

Workshop Assignment 1: Group

Question 1.

You have a text file called `stocks.txt` containing a stock symbol, a price, and the number of shares. Here are some sample lines of data:

```
AMGN 67.66 100
DELL 24.60 200
GE 34.50 100
HPQ 32.32 120
IBM 82.25 50
MOT 30.24 100
```

- Using this raw data file, create a temporary SAS data set (Portfolio). Choose your own variable names for the stock symbol, price, and number of shares. In addition, create a new variable (call it `Value`) equal to the stock price times the number of shares. Include a comment in your program describing the purpose of the program, your name, and the date the program was written.
- Write the appropriate statements to compute the average price and the average number of shares of your stocks.

Answer:

The screenshot shows the SAS Studio interface. The top panel displays the code for a SAS program named `WS1.1.sas`. The code reads a text file `stocks.txt` into a data set named `portfolio`, calculates the total value for each stock, and then uses `proc means` to calculate the average price and number of shares.

```
1 ODS NoProctitle;
2 data portfolio;
3 infile "/home/u59406283/stocks.txt";
4 input stsym $ cost nosh;
5 value = cost * nosh;
6 /* this program is to calculate the total value of each share */
7 run;
8
9 title "average price and number of shares";
10 proc means data = portfolio;
11 var cost nosh;
12 run;
```

The bottom panel shows the results of the program. The `RESULTS` tab is active, displaying a table titled "average price and number of shares".

Variable	N	Mean	Std Dev	Minimum	Maximum
cost	6	45.2616667	23.6882979	24.6000000	82.2500000
nosh	6	111.6666667	49.1596040	50.0000000	200.0000000

Question 2.

Given the program here, add the necessary statements to compute four new variables:

- Weight in kilograms (1 kg = 2.2 pounds). Name this variable `WtKg`.
- Height in centimeters (1 inch = 2.54 cm). Name this variable `HtCm`.
- Average blood pressure (call it `AveBP`) equal to the diastolic blood pressure plus one-third the

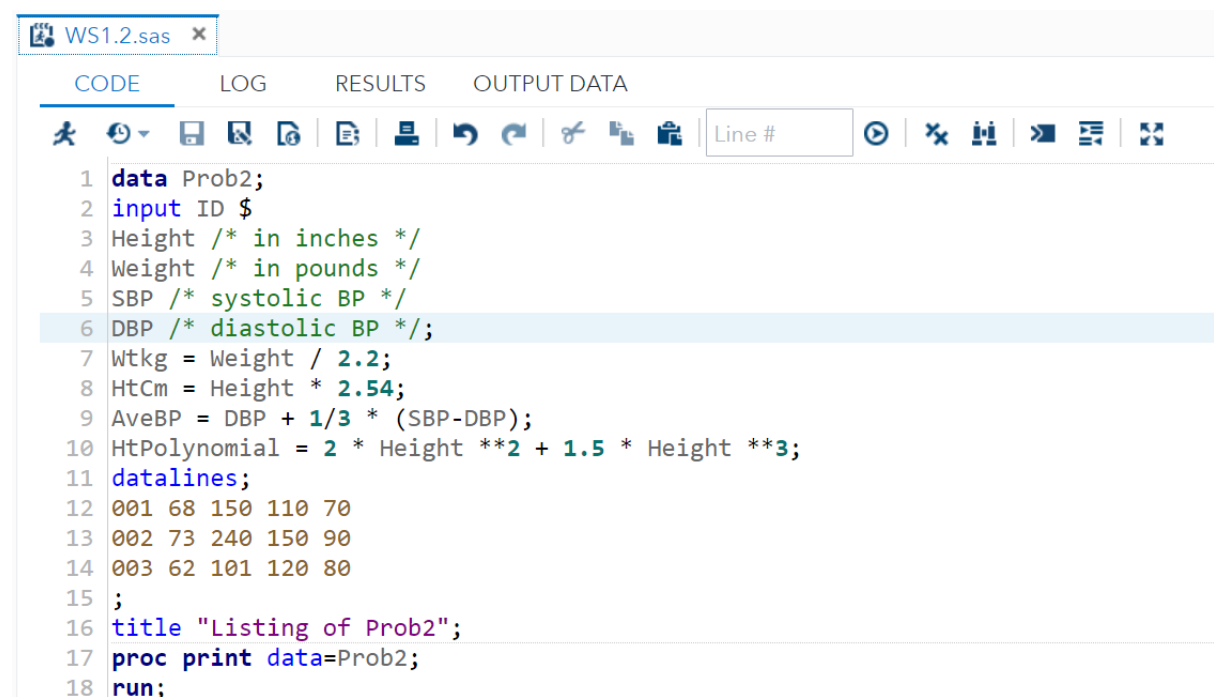
difference of the systolic blood pressure minus the diastolic blood pressure.

e. A variable (call it HtPolynomial) equal to 2 times the height squared plus 1.5 times the height cubed.

Here is the program for you to modify:

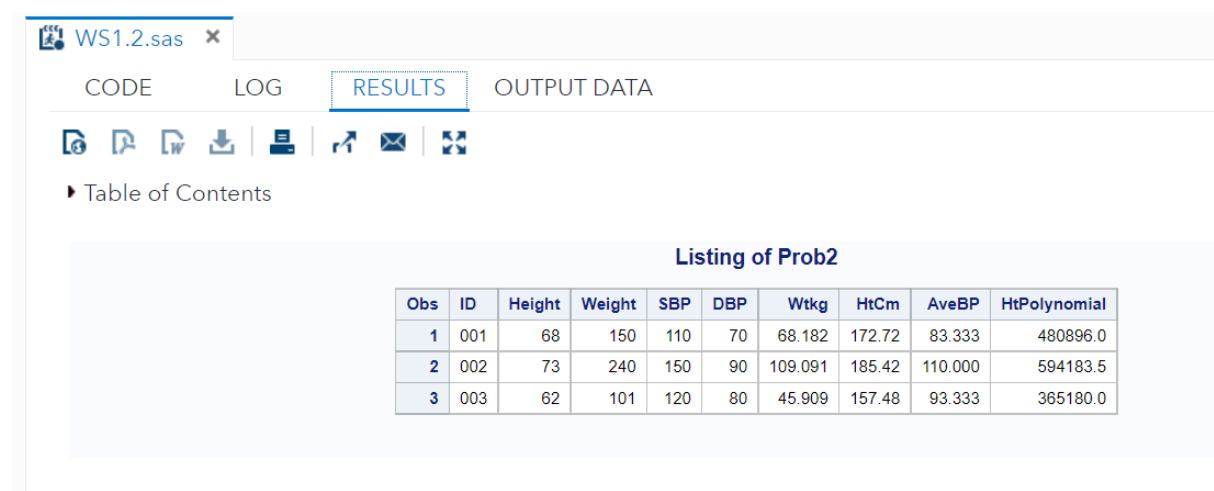
```
data Prob2;
input ID $
Height /* in inches */
Weight /* in pounds */
SBP /* systolic BP */
DBP /* diastolic BP */;
< place your statements here >
datalines;
001 68 150 110 70
002 73 240 150 90
003 62 101 120 80
;
title "Listing of Prob2";
proc print data=Prob2;
run;
```

Answer:



The screenshot shows the SAS Studio editor with the file 'WS1.2.sas' open. The 'CODE' tab is selected, displaying the following SAS program:

```
1 data Prob2;
2 input ID $
3 Height /* in inches */
4 Weight /* in pounds */
5 SBP /* systolic BP */
6 DBP /* diastolic BP */;
7 Wtkg = Weight / 2.2;
8 HtCm = Height * 2.54;
9 AveBP = DBP + 1/3 * (SBP-DBP);
10 HtPolynomial = 2 * Height **2 + 1.5 * Height **3;
11 datalines;
12 001 68 150 110 70
13 002 73 240 150 90
14 003 62 101 120 80
15 ;
16 title "Listing of Prob2";
17 proc print data=Prob2;
18 run;
```



The screenshot shows the SAS Studio interface with the 'RESULTS' tab selected. It displays a 'Table of Contents' and a 'Listing of Prob2' table.

Obs	ID	Height	Weight	SBP	DBP	Wtkg	HtCm	AveBP	HtPolynomial
1	001	68	150	110	70	68.182	172.72	83.333	480896.0
2	002	73	240	150	90	109.091	185.42	110.000	594183.5
3	003	62	101	120	80	45.909	157.48	93.333	365180.0

Question 3.

You are given an equation to predict electromagnetic field (EMF) strength, as follows:

$$EMF = 1.45 \times V + (R/E) \times V^3 - 125.$$

If your SAS data set contains variables called V , R , and E , write a SAS assignment statement to compute the EMF strength.

Answer:

The screenshot shows the SAS Studio interface. The top tab is 'WS1.3.sas'. The 'CODE' tab is active, displaying the following SAS code:

```
1 data Electro;  
2 input V R E;  
3 EMF = (1.45*V) + ((R/E) * V**3) -125;  
4 datalines;  
5 2 4 6  
6 1 2 3  
7 4 6 8  
8 ;  
9 run;  
10 proc print data=Electro;  
11 run;
```

The 'RESULTS' tab is also visible, showing a 'Table of Contents' and a table of results:

Obs	V	R	E	EMF
1	2	4	6	-116.767
2	1	2	3	-122.883
3	4	6	8	-71.200

Question 4.

What is wrong with this program?

```
001 data New-Data;  
002 infile C:\books\learning\Prob4data.txt;  
003 input x1 x2  
004 y1 = 3(x1) + 2(x2);  
005 y2 = x1 / x2;  
006 New_Variable_from_X1_and_X2 = X1 + X2 - 37;  
007 run;
```

Note: Line numbers are for reference only; they are not part of the program.

Answer:

```

*WS1.4.sas x
CODE LOG RESULTS OUTPUT DATA
1 data NewData;
2 infile "/home/u59406283/Prob4data.txt";
3 input x1 x2;
4 y1 = 3*x1 + 2*x2;
5 y2 = x1/x2;
6 newvariablefromxoneandxtwo= x1 + x2 -37;
7 run;
8 proc print data=newdata;
9 run;
10
11

```

*WS1.4.sas x

CODE LOG RESULTS OUTPUT DATA

Table of Contents

Obs	x1	x2	y1	y2	newvariablefromxoneandxtwo
1	2	4	14	0.5	-31
2	3	6	21	0.5	-28

```

001 data New-Data;                                // remove hyphen
002 infile C:\books\learning\Prob4data.txt;        // insert double quotes
003 input x1 x2;                                   // put semi-colon
004 y1 = 3(x1) + 2(x2);                            // remove braces and put multiplication
005 y2 = x1 / x2;
006 New_Variable_from_X1_and_X2 = X1 + X2 - 37;    //remove hyphens and numbers
007 run;

```

Question 5.

What is wrong with this program?

```

001 data XYZ;
002 infile "C:\books\learning\DataXYZ.txt";
003 input Gender X Y Z;
004 Sum = X + y + Z;
005 run;

```

The File C:\books\learning\DataXYZ.txt looks as follows:

```

Male 1 2 3
Female 4 5 6
Male 7 8 9

```

Answer:

WS1.5.sas x

CODE LOG RESULTS OUTPUT DATA

```

1 data XYZ;
2 infile "/home/u59406283/DataXYZ.txt";
3 input Gender $ X Y Z;
4 Sum = X + y + Z;
5 run;

```

WS1.5.sas x

CODE LOG RESULTS OUTPUT DATA

Table: WORK.XYZ View: Column names Filter: (none)

Total rows: 3 Total columns: 5 Rows 1-3

Gender	X	Y	Z	Sum
Male	1	2	3	6
Female	4	5	6	15
Male	7	8	9	24

```

001 data XYZ;
002 infile "C:\books\learning\DataXYZ.txt";
003 input Gender X Y Z;
004 Sum = X + y + Z;
005 run;

```

//gender is a character add \$

Add the following information in every workshop submission:

Sr.No	Name	Contribution
1	Sukanya Mukherjee	Question 1
2	Kanishk Kumar	Question 2
3	Nishant Kotak	Question 3
4	Prachi Sahai	Question 4
5	Shravan Shroff	Question 5