

Here are the points for HW 3: 2 (5), 3(5), 5(5), 8(5), 13(5), 14(5), 19(5), 26(10), 31(10), 32(10), 33(10), 34(10), 41 (a-f 5 point for each sub questions) and 47 (a-f 5 point for each sub questions) with a total of 145 points

Intro to SAS HW3

Ian Liu

$$(145 - 5 + 10) / 145 = 104$$

HW Chapter 3 Question 2

“Which SAS statement can be used to read a SAS data set?”

- A. SET

HW Chapter 3 Question 3

“Which of the following assignment statements is valid for the numeric variable Score?”

- B. Score = Score / 100;

HW Chapter 3 Question 5

“Given the following raw data and program, what will be the value of Total2 for the second observation in the resulting SAS data set?

----+---1---+---2

1 160 50 20

2 150 55 .

3 120 40 30

4 140 50 25

DATA cholesterol; INFILE ‘c:\MyRawData\Patients.dat’;

INPUT ID Ldl Hdl Vldl;

Tray this

Total2 = SUM(Ldl,Hdl,Vldl);RUN;”

- C.



HW Chapter 3 Question 8

“What will SAS return for the value of X?

```
data one;
input ID Ld1 hd1 Vld1;
total2=sum(Ld1, hd1, Vld1);
cards;
2 150 55 .
;
run;
proc print data=one;
run;
```

X = MIN(SUM(1,2,3),56/8,N(8));"

A. ✓

HW Chapter 3 Question 13

"When creating a table using PROC SQL, which of the following clauses would select only rows that have a value greater than 10 for the column called Age?"

A. None of the above

Correct answer is A

(WHERE ~~CALCULATED~~ Age > 10) →

HW Chapter 3 Question 14

"Given the following program and SAS data set ANIMALS, what will be the value of the variable DogYears for the second observation in the resulting SAS data set called DOGS?"

ANIMALS

Name	Type	Breed	Age
Mina	Canine	German Shepherd	5
Bailey	Feline	Norwegian Forest	9
Sammy	Canine	Shetland Sheepdog	10
Taco	Canine	Terrier	14

```
DATA dogs;  
SET animals;  
DogYears = Age * 7;  
IF Type = 'Canine' THEN OUTPUT;  
RUN;"
```

D. ✓ 70

HW Chapter 3 Question 19

"Which type of DATA step statement can be used to initialize a variable to a specified value?"

B.J RETAIN

HW Chapter 3 Question 26

“Is there a difference between calculating the mean of three variables using a function compared to calculating the mean using an assignment statement as shown in the following code? Explain your answer.”

“Avg1 = MEAN(X1,X2,X3);

Avg2 = (X1 + X2 + X3) / 3;”

Yes there is a difference between Avg 1 and Avg2. If any of X1, X2, or X3 is missing, then the 2nd way of calculating will return a missing value whereas the 1st way will still return a mean of the remaining non-missing values.

HW Chapter 3 Question 31

When using an ELSE statement without an IF condition, the action will be performed for all observations that did not meet the condition specified in the previous IF-THEN/ELSE statements.

“Describe one potential pitfall of using an ELSE statement instead of an ELSE IF statement.”

Using ELSE instead of ELSE IF statement is a more general condition and therefore may lead to unexpected results. For example, the action may assume non-missing data but if we just use ELSE it might ignore that and proceed with the action anyway.

HW Chapter 3 Question 32

“How could the following code be rewritten so that it is more efficient? Explain why this might be important with a very large data set and then rewrite the DATA step.”

“DATA mtn;

```
INFILE 'c:\MyRawData\UnitedStates.dat';
INPUT State $ Pop2000 Pop2010;
IF State IN ('Arizona','Colorado','Idaho',
             'Montana','Nevada',
             'New Mexico','Utah','Wyoming')
THEN Region = 'Mountain';
```

```
PopDiff = Pop2010 - Pop2000;  
IF Region = 'Mountain';  
    RUN;"
```

We can rewrite the code above as follows:

```
"DATA mtn;  
    INFILE 'c:\MyRawData\UnitedStates.dat';  
    INPUT State $ Pop2000 Pop2010;  
    IF State IN ('Arizona','Colorado','Idaho',  
        'Montana','Nevada',  
        'New Mexico','Utah','Wyoming')  
    THEN Region = 'Mountain';  
    IF Region = 'Mountain';  
        PopDiff = Pop2010 - Pop2000;  
        RUN;"
```

By placing the region filter first it prevents the program from having to do unnecessary calculations of PopDiff for non-mountainous regions. Although the calculations only have small run-time each, in a large dataset this adds up to a lot of extra runtime that could be avoided.

HW Chapter 3 Question 33

In the following code, the observations will have a value of missing for the variable HeightCM. Explain why, and how to fix this problem.

```
DATA femaleheight;  
    SET height;  
    IF Gender = 'Female' THEN OUTPUT;  
    HeightCM = HeightIN * 2.54;  
    RUN;"
```

Observations with Gender set to "Female" will have missing observations because they are outputted before the HeightCM variable is created.

HW Chapter 3 Question 34

“In the following code, the data for the 7th, 14th, 21st, and 28th observations in the DETAIL data set are very similar to the resulting observations in the SUMMARY data set. Explain any differences for these observations between the two data sets and why these differences occur.

```
DATA summary detail;  
DO Weeks = 1 TO 4;  
  DO Days = 1 TO 7;  
    Count + 1;  
    OUTPUT detail;  
  END;  
  OUTPUT summary;  
END;  
RUN;”
```

There are 2 loops. For the inner loop, count is incremented by 1 every day for 7 days (1 week). The outer loop increments by 7 each iteration for a total of 4 iterations (weeks). The DETAIL dataset contains observations 1, 2, 3, ..., 28. The SUMMARY dataset contains observations 7, 14, 21, 28. The difference occurs because the DETAIL dataset goes through more iterations in the DO loop than the SUMMARY dataset and therefore has more observations.

HW Chapter 3 Question 41

“Sports Utility Vehicle drivers from across the United States were randomly selected to participate in a study of mileage and gasoline use. Each driver was asked to track the city and highway mileage of their vehicle for seven consecutive days. The SAS data set called GASMILEAGE includes data about the make and model of the vehicle, advertised gas mileage, and seven day driving mileage.

- Examine the names, labels, and attributes of the variables in the SAS data set GASMILEAGE. Create a data set that subsets these data to the state you live in (or the state of your choice).

```
/* 41A */
```

```

DATA GASMILEAGE;
set '/home/u62223361/Intro to SAS/HW3/gasmileage.sas7bdat';
State = UPCASE(State);
IF State = "NEW YORK";
RUN;

```

```

1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 41A */
70      DATA GASMILEAGE;
71      set '/home/u62223361/Intro to SAS/HW3/gasmileage.sas7bdat';
NOTE: Data file WC000001.GASMILEAGE.DATA is in a format that is native to another host, or the file encoding does not match the
      session encoding. Cross Environment Data Access will be used, which might require additional CPU resources and might reduce
      performance.
72      State = UPCASE(State);
73      IF State = "NEW YORK";
74      RUN;

NOTE: There were 892 observations read from the data set /home/u62223361/Intro to SAS/HW3/gasmileage.sas7bdat.
NOTE: The data set WORK.GASMILEAGE has 40 observations and 20 variables.
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
      user cpu time     0.00 seconds
      system cpu time   0.00 seconds
      memory            1338.84k
      OS Memory         20392.00k
      Timestamp         02/17/2024 06:20:57 PM
      Step Count        24  Switch Count  3
      Page Faults       0
      Page Reclaims    411
      Page Swaps        0
      Voluntary Context Switches 26
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 264

75
76      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
86

```

HW3.sas

CODE LOG RESULTS **OUTPUT DATA**

Table: WORK.GASMILEAGE | View: Column names | Filter: (none)

Columns

	Plate	Make	Model	cityMPG	HWYMPG	City
<input checked="" type="checkbox"/>	0SEP243	Oldsmobile	Bravada	15	21	
<input checked="" type="checkbox"/>	1LLP680	Isuzu	Axiom	17	21	
<input checked="" type="checkbox"/>	1RRE954	Kia	Sorento	15	20	
<input checked="" type="checkbox"/>	1SSK740	Chrysler	Pacifica	17	22	
<input checked="" type="checkbox"/>	2HXd778	Audi	Allroad Quattro	16	23	
<input checked="" type="checkbox"/>	4IQD118	Mitsubishi	Outlander	20	26	
<input checked="" type="checkbox"/>	4MRR293	Buick	Rendezvous	18	24	
<input checked="" type="checkbox"/>	4UIT158	GMC	Yukon	14	18	
<input checked="" type="checkbox"/>	5GXB617	Audi	Allroad Quattro	16	23	
<input checked="" type="checkbox"/>	6NNP825	Jeep	Liberty/Cherokee	20	24	
<input checked="" type="checkbox"/>	7ESQ566	Nissan	Murano	20	24	
<input checked="" type="checkbox"/>	7QMR694	Chevrolet	Tracker	19	22	
<input checked="" type="checkbox"/>	8EYW895	Subaru	Forester	22	27	
<input checked="" type="checkbox"/>	8GIV253	Mitsubishi	Endeavor	17	23	
<input checked="" type="checkbox"/>	8REG475	Jeep	Liberty/Cherokee	20	24	
	16AMK338	Mitsubishi	Montero Sport	16	18	
	17ASY6747	Land Rover	Freelander	18	21	
	18BCT5981	Mitsubishi	Montero	15	19	
	19COE7653	Mercedes-Benz	ML500	14	17	
	20DJA4179	BMW	X5	16	22	
	21EZ5667	Porsche	Cayenne	15	19	
	22EWC9384	Chevrolet	Tracker	19	22	
	23EXQ9252	Honda	Pilot	17	22	
	24FES6378	GMC	Envoy	15	21	

Property Value

Label

Name

Length

Type

Format

Informat

Messages: 1 User: u62223361

HW3.sas

CODE LOG RESULTS **OUTPUT DATA**

Table: WORK.GASMILEAGE | View: Column names | Filter: (none)

Columns

	HWYMile4	HWYMile5	HWYMile6	HWYMile7 State
<input checked="" type="checkbox"/>	95.6	32.2	93.6	0 NEW YORK
<input checked="" type="checkbox"/>	22.9	39.1	34.5	14.8 NEW YORK
<input checked="" type="checkbox"/>	36.7	1.9	75.3	0 NEW YORK
<input checked="" type="checkbox"/>	56.7	1	9.5	7.8 NEW YORK
<input checked="" type="checkbox"/>	55.1	47.4	69.7	67 NEW YORK
<input checked="" type="checkbox"/>	3.9	40.4	98.6	0 NEW YORK
<input checked="" type="checkbox"/>	15.7	13.4	0	4.6 NEW YORK
<input checked="" type="checkbox"/>	59.1	0	63.9	85.9 NEW YORK
<input checked="" type="checkbox"/>	0	25.4	81.8	64.8 NEW YORK
<input checked="" type="checkbox"/>	46.8	48.7	39.7	53.1 NEW YORK
<input checked="" type="checkbox"/>	4.1	18.1	0	50.8 NEW YORK
<input checked="" type="checkbox"/>	86.2	71.8	89.7	25.3 NEW YORK
<input checked="" type="checkbox"/>	81.4	0	49.5	37.6 NEW YORK
<input checked="" type="checkbox"/>	90.1	0	8.5	51.4 NEW YORK
<input checked="" type="checkbox"/>	87.9	55.5	17.4	47 NEW YORK
<input checked="" type="checkbox"/>	63.9	56.8	20.7	0 NEW YORK
<input checked="" type="checkbox"/>	8	8	49.8	95.4 NEW YORK
<input checked="" type="checkbox"/>	0	79.3	0	65.8 NEW YORK
<input checked="" type="checkbox"/>	82.4	83.9	94.4	3.7 NEW YORK
<input checked="" type="checkbox"/>	58.6	50.9	31.3	0 NEW YORK
<input checked="" type="checkbox"/>	70.5	55.8	17.9	38.3 NEW YORK
<input checked="" type="checkbox"/>	0	7.1	75.4	0 NEW YORK
<input checked="" type="checkbox"/>	77.5	62.7	55.3	42.4 NEW YORK
<input checked="" type="checkbox"/>	90.3	32.9	42.5	0 NEW YORK

Property Value

Label

Name

Length

Type

Format

Informat

Messages: 1 User: u62223361

- b. Calculate the average daily city miles driven by each driver during the test week and round this variable to one decimal place. Repeat this for average highway miles.

```
/* 41B */
```

```
DATA GASMILEAGE;
```

```
  set GASMILEAGE;
```

```
  AvgDailyCityMiles = MEAN(CityMile1, CityMile2, CityMile3, CityMile4, CityMile5,  
  CityMile6, CityMile7);      Or avgDailyCityMiles=ROUND(MEAN(OF CityMile1 – CityMile7),.1)
```

```
  AvgDailyHWYMiles = MEAN(HWYMile1, HWYMile2, HWYMile3, HWYMile4,  
  HWYMile5, HWYMile6, HWYMile7);
```

```
  AvgDailyCityMiles = ROUND(AvgDailyCityMiles, .1);
```

```
  AvgDailyHWYMiles = ROUND(AvgDailyHWYMiles, .1);
```

```
RUN;
```

```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;  
68  
69      /* 41B */  
70      DATA GASMILEAGE;  
71          set GASMILEAGE;  
72          AvgDailyCityMiles = MEAN(CityMile1, CityMile2, CityMile3, CityMile4, CityMile5, CityMile6, CityMile7);  
73          AvgDailyHWYMiles = MEAN(HWYMile1, HWYMile2, HWYMile3, HWYMile4, HWYMile5, HWYMile6, HWYMile7);  
74          AvgDailyCityMiles = ROUND(AvgDailyCityMiles, .1);  
75          AvgDailyHWYMiles = ROUND(AvgDailyHWYMiles, .1);  
76      RUN;
```

```
NOTE: There were 40 observations read from the data set WORK.GASMILEAGE.  
NOTE: The data set WORK.GASMILEAGE has 40 observations and 22 variables.
```

```
NOTE: DATA statement used (Total process time):
```

real time	0.00 seconds
user cpu time	0.00 seconds
system cpu time	0.00 seconds
memory	969.37k
OS Memory	20392.00k
Timestamp	02/17/2024 06:22:18 PM
Step Count	30 Switch Count 2
Page Faults	0
Page Reclaims	198
Page Swaps	0
Voluntary Context Switches	11
Involuntary Context Switches	0
Block Input Operations	0
Block Output Operations	264

```
77  
78      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;  
88
```

HW3.sas

CODE LOG RESULTS OUTPUT DATA

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

Total rows: 40 Total columns: 22

Columns

	HWYMile6	HWYMile7	State	AvgDailyCityMiles	AvgDailyHWYMiles
<input checked="" type="checkbox"/>	93.6	0	NEW YORK	4.7	45.5
<input checked="" type="checkbox"/>	34.5	14.8	NEW YORK	12.7	29.2
<input checked="" type="checkbox"/>	75.3	0	NEW YORK	6.8	38.9
<input checked="" type="checkbox"/>	9.5	7.8	NEW YORK	11.6	26.2
<input checked="" type="checkbox"/>	69.7	67	NEW YORK	8.5	47.2
<input checked="" type="checkbox"/>	98.6	0	NEW YORK	12.1	43.8
<input checked="" type="checkbox"/>	0	4.6	NEW YORK	4.9	29.2
<input checked="" type="checkbox"/>	63.9	85.9	NEW YORK	10.7	44.8
<input checked="" type="checkbox"/>	81.8	64.8	NEW YORK	8.9	43.9
<input checked="" type="checkbox"/>	39.7	53.1	NEW YORK	8.1	52.5
<input checked="" type="checkbox"/>	0	50.8	NEW YORK	16.5	35
<input checked="" type="checkbox"/>	89.7	25.3	NEW YORK	10.9	48
<input checked="" type="checkbox"/>	49.5	37.6	NEW YORK	13	59.3
<input checked="" type="checkbox"/>	8.5	51.4	NEW YORK	19.7	25.5
<input checked="" type="checkbox"/>	17.4	47	NEW YORK	8.7	47.1
<input checked="" type="checkbox"/>	20.7	0	NEW YORK	11.5	27.4
<input checked="" type="checkbox"/>	49.8	95.4	NEW YORK	14.4	41.1
<input checked="" type="checkbox"/>	0	65.8	NEW YORK	22	28.7
<input checked="" type="checkbox"/>	94.4	3.7	NEW YORK	15.4	47.5
<input checked="" type="checkbox"/>	31.3	0	NEW YORK	6.6	31.5
<input checked="" type="checkbox"/>	17.9	38.3	NEW YORK	19.1	36.7
<input checked="" type="checkbox"/>	75.4	0	NEW YORK	10.4	42
<input checked="" type="checkbox"/>	55.3	42.4	NEW YORK	12.2	43.7
<input checked="" type="checkbox"/>	42.5	0	NEW YORK	9.2	42.7

Property Value

Label	
Name	
Length	
Type	
Format	
Informat	

Rows 1-40

Messages: 2 User: u62223361

- c. Use the total mileage recorded during the test week and the corresponding advertised mileage for the vehicle to calculate the total combined number of gallons consumed in the city and on the highway.

```
/* 41C */
```

```
DATA GASMILEAGE;
```

Or use this SUM(OF CityMile1 – CityMile7)

```
set GASMILEAGE;
```

```
TotalCityMiles = SUM(CityMile1, CityMile2, CityMile3, CityMile4, CityMile5, CityMile6,  
CityMile7);
```

```
TotalHWYMiles = SUM(HWYmile1, HWYmile2, HWYmile3, HWYmile4, HWYmile5,  
HWYmile6, HWYmile7);
```

```
TotalGallonsConsumed = TotalCityMiles * cityMPG + TotalHWYMiles * HWYMPG;
```

```
RUN;
```

```

1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 41C */
70      DATA GASMILEAGE;
71          set GASMILEAGE;
72          TotalCityMiles = SUM(CityMile1, CityMile2, CityMile3, CityMile4, CityMile5, CityMile6, CityMile7);
73          TotalHWYMiles = SUM(HWYMile1, HWYMile2, HWYMile3, HWYMile4, HWYMile5, HWYMile6, HWYMile7);
74          TotalGallonsConsumed = TotalCityMiles * cityMPG + TotalHWYMiles * HWYMPG;
75      RUN;

NOTE: There were 40 observations read from the data set WORK.GASMILEAGE.
NOTE: The data set WORK.GASMILEAGE has 40 observations and 25 variables.
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory             1004.25k
      OS Memory          20392.00k
      Timestamp           02/17/2024 06:22:58 PM
      Step Count          36   Switch Count  2
      Page Faults         0
      Page Reclaims       178
      Page Swaps          0
      Voluntary Context Switches 13
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 264

76
77      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

```

HW3.sas

CODE LOG RESULTS OUTPUT DATA

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

Total rows: 40 Total columns: 25

	AvgDailyCityMiles	AvgDailyHWYMiles	TotalCityMiles	TotalHWYMiles	TotalGallonsConsumed
Plate	4.7	45.5	32.8	318.2	7174.2
Make	12.7	29.2	88.9	204.5	5805.8
Model	6.8	38.9	47.7	272.6	6167.5
cityMPG	11.6	26.2	81.4	183.7	5425.2
HWYMPG	8.5	47.2	59.2	330.3	8544.1
CityMile1	12.1	43.8	84.9	306.6	9669.6
CityMile2	4.9	29.2	34.5	204.1	5519.4
CityMile3	10.7	44.8	74.8	313.4	6688.4
CityMile4	8.9	43.9	62	307.2	8057.6
CityMile5	8.1	52.5	56.7	367.8	9961.2
CityMile6	16.5	35	115.3	244.7	8178.8
CityMile7	10.9	48	76.2	336.3	8846.4
HWYMile1	13	59.3	91.2	415	13211.4
HWYMile2	19.7	25.5	137.7	178.3	6441.8
	8.7	47.1	61.2	329.5	9132
	11.5	27.4	80.3	191.5	4731.8
Label	14.4	41.1	100.6	288	7858.8
Name	22	28.7	153.8	200.9	6124.1
Length	15.4	47.5	107.7	332.2	7155.2
Type	6.6	31.5	46.1	220.4	5586.4
Format	19.1	36.7	133.6	257.2	6890.8
Informat	10.4	42	72.9	293.7	7846.5
	12.2	43.7	85.6	306.1	8189.4
	9.2	42.7	64.2	298.6	7233.6

Messages: 3 User: u62223361

- d. Calculate the cost during the test week by using the total gallons consumed and the current average price of regular gasoline for the state you chose in part a). Round this variable to two decimal places.

```
/* 41D */  
/* Current Average for NY State 3.308 */  
DATA GASMILEAGE;  
  set GASMILEAGE;  
  TotalTestWeekCost = ROUND(TotalGallonsConsumed * 3.308, .01);  
RUN;
```



```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 41D */
70      /* Current Average for NY State 3.308 */
71      DATA GASMILEAGE;
72      set GASMILEAGE;
73      TotalTestWeekCost = ROUND(TotalGallonsConsumed * 3.308, .01);
74      RUN;
```

NOTE: There were 40 observations read from the data set WORK.GASMILEAGE.

NOTE: The data set WORK.GASMILEAGE has 40 observations and 26 variables.

NOTE: DATA statement used (Total process time):

real time	0.00 seconds
user cpu time	0.00 seconds
system cpu time	0.00 seconds
memory	979.90k
OS Memory	20392.00k
Timestamp	02/17/2024 06:23:38 PM
Step Count	42 Switch Count 2
Page Faults	0
Page Reclaims	166
Page Swaps	0
Voluntary Context Switches	12
Involuntary Context Switches	0
Block Input Operations	0
Block Output Operations	264

75

```
76      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
```

86

HW3.sas

CODE LOG RESULTS OUTPUT DATA

Table: WORK.GASMILEAGE | View: Column names Filter: (none)

Total rows: 40 Total columns: 26

Columns

	s	AvgDailyHWYMiles	TotalCityMiles	TotalHWYMiles	TotalGallonsConsumed	TotalTestWeekCost
<input checked="" type="checkbox"/>	7	45.5	32.8	318.2	7174.2	23732.25
<input checked="" type="checkbox"/>	7	29.2	88.9	204.5	5805.8	19205.59
<input checked="" type="checkbox"/>	8	38.9	47.7	272.6	6167.5	20402.09
<input checked="" type="checkbox"/>	6	26.2	81.4	183.7	5425.2	17946.56
<input checked="" type="checkbox"/>	5	47.2	59.2	330.3	8544.1	28263.88
<input checked="" type="checkbox"/>	1	43.8	84.9	306.6	9669.6	31987.04
<input checked="" type="checkbox"/>	9	29.2	34.5	204.1	5519.4	18258.18
<input checked="" type="checkbox"/>	7	44.8	74.8	313.4	6688.4	22125.23
<input checked="" type="checkbox"/>	9	43.9	62	307.2	8057.6	26654.54
<input checked="" type="checkbox"/>	1	52.5	56.7	367.8	9961.2	32951.65
<input checked="" type="checkbox"/>	5	35	115.3	244.7	8178.8	27055.47
<input checked="" type="checkbox"/>	9	48	76.2	336.3	8846.4	29263.89
<input checked="" type="checkbox"/>	3	59.3	91.2	415	13211.4	43703.31
<input checked="" type="checkbox"/>	7	25.5	137.7	178.3	6441.8	21309.47
<input checked="" type="checkbox"/>	7	47.1	61.2	329.5	9132	30208.66
Property	Value	5	27.4	80.3	191.5	4731.8
Label		4	41.1	100.6	288	7858.8
Name		2	28.7	153.8	200.9	6124.1
Length		4	47.5	107.7	332.2	7155.2
Type		6	31.5	46.1	220.4	5586.4
Format		1	36.7	133.6	257.2	6890.8
Informat		4	42	72.9	293.7	7846.5
		2	43.7	85.6	306.1	8189.4
		2	42.7	64.2	298.6	7233.6

Try to use PROC Print to illustrate your data

Messages: 4 User: u62223361

- e. Using the cost that you calculated, estimate the number of weeks that it will take each driver to spend \$1,000 on gasoline.

/* 41E */

```
DATA GASMILEAGE;
set GASMILEAGE;
NumWeeksToSpend1000 = TotalTestWeekCost/ 1000;
RUN;
```

```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 41E */
70      DATA GASMILEAGE;
71          set GASMILEAGE;
72          NumWeeksToSpend1000 = TotalTestWeekCost/ 1000;
73      RUN;
```

NOTE: There were 40 observations read from the data set WORK.GASMILEAGE.

NOTE: The data set WORK.GASMILEAGE has 40 observations and 27 variables.

NOTE: DATA statement used (Total process time):

real time	0.00	seconds
user cpu time	0.00	seconds
system cpu time	0.00	seconds
memory	1007.75k	
OS Memory	20392.00k	
Timestamp	02/17/2024	06:24:11 PM
Step Count	48	Switch Count 2
Page Faults	0	
Page Reclaims	172	
Page Swaps	0	
Voluntary Context Switches	12	
Involuntary Context Switches	0	
Block Input Operations	0	
Block Output Operations	272	

```
74
75      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
85
```

HW3.sas

CODE LOG RESULTS OUTPUT DATA

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

Total rows: 40 Total columns: 27

Columns

	TotalCityMiles	TotalHWYMiles	TotalGallonsConsumed	TotalTestWeekCost	NumWeeksToSpend1000
5	32.8	318.2	7174.2	23732.25	23.73225
2	88.9	204.5	5805.8	19205.59	19.20559
9	47.7	272.6	6167.5	20402.09	20.40209
2	81.4	183.7	5425.2	17946.56	17.94656
2	59.2	330.3	8544.1	28263.88	28.26388
8	84.9	306.6	9669.6	31987.04	31.98704
2	34.5	204.1	5519.4	18258.18	18.25818
8	74.8	313.4	6688.4	22125.23	22.12523
9	62	307.2	8057.6	26654.54	26.65454
5	56.7	367.8	9961.2	32951.65	32.95165
5	115.3	244.7	8178.8	27055.47	27.05547
8	76.2	336.3	8846.4	29263.89	29.26389
3	91.2	415	13211.4	43703.31	43.70331
5	137.7	178.3	6441.8	21309.47	21.30947
1	61.2	329.5	9132	30208.66	30.20866
4	80.3	191.5	4731.8	15652.79	15.65279
Label	1	100.6	288	7858.8	25996.91
Name	7	153.8	200.9	6124.1	20258.52
Length	5	107.7	332.2	7155.2	23669.4
Type	5	46.1	220.4	5586.4	18479.81
Format	7	133.6	257.2	6890.8	22794.77
Informat	2	72.9	293.7	7846.5	25956.22
	7	85.6	306.1	8189.4	27090.54
	7	64.2	298.6	7233.6	23928.75

Messages: 5 User: u62223361

- f. View the resulting data set. In a comment in your program, find the first observation and state the plate ID, average city and highway mileage, cost, and number of weeks to spend \$1000.

/* 41F */

PROC PRINT DATA = GASMILEAGE;

RUN;

/* 1st obs: LICENSE: 0SEP243 AvgDailyCityMiles: 4.7 AvgDailyHWY Miles: 45.5

TotalTestWeekCost: 23732.25 NumWeeksToSpend1000: 23.7323*/

```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 41F */
70      PROC PRINT DATA = GASMILEAGE;
71      RUN;
```

NOTE: There were 40 observations read from the data set WORK.GASMILEAGE.

NOTE: PROCEDURE PRINT used (Total process time):

real time	0.10 seconds
user cpu time	0.11 seconds
system cpu time	0.00 seconds
memory	1427.06k
OS Memory	21156.00k
Timestamp	02/17/2024 06:24:51 PM
Step Count	54 Switch Count 0
Page Faults	0
Page Reclaims	529
Page Swaps	0
Voluntary Context Switches	0
Involuntary Context Switches	0
Block Input Operations	0
Block Output Operations	72

```
72
73      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
83
```

HW3.sas

CODE LOG RESULTS

Table of Contents

The Print Procedure

Data Set WORK.GASMILEAGE

Obs	Plate	Make	Model	cityMPG	HWYMPG	CityMile1	CityMile2	CityMile3	CityMile4	CityMile5	CityMile6	CityMile7	HWYMile1	HWYMile2	HWYMile3	HWYMile4	HWYMile5	HWYMile6	HWYMile7	State	AvgDaily
1	0SEP243	Oldsmobile	Bravada	15	21	1.5	0.0	18.6	0.0	0.0	12.7	0.0	45.8	27.3	23.7	95.6	32.2	93.6	0.0	NEW YORK	
2	1LLP680	Isuzu	Axiom	17	21	9.0	28.1	0.0	18.7	33.1	0.0	0.0	2.8	90.4	0.0	22.9	39.1	34.5	14.8	NEW YORK	
3	1RRE954	Kia	Sorento	15	20	3.4	12.3	0.0	0.0	19.3	12.7	0.0	77.7	26.1	54.9	36.7	1.9	75.3	0.0	NEW YORK	
4	1SSK740	Chrysler	Pacifica	17	22	6.3	27.1	0.0	0.0	23.4	18.1	6.5	50.0	1.3	57.4	56.7	1.0	9.5	7.8	NEW YORK	
5	2HXd778	Audi	Allroad Quattro	16	23	0.0	0.0	9.7	16.2	6.9	26.4	0.0	0.0	67.6	23.5	55.1	47.4	69.7	67.0	NEW YORK	
6	4IQD118	Mitsubishi	Outlander	20	26	35.6	0.0	14.6	0.0	5.9	12.4	16.4	42.8	49.6	71.3	3.9	40.4	98.6	0.0	NEW YORK	
7	4MR293	Buick	Rendezvous	18	24	0.0	0.0	0.0	6.5	21.7	4.3	2.0	68.2	29.9	72.3	15.7	13.4	0.0	4.6	NEW YORK	
8	4UIT158	GMC	Yukon	14	18	13.8	6.8	22.9	2.5	28.8	0.0	0.0	4.9	89.8	9.8	59.1	0.0	63.9	85.9	NEW YORK	
9	5GXB617	Audi	Allroad Quattro	16	23	0.0	0.0	30.8	0.0	0.0	18.8	12.4	100.3	34.9	0.0	0.0	25.4	81.8	64.8	NEW YORK	
10	6NNP825	Jeep	Liberty/Cherokee	20	24	8.8	0.0	33.8	11.9	2.2	0.0	0.0	78.5	34.5	66.5	46.8	48.7	39.7	53.1	NEW YORK	
11	7ESQ566	Nissan	Murano	20	24	24.7	0.0	31.8	27.3	0.0	31.5	0.0	8.0	98.0	65.7	4.1	18.1	0.0	50.8	NEW YORK	
12	7QMR694	Chevrolet	Tracker	19	22	0.0	0.0	6.1	7.4	17.2	27.3	18.2	10.6	27.3	25.4	86.2	71.8	89.7	25.3	NEW YORK	
13	8EYW895	Subaru	Forester	22	27	0.0	0.0	34.6	7.8	24.5	9.1	15.2	76.2	83.8	86.5	81.4	0.0	49.5	37.6	NEW YORK	
14	8GIV253	Mitsubishi	Endeavor	17	23	26.5	28.0	11.2	0.0	35.0	31.2	5.8	0.0	0.0	28.3	90.1	0.0	8.5	51.4	NEW YORK	
15	8REG475	Jeep	Liberty/Cherokee	20	24	9.2	5.8	0.0	15.8	20.7	9.7	0.0	13.5	16.0	92.2	87.9	55.5	17.4	47.0	NEW YORK	
16	AMK3338	Mitsubishi	Montero Sport	16	18	0.0	3.9	13.8	2.2	18.4	24.1	17.9	0.0	43.4	6.7	63.9	56.8	20.7	0.0	NEW YORK	
17	ASY6747	Land Rover	Freelander	18	21	0.0	7.2	34.2	8.0	0.0	25.1	26.1	100.3	0.0	26.5	8.0	8.0	49.8	95.4	NEW YORK	
18	BCT5981	Mitsubishi	Montero	15	19	25.7	30.4	34.9	29.5	33.3	0.0	0.0	13.1	4.8	37.9	0.0	79.3	0.0	65.8	NEW YORK	
19	COE7653	Mercedes-Benz	ML500	14	17	17.3	25.3	10.8	19.2	5.8	29.3	0.0	21.8	28.1	17.9	82.4	83.9	94.4	3.7	NEW YORK	
20	DJA4179	BMW	X5	16	22	0.0	18.9	4.7	0.0	0.0	22.5	0.0	72.8	0.0	6.8	58.6	50.9	31.3	0.0	NEW YORK	
21	EZ75667	Porsche	Cayenne	15	19	0.0	3.7	17.3	33.8	35.4	30.6	12.8	1.5	0.0	73.2	70.5	55.8	17.9	38.3	NEW YORK	

Messages: 6 User: u62223361

HW3.sas

CODE LOG RESULTS

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The Print Procedure

Data Set WORK.GASMILEAGE

Alle6	CityMile7	HWYMile1	HWYMile2	HWYMile3	HWYMile4	HWYMile5	HWYMile6	HWYMile7	State	AvgDailyCityMiles	AvgDailyHWYMiles	TotalCityMiles	TotalHWYMiles	TotalGallonsConsumed	TotalTestWeekCost	NumWeeksToSpend1000
12.7	0.0	45.8	27.3	23.7	95.6	32.2	93.6	0.0	NEW YORK	4.7	45.5	32.8	318.2	7174.2	23732.25	23.7323
0.0	0.0	2.8	90.4	0.0	22.9	39.1	34.5	14.8	NEW YORK	12.7	29.2	88.9	204.5	5805.8	19205.59	19.2056
12.7	0.0	77.7	26.1	54.9	36.7	1.9	75.3	0.0	NEW YORK	6.8	38.9	47.7	272.6	6167.5	20402.09	20.4021
18.1	6.5	50.0	1.3	57.4	56.7	1.0	9.5	7.8	NEW YORK	11.6	26.2	81.4	183.7	5425.2	17946.56	17.9466
26.4	0.0	0.0	67.6	23.5	55.1	47.4	69.7	67.0	NEW YORK	8.5	47.2	59.2	330.3	8544.1	28263.88	28.2639
12.4	16.4	42.8	49.6	71.3	3.9	40.4	98.6	0.0	NEW YORK	12.1	43.8	84.9	306.6	9669.6	31987.04	31.9870
4.3	2.0	68.2	29.9	72.3	15.7	13.4	0.0	4.6	NEW YORK	4.9	29.2	34.5	204.1	5519.4	18258.18	18.2582
0.0	0.0	4.9	89.8	9.8	59.1	0.0	63.9	85.9	NEW YORK	10.7	44.8	74.8	313.4	6688.4	22125.23	22.1252
18.8	12.4	100.3	34.9	0.0	0.0	25.4	81.8	64.8	NEW YORK	8.9	43.9	62.0	307.2	8057.6	26654.54	26.6545
0.0	0.0	78.5	34.5	66.5	46.8	48.7	39.7	53.1	NEW YORK	8.1	52.5	56.7	367.8	9961.2	32951.65	32.9517
31.5	0.0	8.0	98.0	65.7	4.1	18.1	0.0	50.8	NEW YORK	16.5	35.0	115.3	244.7	8178.8	27055.47	27.0555
27.3	18.2	10.6	27.3	25.4	86.2	71.8	89.7	25.3	NEW YORK	10.9	48.0	76.2	336.3	8846.4	29263.89	29.2639
9.1	15.2	76.2	83.8	86.5	81.4	0.0	49.5	37.6	NEW YORK	13.0	59.3	91.2	415.0	13211.4	43703.31	43.7033
31.2	5.8	0.0	0.0	28.3	90.1	0.0	8.5	51.4	NEW YORK	19.7	25.5	137.7	178.3	6441.8	21309.47	21.3095
9.7	0.0	13.5	16.0	92.2	87.9	55.5	17.4	47.0	NEW YORK	8.7	47.1	61.2	329.5	9132.0	30208.66	30.2087
24.1	17.9	0.0	43.4	6.7	63.9	56.8	20.7	0.0	NEW YORK	11.5	27.4	80.3	191.5	4731.8	15652.79	15.6528
25.1	26.1	100.3	0.0	26.5	8.0	8.0	49.8	95.4	NEW YORK	14.4	41.1	100.6	288.0	7858.8	25996.91	25.9969
0.0	0.0	13.1	4.8	37.9	0.0	79.3	0.0	65.8	NEW YORK	22.0	28.7	153.8	200.9	6124.1	20258.52	20.2585
29.3	0.0	21.8	28.1	17.9	82.4	83.9	94.4	3.7	NEW YORK	15.4	47.5	107.7	332.2	7155.2	23669.40	23.6694
22.5	0.0	72.8	0.0	6.8	58.6	50.9	31.3	0.0	NEW YORK	6.6	31.5	46.1	220.4	5586.4	18479.81	18.4798
30.6	12.8	1.5	0.0	73.2	70.5	55.8	17.9	38.3	NEW	19.1	36.7	133.6	257.2	6890.8	22794.77	22.7948

Messages: 6 User: u62223361



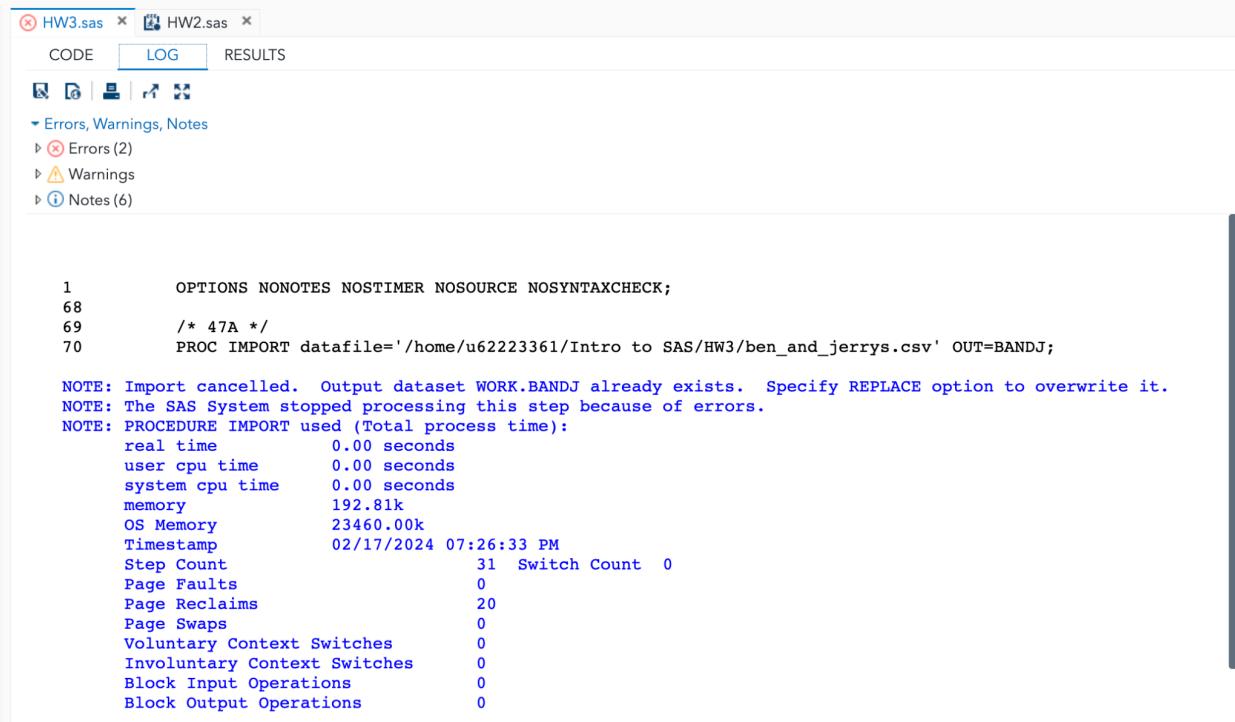
HW Chapter 3 Question 47

The data in the file BenAndJerrys.csv represent various ice cream flavors and their nutritional information. The variables are flavor name, portion size (g), calories, calories from fat, fat (g), saturated fat (g), trans fat (g), cholesterol (mg), sodium (mg), total carbohydrate (g), dietary fiber (g), sugars (g), protein (g), year introduced, year retired, content description, and notes.

- Examine the raw data file BenAndJerrys.csv and read it into SAS.

```
/* 47A */
```

```
PROC IMPORT datafile='/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv'  
OUT=BANDJ;  
  
PROC PRINT DATA = BANDJ;  
    TITLE "PROC PRINT OF BEN AND JERRY'S";  
  
RUN;
```



The screenshot shows the SAS LOG window with the following details:

- Project: HW3.sas
- Tab: LOG (selected)
- Code tab: PROC IMPORT datafile='/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv' OUT=BANDJ;
- Output:

```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 47A */
70      PROC IMPORT datafile='/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv' OUT=BANDJ;

NOTE: Import cancelled.  Output dataset WORK.BANDJ already exists.  Specify REPLACE option to overwrite it.
NOTE: The SAS System stopped processing this step because of errors.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time            0.00 seconds
      user cpu time        0.00 seconds
      system cpu time      0.00 seconds
      memory              192.81k
      OS Memory           23460.00k
      Timestamp            02/17/2024 07:26:33 PM
      Step Count           31   Switch Count  0
      Page Faults          0
      Page Reclaims         20
      Page Swaps            0
      Voluntary Context Switches  0
      Involuntary Context Switches  0
      Block Input Operations  0
      Block Output Operations  0
```

HW3.sas x HW2.sas x

CODE LOG RESULTS

Errors, Warnings, Notes

- ▷ ✗ Errors (2)
- ▷ ⚠ Warnings
- ▷ ⓘ Notes (6)

```

Voluntary Context Switches      0
Involuntary Context Switches   0
Block Input Operations        0
Block Output Operations       0

71      PROC PRINT DATA = BANDJ;
72      TITLE "PROC PRINT OF BEN AND JERRY'S";
73      RUN;

ERROR: Invalid characters were present in the data.
ERROR: An error occurred while processing text data.
NOTE: The SAS System stopped processing this step because of errors.
NOTE: There were 71 observations read from the data set WORK.BANDJ.
NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.02 seconds
      user cpu time     0.02 seconds
      system cpu time   0.00 seconds
      memory           1452.75k
      OS Memory         23720.00k
      Timestamp         02/17/2024 07:26:33 PM
      Step Count        32   Switch Count  1
      Page Faults      0
      Page Reclaims    116
      Page Swaps       0
      Voluntary Context Switches  6
      Involuntary Context Switches 0
      Block Input Operations  0
      Block Output Operations  8

74
75      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
85

```

HW3.sas x HW2.sas x

CODE LOG RESULTS

Table of Contents

PROC PRINT OF BEN AND JERRY'S

Obs	Flavor	Portion	Calories	CalFat	Fat	SatFat	TransFat	Cholesterol	Sodium	Carbohydrates	Fiber	Sugar	Protein	Yearintro	YearRetire	Description	Notes
1	Banana Split	109	250	140	15	8	0	65	40	27	<1	25	3			Banana & Strawberry Ice Creams with Walnuts, Fudge Chunks & a Fudge Swirl	
2	Bonnaroo Buzz	108	280	130	14	9	0	60	115	33	0	25	4			Coffee & Malt Ice Creams with Toffee Chunks & a Whiskey (Alcohol) Caramel Swirl	
3	Brownie Batter	109	290	150	17	9	0	65	115	32	1	25	5			Brownie Batter Ice Cream with a Rich Brownie Batter Swirl	
4	Butter Pecan	86	260	180	20	8	0	50	105	17	0	15	4			Rich Buttery Ice Cream with Roasted Pecans	
5	Cake Batter	105	260	140	16	10	0	65	75	27	<1	23	4			Yellow Cake Batter Ice Cream with a Chocolate Frosting Swirl	
6	Cannoli (limited)	102	280	140	16	11	0	65	60	28	0	23	4			Mascarpone Ice Cream with Fudge covered Cannoli Pastry Shell Chunks & a Mascarpone Swirl	
7	Cheesecake Brownie	101	250	130	14	7	0	70	85	27	0	24	3			Cheesecake Ice Cream with Cheesecake Brownie Chunks	
8																	

It seems like the SAS code is not able to read some data due to unknown characters. I used Excel to change some special characters and used a different way to read the data successfully.

/* 47A */

DATA BANDJ;

You did very good job on this. This data was so old and those unknown characters could be due to the data transfer.
You will get extra credit for this.

+10

```
INFILE '/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv' DSD delimiter=","  
FIRSTOBS=2;  
INPUT Flavor $ Portion      Calories      CalFat Fat      SatFat  
TransFat      Cholesterol    Sodium       Carbohydrates Fiber $  
Sugar Protein YearIntro     YearRetire   Description   $ Notes $;  
RUN;  
PROC PRINT DATA = BANDJ;  
  TITLE "PROC PRINT OF BEN AND JERRY'S";  
RUN;
```



```

1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 47A */
70      DATA BANDJ;
71      INFILE '/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv' DSD delimiter="," FIRSTOBS=2;
72      INPUT Flavor $ PortionCaloriesCalFatFatSatFat
73          TransFatCholesterolSodiumCarbohydratesFiber $
74          SugarProteinYearIntroYearRetireDescription$ Notes $;
75      RUN;

NOTE: The infile '/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv' is:
      Filename=/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv,
      Owner Name=u62223361,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=17Feb2024:16:01:54,
      File Size (bytes)=9816

NOTE: 71 records were read from the infile '/home/u62223361/Intro to SAS/HW3/ben_and_jerrys.csv'.
      The minimum record length was 77.
      The maximum record length was 272.
NOTE: The data set WORK.BANDJ has 71 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
      user cpu time     0.01 seconds
      system cpu time   0.00 seconds
      memory            790.90k
      OS Memory         19620.00k
      Timestamp         02/18/2024 05:04:42 PM
      Step Count        24   Switch Count  2
      Page Faults       0
      Page Reclaims     171
      Page Swaps        0
      Voluntary Context Switches 18
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 264

76      PROC PRINT DATA = BANDJ;
77      TITLE "PROC PRINT OF BEN AND JERRY'S";
78      RUN;

NOTE: There were 71 observations read from the data set WORK.BANDJ.
NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.11 seconds
      user cpu time     0.11 seconds
      system cpu time   0.00 seconds
      memory            1530.15k
      OS Memory         20900.00k
      Timestamp         02/18/2024 05:04:42 PM
      Step Count        25   Switch Count  1
      Page Faults       0
      Page Reclaims     524
      Page Swaps        0
      Voluntary Context Switches 6
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 72

79
80      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
90

```

*HW3.sas × HW2.sas ×

CODE LOG RESULTS OUTPUT DATA

Table of Contents

PROC PRINT OF BEN AND JERRY'S

Obs	Flavor	Portion	Calories	CalFat	Fat	SatFat	TransFat	Cholesterol	Sodium	Carbohydrates	Fiber	Sugar	Protein	YearIntro	YearRetire	Description	Notes
1	Banana S	109	250	140	15.0	8.0	0.0	65	40	27 <1	25	3.0	.	.	.	Banana &	
2	Bonaroo	108	280	130	14.0	9.0	0.0	60	115	33 0	25	4.0	.	.	.	Coffee &	
3	Brownie	109	290	150	17.0	9.0	0.0	65	115	32 1	25	5.0	.	.	.	Brownie	
4	Butter P	86	260	180	20.0	8.0	0.0	50	105	17 0	15	4.0	.	.	.	Rich But Scoop Sh	
5	Cake Bat	105	260	140	16.0	10.0	0.0	65	75	27 <1	23	4.0	.	.	.	Yellow C	
6	Cannoli	102	280	140	16.0	11.0	0.0	65	60	28 0	23	4.0	.	.	.	Marscapo	
7	Cheeseca	101	250	130	14.0	7.0	0.0	70	85	27 0	24	3.0	.	.	.	Cheeseca	
8	Cherry G	106	240	120	13.0	9.0	0.0	60	35	28 <1	23	4.0	.	.	.	Cherry I	
9	Chocolat	105	250	130	14.0	10.0	0.0	40	50	25 2	21	4.0	.	.	.	SMOOTH C	
10	Chocolat	106	270	130	14.0	8.0	0.0	65	60	33 0	25	4.0	.	.	.	Vanilla	
11	Chocolat	105	260	110	12.0	7.0	0.0	40	65	34 2	27	4.0	.	.	.	Chocolat	
12	Chocolat	102	270	160	18.0	12.0	0.0	50	65	25 1	22	4.0	.	.	.	Chocolat	
13	Chocolat	93	260	150	17.0	7.0	0.0	35	95	23 2	19	6.0	.	.	.	Chocolat Scoop Sh	
14	Chocolat	86	220	110	12.0	6.0	0.0	35	55	27 2	22	4.0	.	.	.	Chocolat	
15	Chocowila	92	230	120	13.0	9.0	0.0	55	30	25 <1	22	4.0	.	.	.	Fair Tra Scoop Sh	
16	Chubby H	111	340	180	20.0	10.0	0.0	55	140	33 1	25	7.0	.	.	.	Fudge Co	
17	Chunky M	107	290	160	18.0	10.0	0.0	65	35	29 1	27	4.0	.	.	.	Banana I	
18	Cinnamon	111	290	140	15.0	9.0	0.0	60	120	36 0	28	4.0	.	.	.	Caramel	
19	Coconut	92	280	160	18.0	11.0	0.0	50	45	26 1	20	3.0	.	.	.	Coconut Scoop Sh	
20	Coffee	88	190	100	11.0	8.0	0.0	60	50	18 0	16	3.0	.	.	.	Coffee i Scoop Sh	
21	Coffee C	88	230	120	14.0	10.0	0.0	50	40	23 1	21	4.0	1996	1999	Coffee i	Scoop Sh	
22	Coffee H	105	280	140	16.0	10.0	0.0	60	95	30 0	27	4.0	.	.	.	Coffee I	
23	Creme Br	105	280	140	16.0	8.0	0.0	90	70	31 0	28	3.0	.	.	.	Sweet Cu	
24	Dave Mat	100	230	110	12.0	7.0	0.0	65	65	28 <1	22	3.0	.	.	.	Black Ra	
25	Dublin M	101	260	130	15.0	9.0	0.0	60	80	28 1	23	4.0	.	.	.	Irish Cr	
26	Dulce De	105	240	110	12.0	7.0	0.0	60	65	29 0	25	4.0	.	.	.	Rich Car	
27	Everythi	109	290	150	17.0	11.0	0.0	45	70	31 1	28	5.0	.	.	.	A Collis	
28	Fair Goo	109	260	120	13.0	8.0	0.0	35	65	33 2	27	4.0	2011	.	.	.	
29	Fossil F	105	280	150	16.0	10.0	0.0	60	75	30 1	26	4.0	.	.	.	Sweet Cr	
30	From Rus	105	270	153	17.0	12.0	0.0	70	50	26 0	23	4.0	.	.	.	Coffee i	
31	Half Bak	106	270	120	13.0	7.0	0.0	55	70	35 1	27	4.0	.	.	.	Chocolat	
32	Hannah T	105	240	100	11.0	6.0	0.0	65	90	32 0	25	4.0	2010	.	.	.	
33	Imagine	102	270	140	16.0	11.0	0.0	75	95	27 0	23	3.0	.	.	.	Caramel	
34	Karamel	107	260	130	14.0	9.0	0.0	55	60	31 <1	26	3.0	.	.	.	A Core o	
35	Late Nig	103	270	140	15.0	10.0	0.0	60	170	31 0	21	4.0	2011	.	.	.	
36	Milk & C	101	270	140	14.0	7.0	0.0	60	170	26 1	24	4.0	.	.	.	Vanilla	

- b. Subset the data keeping only flavors that can be purchased at the grocery store (in other words not retired flavors and not Scoop Shop Exclusives as described in the notes variable).

PROC SQL;

```
CREATE TABLE BANDJ_CURRENT AS
SELECT * FROM BANDJ WHERE NOT (
    Notes CONTAINS 'retire' OR Notes CONTAINS 'retired'
    OR Notes CONTAINS 'RETIRE' OR Notes CONTAINS 'RETIRED' OR
    Description CONTAINS 'retire' OR Description CONTAINS 'retired'
    OR Description CONTAINS 'RETIRE' OR Description CONTAINS 'RETIRED');
```

QUIT;

DATA BANDJ_CURRENT;

SET BANDJ_CURRENT;

IF Notes =: "Scoop Shop Exclusive" THEN DELETE;

RUN;

PROC PRINT DATA = BANDJ_CURRENT;

TITLE "PROC PRINT OF BEN AND JERRY'S CURRENT FLAVORS";

RUN;

```

1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69
70      PROC SQL;
71          CREATE TABLE BANDJ_CURRENT AS
72              SELECT * FROM BANDJ WHERE NOT (
73                  Notes CONTAINS 'retire' OR Notes CONTAINS 'retired'
74                  OR Notes CONTAINS 'RETIRE' OR Notes CONTAINS 'RETIRED' OR
75                  Description CONTAINS 'retire' OR Description CONTAINS 'retired'
76                  OR Description CONTAINS 'RETIRE' OR Description CONTAINS 'RETIRED');
77      NOTE: Table WORK.BANDJ_CURRENT created, with 71 rows and 17 columns.

77      QUIT;
NOTE: PROCEDURE SQL used (Total process time):
      real time          0.00 seconds
      user cpu time      0.00 seconds
      system cpu time    0.00 seconds
      memory             5640.59k
      OS Memory          26280.00k
      Timestamp           02/18/2024 08:22:21 PM
      Step Count          93   Switch Count  2
      Page Faults         0
      Page Reclaims       206
      Page Swaps          0
      Voluntary Context Switches 11
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 264

78      DATA BANDJ_CURRENT;
79          SET BANDJ_CURRENT;
80          IF Notes =: "Scoop Shop Exclusive" THEN DELETE;
81          RUN;

NOTE: There were 71 observations read from the data set WORK.BANDJ_CURRENT.
NOTE: The data set WORK.BANDJ_CURRENT has 59 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
      user cpu time      0.01 seconds
      system cpu time    0.00 seconds
      memory             957.25k
      OS Memory          21672.00k
      Timestamp           02/18/2024 08:22:21 PM
      Step Count          94   Switch Count  2
      Page Faults         0
      Page Reclaims       144
      Page Swaps          0
      Voluntary Context Switches 12
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 264

```

```
82      PROC PRINT DATA = BANDJ_CURRENT;
83      TITLE "PROC PRINT OF BEN AND JERRY'S CURRENT FLAVORS";
84      RUN;

NOTE: There were 59 observations read from the data set WORK.BANDJ_CURRENT.
NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.10 seconds
      user cpu time     0.10 seconds
      system cpu time   0.00 seconds
      memory            1441.43k
      OS Memory         21412.00k
      Timestamp         02/18/2024 08:22:21 PM
      Step Count        95  Switch Count  1
      Page Faults       0
      Page Reclaims     86
      Page Swaps        0
      Voluntary Context Switches  6
      Involuntary Context Switches 0
      Block Input Operations  0
      Block Output Operations 72

85
86      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
96
```

HW3.sas × HW2.sas ×

CODE LOG RESULTS OUTPUT DATA

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PROC PRINT OF BEN AND JERRY'S CURRENT FLAVORS

Obs	Flavor	Portion	Calories	CalFat	Fat	SatFat	TransFat	Cholesterol	Sodium	Carbohydrates	Fiber	Sugar	Protein	YearIntro	YearRetire	Description	Notes
1	Banana S	109	250	140	15.0	8.0	0.0	65	40	27	<1	25	3.0	.	.	Banana &	
2	Bonnaroo	108	280	130	14.0	9.0	0.0	60	115	33	0	25	4.0	.	.	Coffee &	
3	Brownie	109	290	150	17.0	9.0	0.0	65	115	32	1	25	5.0	.	.	Brownie	
4	Cake Bat	105	260	140	16.0	10.0	0.0	65	75	27	<1	23	4.0	.	.	Yellow C	
5	Cannoli	102	280	140	16.0	11.0	0.0	65	60	28	0	23	4.0	.	.	Mascap	
6	Cheeseca	101	250	130	14.0	7.0	0.0	70	85	27	0	24	3.0	.	.	Cheeseca	
7	Cherry G	106	240	120	13.0	9.0	0.0	60	35	28	<1	23	4.0	.	.	Cherry I	
8	Chocolat	105	250	130	14.0	10.0	0.0	40	50	25	2	21	4.0	.	.	SMOOTH C	
9	Chocolat	106	270	130	14.0	8.0	0.0	65	60	33	0	25	4.0	.	.	Vanilla	
10	Chocolat	105	260	110	12.0	7.0	0.0	40	65	34	2	27	4.0	.	.	Chocolat	
11	Chocolat	102	270	160	18.0	12.0	0.0	50	65	25	1	22	4.0	.	.	Chocolat	
12	Chocolat	86	220	110	12.0	6.0	0.0	35	55	27	2	22	4.0	.	.	Chocolat	
13	Chubby H	111	340	180	20.0	10.0	0.0	55	140	33	1	25	7.0	.	.	Fudge Co	
14	Chunky M	107	290	160	18.0	10.0	0.0	65	35	29	1	27	4.0	.	.	Banana I	
15	Cinnamon	111	290	140	15.0	9.0	0.0	60	120	36	0	28	4.0	.	.	Caramel	
16	Coffee H	105	280	140	16.0	10.0	0.0	60	95	30	0	27	4.0	.	.	Coffee I	
17	Creme Br	105	280	140	16.0	8.0	0.0	90	70	31	0	28	3.0	.	.	Sweet Cu	
18	Dave Mat	100	230	110	12.0	7.0	0.0	65	65	28	<1	22	3.0	.	.	Black Ra	
19	Dublin M	101	260	130	15.0	9.0	0.0	60	80	28	1	23	4.0	.	.	Irish Cr	
20	Dulce De	105	240	110	12.0	7.0	0.0	60	65	29	0	25	4.0	.	.	Rich Car	
21	Everythi	109	290	150	17.0	11.0	0.0	45	70	31	1	28	5.0	.	.	A Collis	
22	Fair Goo	109	260	120	13.0	8.0	0.0	35	65	33	2	27	4.0	2011	.	Chocolat	Limited
23	Fossil F	105	280	150	16.0	10.0	0.0	60	75	30	1	26	4.0	.	.	Sweet Cr	
24	From Rus	105	270	153	17.0	12.0	0.0	70	50	26	0	23	4.0	.	.	Coffee I	
25	Half Bak	106	270	120	13.0	7.0	0.0	55	70	35	1	27	4.0	.	.	Chocolat	
26	Hannah T	105	240	100	11.0	6.0	0.0	65	90	32	0	25	4.0	2010	.	Maple Ic	Limited
27	Imagine	102	270	140	16.0	11.0	0.0	75	95	27	0	23	3.0	.	.	Caramel	
28	Karamel	107	260	130	14.0	9.0	0.0	55	60	31	<1	26	3.0	.	.	A Core o	
29	Late Nig	103	270	140	15.0	10.0	0.0	60	170	31	0	21	4.0	2011	.	Vanilla	
30	Milk & C	101	270	140	15.0	7.0	0.0	60	105	30	<1	23	4.0	.	.	Vanilla	
31	Mint Cho	106	270	150	17.0	12.0	0.0	65	55	26	1	24	4.0	.	.	Mint Ice	
32	Mint Cho	106	260	130	14.0	8.0	0.0	65	90	28	0	22	4.0	.	.	Peppermi	
33	Mission	102	260	120	13.0	8.0	0.0	60	115	32	0	25	4.0	.	.	Sweet Cr	
34	Mud Pie	106	270	140	16.0	7.0	0.0	55	75	29	1	23	4.0	.	.	Chocolat	

- c. Create a variable that calculates the calories in one tablespoon (TB) of ice cream. Assume that 1 TB = 15 g. Subset the data again keeping only flavors that have this information.

/* 47C */

DATA BANDJ_CURRENT;

SET BANDJ_CURRENT;

CaloriesInTBLSP = Calories / (Portion/15);

IF CaloriesInTBLSP ~= .,

RUN;

```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      DATA BANDJ_CURRENT;
70      SET BANDJ_CURRENT;
71      CaloriesInTBLSP = Calories / (Portion /15);
72      IF CaloriesInTBLSP ~= .;
73      RUN;

NOTE: Missing values were generated as a result of performing an operation on missing values.
      Each place is given by: (Number of times) at (Line):(Column).
      1 at 71:40
NOTE: There were 59 observations read from the data set WORK.BANDJ_CURRENT.
NOTE: The data set WORK.BANDJ_CURRENT has 58 observations and 18 variables.
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
      user cpu time     0.01 seconds
      system cpu time   0.01 seconds
      memory            957.37k
      OS Memory         21416.00k
      Timestamp         02/18/2024 08:26:12 PM
      Step Count        107  Switch Count  2
      Page Faults       0
      Page Reclaims     165
      Page Swaps        0
      Voluntary Context Switches 11
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 264

74
75      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
85
```

HW3.sas x HW2.sas x

CODE LOG RESULTS OUTPUT DATA

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

Columns Total rows: 58 Total columns: 18 Rows 1-58

Protein	YearIntro	YearRetire	Description	Notes	CaloriesInTBLSP
4	.	.	Cherry G	Original	33.495145631
4	.	.	Chocolat		42.056074766
4	.	.	Sweet Cr		39.795918367
4	.	.	Peanut B		37.5
4	.	.	Chocolat		39.252336449
6	.	.	Pistachi		38.888888889
4	2011	.	Red Velv		37.128712871
4	2011	.	Vanilla		38.571428571
3	.	.	Chocolat		33.962264151
3	.	.	Vanilla		38.942307692
3	.	.	Strawber		35.714285714
3	.	.	Caramel		39.252336449
4	.	.	Vanilla		40
4	.	.	Smooth V		32.242990654
4	.	.	Vanilla		36.842105263
4	.	.	Vanilla		40.384615385
3.5	2012	.	Maple Sy		39
7	2011	.	Peanut B	Original	46.153846154
3	.	.	Peach Ic		31.132075472
8	.	.	Cherry L		27.777777778
5	.	.	Chocolat		25.961538462
4	.	.	Chocolat		27.272727273
0	.	.	Chunky B		16.836734694
0	.	.	Chunky P		19.117647059

Messages: 14 User: u62223361

- d. Calculate the total calories you would consume if you were to eat one TB of each flavor of ice cream. Your final total for this variable should appear in the row of the last observation.

/* 47D */

```
DATA BANDJ_CURRENT_TOTAL;
  SET BANDJ_CURRENT;
  RETAIN TotalCalories 0;
  TotalCalories = SUM(CaloriesInTBLSP, TotalCalories);
RUN;
```

Or Try
TotalCalories+CaloriesInTBSP

```
1           OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69
70           /* 47D */
71           DATA BANDJ_CURRENT_TOTAL;
72           SET BANDJ_CURRENT;
73           RETAIN TotalCalories 0;
74           TotalCalories = SUM(CaloriesInTBLSP, TotalCalories);
75           RUN;

NOTE: There were 58 observations read from the data set WORK.BANDJ_CURRENT.
NOTE: The data set WORK.BANDJ_CURRENT_TOTAL has 58 observations and 19 variables.
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
      user cpu time     0.00 seconds
      system cpu time   0.00 seconds
      memory            963.12k
      OS Memory         21416.00k
      Timestamp          02/18/2024 08:34:30 PM
      Step Count          143   Switch Count   2
      Page Faults        0
      Page Reclaims      166
      Page Swaps          0
      Voluntary Context Switches  11
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 264

76
77           OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
87
```

HW3.sas × HW2.sas ×

CODE LOG RESULTS OUTPUT DATA

Table: WORK.BANDJ_CURRENT_TOTAL | View: Column names | Filter: (none)

Columns Total rows: 58 Total columns: 19

YearIntro YearRetire Description Notes CaloriesInTBLSP TotalCalories

Rows 1-58

YearIntro	YearRetire	Description	Notes	CaloriesInTBLSP	TotalCalories
.	.	Banana &		34.403669725	34.403669725
.	.	Coffee &		38.888888889	73.292558614
.	.	Brownie		39.908256881	113.20081549
.	.	Yellow C		37.142857143	150.34367264
.	.	Marscapo		41.176470588	191.52014323
.	.	Cheeseca		37.128712871	228.6488561
.	.	Cherry I		33.962264151	262.61112025
.	.	SMOOTH C		35.714285714	298.32540596
.	.	Vanilla		38.20754717	336.53295313
.	.	Chocolat		37.142857143	373.67581027
.	.	Chocolat		39.705882353	413.38169263
.	.	Chocolat		38.372093023	451.75378565
.	.	Fudge Co		45.945945946	497.6997316
.	.	Banana I		40.654205607	538.3539372
.	.	Caramel		39.189189189	577.54312639
.	.	Coffee I		40	617.54312639
.	.	Sweet Cu		40	657.54312639
.	.	Black Ra		34.5	692.04312639
.	.	Irish Cr		38.613861386	730.65698778
.	.	Rich Car		34.285714286	764.94270207
.	.	A Collis		39.908256881	804.85095895
2011	.	Chocolat	Limited	35.779816514	840.63077546
.	.	Sweet Cr		40	880.63077546
.	.	Coffee i		38.571428571	919.20220403

Messages: 20 User: u62223361

- e. Create a variable that identifies the highest number of calories in any one flavor. The result for this variable will appear in the row of the last observation.

/* 47E */

```
DATA BANDJ_CURRENT;
  SET BANDJ_CURRENT;
  RETAIN MaxCalories 0;
  MaxCalories = MAX(MaxCalories, CaloriesInTBLSP);
RUN;
```



```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 47E */
70      DATA BANDJ_CURRENT;
71      SET BANDJ_CURRENT;
72      RETAIN MaxCalories 0;
73      MaxCalories = MAX(MaxCalories, CaloriesInTBLSP);
74      RUN;
```

NOTE: There were 58 observations read from the data set WORK.BANDJ_CURRENT.
NOTE: The data set WORK.BANDJ_CURRENT has 58 observations and 20 variables.

NOTE: DATA statement used (Total process time):

real time	0.00 seconds
user cpu time	0.01 seconds
system cpu time	0.00 seconds
memory	972.50k
OS Memory	22184.00k
Timestamp	02/18/2024 08:41:35 PM
Step Count	256 Switch Count 2
Page Faults	0
Page Reclaims	181
Page Swaps	0
Voluntary Context Switches	11
Involuntary Context Switches	0
Block Input Operations	0
Block Output Operations	264

```
75
76      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
86
```

HW3.sas

CODE LOG RESULTS OUTPUT DATA

Table: WORK.BANDJ_CURRENT | View: Column names | Filter: (none)

Columns Total rows: 58 Total columns: 20

YearRetire Description Notes CaloriesInTBSP TotalCalories MaxCalories

. Cherry G Original 33.495145631 1332.2073311 45.945945946
. Chocolat 42.056074766 1374.2634059 45.945945946
. Sweet Cr 39.795918367 1414.0593243 45.945945946
. Peanut B 37.5 1451.5593243 45.945945946
. Chocolat 39.252336449 1490.8116607 45.945945946
. Pistachi 38.888888889 1529.7005496 45.945945946
. Red Velv 37.128712871 1566.8292625 45.945945946
. Vanilla 38.571428571 1605.4006911 45.945945946
. Chocolat 33.962264151 1639.3629552 45.945945946
. Vanilla 38.942307692 1678.3052629 45.945945946
. Strawber 35.714285714 1714.0195486 45.945945946
. Caramel 39.252336449 1753.2718851 45.945945946
. Vanilla 40 1793.2718851 45.945945946
. Smooth V 32.242990654 1825.5148757 45.945945946
. Vanilla 36.842105263 1862.356981 45.945945946
. Vanilla 40.384615385 1902.7415964 45.945945946
. Maple Sy 39 1941.7415964 45.945945946
. Peanut B Original 46.153846154 1987.8954425 46.153846154
. Peach Ic 31.132075472 2019.027518 46.153846154
. Cherry L 27.777777778 2046.8052958 46.153846154
. Chocolat 25.961538462 2072.7668342 46.153846154
. Chocolat 27.272727273 2100.0395615 46.153846154
. Chunky B 16.836734694 2116.8762962 46.153846154
. Chunky P 19.117647059 2135.9939433 46.153846154

Rows 1-58

Property Value

Label

Name

Length

Type

Format

Informat

Messages: 35 User: u62223361

f. View the entire resulting data set. In a comment in your program, state the final values for total calories consumed and the highest number of calories.

/* 47F */

PROC PRINT DATA = BANDJ_CURRENT;

TITLE "PROC PRINT OF BEN AND JERRY'S CURRENT FLAVORS";

RUN;

/* Total Calories (in Single TBSP): 2135.9939433 */

/* Max Calories (in Single TBSP): 46.153846154 */

Actually, the question is asking for the highest calories rather than TBSP

```
1      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69      /* 47F */
70      PROC PRINT DATA = BANDJ_CURRENT;
71      TITLE "PROC PRINT OF BEN AND JERRY'S CURRENT FLAVORS";
72      RUN;

NOTE: There were 58 observations read from the data set WORK.BANDJ_CURRENT.
NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.11 seconds
      user cpu time     0.11 seconds
      system cpu time   0.00 seconds
      memory           1549.71k
      OS Memory        22180.00k
      Timestamp        02/18/2024 08:42:47 PM
      Step Count       262   Switch Count  1
      Page Faults      0
      Page Reclaims    155
      Page Swaps       0
      Voluntary Context Switches 7
      Involuntary Context Switches 0
      Block Input Operations 0
      Block Output Operations 72

73      /* Total Calories (in Single TBSP): 2135.9939433 */
74      /* Max Calories (in Single TBSP): 46.153846154 */
75
76      OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
86
```

HW3.sas

CODE LOG RESULTS

Table of Contents

PROC PRINT OF BEN AND JERRY'S CURRENT FLAVORS

Obs	Flavor	Portion	Calories	CalFat	Fat	SatFat	TransFat	Cholesterol	Sodium	Carbohydrates	Fiber	Sugar	Protein	YearIntro	YearRetire	Description	Notes	CaloriesInTBLSP	TotalCalories	M
1	Banana S	109	250	140	15.0	8.0	0.0	65	40	27	<1	25	3.0	.	.	Banana &		34.4037	34.40	
2	Bonnaroo	108	280	130	14.0	9.0	0.0	60	115	33	0	25	4.0	.	.	Coffee &		38.8889	73.29	
3	Brownie	109	290	150	17.0	9.0	0.0	65	115	32	1	25	5.0	.	.	Brownie		39.9083	113.20	
4	Cake Bar	105	260	140	16.0	10.0	0.0	65	75	27	<1	23	4.0	.	.	Yellow C		37.1429	150.34	
5	Cannoli	102	280	140	16.0	11.0	0.0	65	60	28	0	23	4.0	.	.	Marscapo		41.1765	191.52	
6	Cheeseca	101	250	130	14.0	7.0	0.0	70	85	27	0	24	3.0	.	.	Cheeseca		37.1287	228.65	
7	Cherry G	106	240	120	13.0	9.0	0.0	60	35	28	<1	23	4.0	.	.	Cherry I		33.9623	262.61	
8	Chocolat	105	250	130	14.0	10.0	0.0	40	50	25	2	21	4.0	.	.	SMOOTH C		35.7143	298.33	
9	Chocolat	106	270	130	14.0	8.0	0.0	65	60	33	0	25	4.0	.	.	Vanilla		38.2075	336.53	
10	Chocolat	105	260	110	12.0	7.0	0.0	40	65	34	2	27	4.0	.	.	Chocolat		37.1429	373.68	
11	Chocolat	102	270	160	18.0	12.0	0.0	50	65	25	1	22	4.0	.	.	Chocolat		39.7059	413.38	
12	Chocolat	86	220	110	12.0	6.0	0.0	35	55	27	2	22	4.0	.	.	Chocolat		38.3721	451.75	
13	Chubby H	111	340	180	20.0	10.0	0.0	55	140	33	1	25	7.0	.	.	Fudge Co		45.9459	497.70	
14	Chunky M	107	290	160	18.0	10.0	0.0	65	35	29	1	27	4.0	.	.	Banana I		40.6542	538.35	
15	Cinnamon	111	290	140	15.0	9.0	0.0	60	120	36	0	28	4.0	.	.	Caramel		39.1892	577.54	
16	Coffee H	105	280	140	16.0	10.0	0.0	60	95	30	0	27	4.0	.	.	Coffee I		40.0000	617.54	
17	Creme Br	105	280	140	16.0	8.0	0.0	90	70	31	0	28	3.0	.	.	Sweet Cu		40.0000	657.54	
18	Dave Mat	100	230	110	12.0	7.0	0.0	65	65	28	<1	22	3.0	.	.	Black Ra		34.5000	692.04	
19	Dublin M	101	260	130	15.0	9.0	0.0	60	80	28	1	23	4.0	.	.	Irish Cr		38.6139	730.66	
20	Dulce De	105	240	110	12.0	7.0	0.0	60	65	29	0	25	4.0	.	.	Rich Car		34.2857	764.94	
21	Everythi	109	290	150	17.0	11.0	0.0	45	70	31	1	28	5.0	.	.	A Collis		39.9083	804.85	
22	Fair Goo	109	260	120	13.0	8.0	0.0	35	65	33	2	27	4.0	2011	.	Chocolat	Limited	35.7798	840.63	
23	Fossil F	105	280	150	16.0	10.0	0.0	60	75	30	1	26	4.0	.	.	Sweet Cr		40.0000	880.63	
24	From Rus	105	270	153	17.0	12.0	0.0	70	50	26	0	23	4.0	.	.	Coffee i		38.5714	919.20	
25	Half Bak	106	270	120	13.0	7.0	0.0	55	70	35	1	27	4.0	.	.	Chocolat		38.2075	957.41	
26	Hannah T	105	240	100	11.0	6.0	0.0	65	90	32	0	25	4.0	2010	.	Maple Ic	Limited	34.2857	991.70	
27	Imagine	102	270	140	16.0	11.0	0.0	75	95	27	0	23	3.0	.	.	Caramel		39.7059	1031.40	
28	Karamel	107	260	130	14.0	9.0	0.0	55	60	31	<1	26	3.0	.	.	A Core o		36.4486	1067.85	
29	Late Nig	103	270	140	15.0	10.0	0.0	60	170	31	0	21	4.0	2011	.	Vanilla		39.3204	1107.17	
30	Milk & C	101	270	140	15.0	7.0	0.0	60	105	30	<1	23	4.0	.	.	Vanilla		40.0990	1147.27	
31	Mint Cho	106	270	150	17.0	12.0	0.0	65	55	26	1	24	4.0	.	.	Mint Ice		38.2075	1185.48	
32	Mint Cho	106	260	130	14.0	8.0	0.0	65	90	28	0	22	4.0	.	.	Peppermi		36.7925	1222.27	
33	Mission	102	260	120	13.0	8.0	0.0	60	115	32	0	25	4.0	.	.	Sweet Cr		38.2353	1260.50	
34	Mud Pie	106	270	140	16.0	7.0	0.0	55	75	29	1	23	4.0	.	.	Chocolat		38.2075	1298.71	
35	Neapolit	103	230	100	11.0	7.0	0.0	45	50	30	1	23	4.0	.	.	Cherry G	Original	33.4951	1332.21	

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HW3.sas

CODE LOG RESULTS

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23	Fossil F	105	280	150	16.0	10.0	0.0	60	75	30	1	26	4.0	.	.	Sweet Cr	40.0000	880.63	
24	From Rus	105	270	153	17.0	12.0	0.0	70	50	26	0	23	4.0	.	.	Coffee i	38.5714	919.20	
25	Half Bak	106	270	120	13.0	7.0	0.0	55	70	35	1	27	4.0	.	.	Chocolat	38.2075	957.41	
26	Hannah T	105	240	100	11.0	6.0	0.0	65	90	32	0	25	4.0	2010	.	Maple Ic	Limited	34.2857	991.70
27	Imagine	102	270	140	16.0	11.0	0.0	75	95	27	0	23	3.0	.	.	Caramel	39.7059	1031.40	
28	Karamel	107	260	130	14.0	9.0	0.0	55	60	31	<1	26	3.0	.	.	A Core o	36.4486	1067.85	
29	Late Nig	103	270	140	15.0	10.0	0.0	60	170	31	0	21	4.0	2011	.	Vanilla	39.3204	1107.17	
30	Milk & C	101	270	140	15.0	7.0	0.0	60	105	30	<1	23	4.0	.	.	Vanilla	40.0990	1147.27	
31	Mint Cho	106	270	150	17.0	12.0	0.0	65	55	26	1	24	4.0	.	.	Mini Ice	38.2075	1185.48	
32	Mint Cho	106	260	130	14.0	8.0	0.0	65	90	28	0	22	4.0	.	.	Peppermi	36.7925	1222.27	
33	Mission	102	260	120	13.0	8.0	0.0	60	115	32	0	25	4.0	.	.	Sweet Cr	38.2353	1260.50	
34	Mud Pie	106	270	140	16.0	7.0	0.0	55	75	29	1	23	4.0	.	.	Chocolat	38.2075	1298.71	
35	Neapolit	103	230	100	11.0	7.0	0.0	45	50	30	1	23	4.0	.	.	Cherry G	33.4951	1332.21	
36	New York	107	300	180	20.0	11.0	0.0	50	55	29	2	25	4.0	.	.	Chocolat	42.0561	1374.26	
37	Oatmeal	98	260	130	14.0	9.0	0.0	55	115	30	1	23	4.0	.	.	Sweet Cr	39.7959	1414.06	
38	Peanut B	104	260	140	15.0	8.0	0.0	60	140	29	0	23	4.0	.	.	Peanut B	37.5000	1451.56	
39	Phish Fo	107	280	120	13.0	8.0	0.0	35	80	39	2	28	4.0	.	.	Chocolat	39.2523	1490.81	
40	Pistachi	108	280	150	17.0	8.0	0.5	70	95	24	1	19	6.0	.	.	Pistachi	38.8889	1529.70	
41	Red Velv	101	250	120	13.0	8.0	0.0	60	105	30	0	23	4.0	2011	.	Red Velv	37.1287	1566.83	
42	Schweddy	105	270	140	15.0	10.0	0.0	60	65	31	<1	26	4.0	2011	.	Vanilla	38.5714	1605.40	
43	S'mores	106	240	140	16.0	8.0	0.0	35	105	35	2	26	3.0	.	.	Chocolat	33.9623	1639.36	
44	Stephen	104	270	140	15.0	10.0	0.0	65	90	30	0	24	3.0	.	.	Vanilla	38.9423	1678.31	
45	Strawber	105	250	140	15.0	7.0	0.0	60	110	26	0	22	3.0	.	.	Strawber	35.7143	1714.02	
46	Triple C	107	280	140	16.0	11.0	0.0	65	85	32	0	25	3.0	.	.	Caramel	39.2523	1753.27	
47	Turtle S	105	280	140	16.0	10.0	0.0	60	100	30	1	25	4.0	.	.	Vanilla	40.0000	1793.27	
48	Vanilla	107	230	130	14.0	8.0	0.5	75	40	23	0	20	4.0	.	.	Smooth V	32.2430	1825.51	
49	Vanilla	114	280	130	14.0	9.0	0.0	70	95	34	0	27	4.0	.	.	Vanilla	36.8421	1862.36	
50	Vanilla	104	280	150	17.0	10.0	0.5	65	95	30	0	27	4.0	.	.	Vanilla	40.3846	1902.74	
51	Vermonst	100	260	-	15.0	-	-	-	-	27	-	3.5	2012	.	.	Maple Sy	39.0000	1941.74	
52	What A C	104	320	170	19.0	8.0	0.0	45	140	31	1	23	7.0	2011	.	Peanut B	Original	46.1538	1987.90
53	Willie N	106	220	100	11.0	7.0	0.0	50	55	28	0	26	3.0	.	.	Peach Ic	31.1321	2019.03	
54	Cherry G	108	200	25	3.0	2.0	0.0	20	90	37	<1	27	8.0	.	.	Cherry L	27.7778	2046.81	
55	Chocolat	104	180	25	2.5	1.5	0.0	15	75	35	2	25	5.0	.	.	Chocolat	25.9615	2072.77	
56	Half Bak	99	180	25	3.0	1.5	0.0	20	95	35	1	23	4.0	.	.	Chocolat	27.2727	2100.04	
57	Berried	98	110	0	0.0	0.0	0.0	0	5	29	1	25	0.0	.	.	Chunky B	16.8367	2116.88	
58	Jamaican	102	130	0	0.0	0.0	0.0	0	10	33	1	29	0.0	.	.	Chunky P	19.1176	2135.99	

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