Changed	flight
List of observations added by SAS	Every data in this column is bigger or equal to 160		

```
proc print data=flights.laguardia;
  var date on changed flight;
  where changed>3;
run;
```

Expected Output

Obs	Date	on	Changed	flight
List of observations added by SAS			Every data in this column is bigger than 3	

```
proc print data=flights.laguardia label;
      id date;
```

```
  var boarded transferred flight;
  label boarded='On' transferred='Changed';
  where flight='219';
run;
```

Expected Output

Obs	Date	on	Changed	flight
List of observations added by SAS			Every data in this column is bigger than 3	All the values in this column are = ‘219’

```
proc print flights.laguardia noobs;
  id date;
  var date on changed flight;
  where flight='219';
run;
```

Expected Output

Obs	Date	on	Changed	flight
List of observations added by SAS				All the values in this column are = ‘219’