STAT-506: SAS Project

Description: The data worked with consists of my daily and workout health history captured from my wearable.

**Topics: 6,8,3,12,15,21,18,20,25,27,14,9**

/\* 6. Read Excel spreadsheets into SAS using:

a) LIBNAME statement to read multiple pages of a excel file

b) Proc IMPORT (generate the code)

c) Proc EXPORT (generate the code)

d) LIBNAME statement with CLEAR option

\*/

libname health excel "W:\My Documents\My SAS Files\Microsoft\_Health\_20150418\_20150831.xls"; /\* 6a \*/

PROC IMPORT OUT= WORK.Activity /\* 6b \*/

DATAFILE= "W:\My Documents\My SAS Files\Microsoft\_Health\_201

50418\_20150831.xls"

DBMS=EXCEL REPLACE;

RANGE="'Activity summary$'";

GETNAMES=YES;

MIXED=NO;

SCANTEXT=YES;

USEDATE=YES;

SCANTIME=YES;

RUN;

PROC EXPORT DATA= WORK.ACTIVITY /\* 6c \*/

OUTFILE= "W:\My Documents\SAS Project\exported.xls"

DBMS=EXCEL REPLACE;

SHEET="activity";

RUN;

libname health clear; /\* 6d \*/

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 8. Use the following to read in a data set that has FORMATTED data:

a) INFILE

b) INPUT using at least 4 INFORMATs

c) FORMAT statement to re-format at least 2 variables

d) Proc PRINT

\*/

libname health "W:\My Documents\SAS Project";

data health.activity; /\* 8a \*/

length Event\_Type $10. Cardio\_Benefit $12. Sleep\_Restoration $8. Sleep\_Auto\_Detect $6. ;

infile "W:\My Documents\SAS Project\Activity.csv" dlm=',' dsd missover;

input Input\_Date :mmddyy9. Start\_Time :time. Event\_Type Duration\_Seconds Seconds\_Paused Calories\_Burned

Calories\_Burned\_Carbs Calories\_Burned\_Fats HR\_Lowest HR\_Peak HR\_Average

UV\_Exposure\_Minutes Total\_Kilometers\_Moved Cardio\_Benefit Minutes\_Under\_50\_HR

Minutes\_In\_HRZ\_Very\_Light\_50\_60 Minutes\_In\_HRZ\_Light\_60\_70

Minutes\_In\_HRZ\_Moderate\_70\_80 Minutes\_In\_HRZ\_Hard\_80\_90 Minutes\_In\_HRZ\_Very\_Hard\_90\_Plus

HR\_Finish HR\_Recovery\_Rate\_1\_Min HR\_Recovery\_Rate\_2\_Min Recovery\_Time\_Seconds Bike\_Average\_KPH

Bike\_Max\_KPH Elevation\_Highest\_Meters Elevation\_Lowest\_Meters Elevation\_Gain\_Meters

Elevation\_Loss\_Meters Wake\_Up\_Time :MDYAMPM20.2 Seconds\_Awake Seconds\_Asleep\_Total Seconds\_Asleep\_Restful

Seconds\_Asleep\_Light Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency Sleep\_Restoration

Sleep\_HR\_Resting Sleep\_Auto\_Detect GW\_Plan\_Name GW\_Reps\_Performed GW\_Rounds\_Performed

Golf\_Course\_Name Golf\_Course\_Par Golf\_Total\_Score Golf\_Par\_or\_Better Golf\_Pace\_of\_Play\_Minutes

Golf\_Longest\_Drive\_Yards;

run;

data health.activity; /\* 8b \*/

length Event\_Type $10. Cardio\_Benefit $12. Sleep\_Restoration $8. Sleep\_Auto\_Detect $6. ;

infile "W:\My Documents\SAS Project\Activity.csv" dlm=',' dsd missover;

input Input\_Date :mmddyy9. Start\_Time :time. Event\_Type :$10. Duration\_Seconds :7. Seconds\_Paused Calories\_Burned

Calories\_Burned\_Carbs Calories\_Burned\_Fats HR\_Lowest HR\_Peak HR\_Average

UV\_Exposure\_Minutes Total\_Kilometers\_Moved Cardio\_Benefit Minutes\_Under\_50\_HR

Minutes\_In\_HRZ\_Very\_Light\_50\_60 Minutes\_In\_HRZ\_Light\_60\_70

Minutes\_In\_HRZ\_Moderate\_70\_80 Minutes\_In\_HRZ\_Hard\_80\_90 Minutes\_In\_HRZ\_Very\_Hard\_90\_Plus

HR\_Finish HR\_Recovery\_Rate\_1\_Min HR\_Recovery\_Rate\_2\_Min Recovery\_Time\_Seconds Bike\_Average\_KPH

Bike\_Max\_KPH Elevation\_Highest\_Meters Elevation\_Lowest\_Meters Elevation\_Gain\_Meters

Elevation\_Loss\_Meters Wake\_Up\_Time :MDYAMPM20.2 Seconds\_Awake Seconds\_Asleep\_Total Seconds\_Asleep\_Restful

Seconds\_Asleep\_Light Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency Sleep\_Restoration

Sleep\_HR\_Resting Sleep\_Auto\_Detect GW\_Plan\_Name GW\_Reps\_Performed GW\_Rounds\_Performed

Golf\_Course\_Name Golf\_Course\_Par Golf\_Total\_Score Golf\_Par\_or\_Better Golf\_Pace\_of\_Play\_Minutes

Golf\_Longest\_Drive\_Yards;

run;

data health.activity; /\* 8c \*/

length Event\_Type $10. Cardio\_Benefit $12. Sleep\_Restoration $8. Sleep\_Auto\_Detect $6. ;

infile "W:\My Documents\SAS Project\Activity.csv" dlm=',' dsd missover;

input Input\_Date :mmddyy9. Start\_Time :time. Event\_Type :$10. Duration\_Seconds :7. Seconds\_Paused Calories\_Burned

Calories\_Burned\_Carbs Calories\_Burned\_Fats HR\_Lowest HR\_Peak HR\_Average

UV\_Exposure\_Minutes Total\_Kilometers\_Moved Cardio\_Benefit Minutes\_Under\_50\_HR

Minutes\_In\_HRZ\_Very\_Light\_50\_60 Minutes\_In\_HRZ\_Light\_60\_70

Minutes\_In\_HRZ\_Moderate\_70\_80 Minutes\_In\_HRZ\_Hard\_80\_90 Minutes\_In\_HRZ\_Very\_Hard\_90\_Plus

HR\_Finish HR\_Recovery\_Rate\_1\_Min HR\_Recovery\_Rate\_2\_Min Recovery\_Time\_Seconds Bike\_Average\_KPH

Bike\_Max\_KPH Elevation\_Highest\_Meters Elevation\_Lowest\_Meters Elevation\_Gain\_Meters

Elevation\_Loss\_Meters Wake\_Up\_Time :MDYAMPM20.2 Seconds\_Awake Seconds\_Asleep\_Total Seconds\_Asleep\_Restful

Seconds\_Asleep\_Light Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency Sleep\_Restoration

Sleep\_HR\_Resting Sleep\_Auto\_Detect GW\_Plan\_Name GW\_Reps\_Performed GW\_Rounds\_Performed

Golf\_Course\_Name Golf\_Course\_Par Golf\_Total\_Score Golf\_Par\_or\_Better Golf\_Pace\_of\_Play\_Minutes

Golf\_Longest\_Drive\_Yards;

Sleep\_Efficiency = Sleep\_Efficiency/100;

format Input\_Date date9. Sleep\_Efficiency percent8.2 ;

run;

proc contents data=health.activity;

run;

proc print data=health.activity; /\* 8d \*/

format Start\_Time hhmm8.2 Wake\_Up\_Time MDYAMPM20.2;

run;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 3. Print SAS data set(s) using:

a) Proc PRINT

b) SPLIT= option

c) TITLE

d) FOOTNOTE

\*/

PROC IMPORT OUT= HEALTH.Daily

DATAFILE= "W:\My Documents\SAS Project\Microsoft\_Health\_2015

0418\_20150831.xls"

DBMS=EXCEL REPLACE;

RANGE="'Daily summary$'";

GETNAMES=YES;

MIXED=NO;

SCANTEXT=YES;

USEDATE=YES;

SCANTIME=YES;

RUN;

proc print data=health.Daily ; /\* 3a \*/

run;

proc print data=health.Daily Split="\_"; /\* 3b \*/

run;

title "Sneha's Daily Activity"; /\* 3c \*/

proc print data=health.Daily Split="\_";

run;

title ;

footnote "Data from Sneha's Health Band"; /\* 3d \*/

proc print data=health.Daily Split="\_";

run;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 12. Merge two or more data sets—at least two different merges must be done

a) One must have non-matches

(1) Use IN= options with a IF conditional statement

(2) Direct output to 2 different datasets (matches and non-matches)

b) One must use the options below

(1) RENAME=

(2) DROP=/KEEP= options

\*/

/\* both datasets are already sorted by Input\_Date \*/

data matches nonmatches(drop=Calories\_Burned HR\_Peak) ; /\* 12a \*/

merge health.activity (in=a) health.daily (rename= (Date=Input\_Date)in=d) ;

by Input\_Date;

if (a=1 and d=1 ) then output matches;

else output nonmatches;

keep Input\_Date Calories\_Burned HR\_Peak;

run;

data merged (keep= Input\_Date Duration\_Seconds Calories\_Burned Total\_Kilometers\_Moved ); /\* 12b \*/

merge health.activity (rename=(Seconds\_Paused=Pause\_Time\_Sec) in=a) health.daily (rename= (Date=Input\_Date)in=d) ;

by Input\_Date;

run;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 15. Demonstrate the following

a) Use of RETAIN

b) Sum Statement (variable + expression;)

c) Use of FIRST. and LAST.

d) Proc SORT

\*/

data total; /\* 15a \*/

set health.activity;

retain Total\_Calories\_Burned 0;

Total\_Calories\_Burned = Total\_Calories\_Burned + Calories\_Burned;

keep Input\_Date Calories\_Burned Total\_Calories\_Burned;

run;

data total\_to\_date; /\* 15b \*/

set health.activity;

Total\_Calories\_Burned + Calories\_Burned;

keep Input\_Date Calories\_Burned Total\_Calories\_Burned;

run;

proc sort data=health.activity /\* 15d \*/

out=activity;

by Event\_Type Cardio\_Benefit;

run;

data aggregate; /\* 15c \*/

set activity;

by Event\_Type Cardio\_Benefit;

if first.Event\_Type then Calorie\_Count = 0;

else Calorie\_Count + Calories\_Burned;

if last.Cardio\_Benefit then output;

run;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 21. Converting Variable Type

a) Character to Numeric

b) Numeric to Character

c) Demonstrate automatic conversion (need log here)

d) Proc CONTENTS showing the original variable type

\*/

data health.conversion; /\* 21b \*/

set health.daily (rename=(Steps=numSteps Total\_Kilometers\_Moved=numTLM));

Steps = put(numSteps,5.);

Total\_Kilometers\_Moved = put(numTLM, 10.2);

keep Date Steps Total\_Kilometers\_Moved;

run;

data health.toNum (drop=charSteps charTLM); /\* 21a \*/

set health.conversion (rename=(Steps=charSteps Total\_Kilometers\_Moved=charTLM));

Steps=input(charSteps,5.);

Total\_Kilometers\_Moved=input(charTLM,10.2);

run;

data health.autoconversion; /\* 21c \*/

set health.conversion;

Meters\_Moved = Total\_Kilometers\_Moved \* 1000;

run;

/\* Log \*/

/\*

14

15 data health.autoconversion; /\* 21c \*/

16 set health.conversion;

17 Meters\_Moved = Total\_Kilometers\_Moved \* 1000;

18 run;

NOTE: Character values have been converted to numeric values at the places given by:

(Line):(Column).

17:20

NOTE: There were 136 observations read from the data set HEALTH.CONVERSION.

NOTE: The data set HEALTH.AUTOCONVERSION has 136 observations and 4 variables.

NOTE: DATA statement used (Total process time):

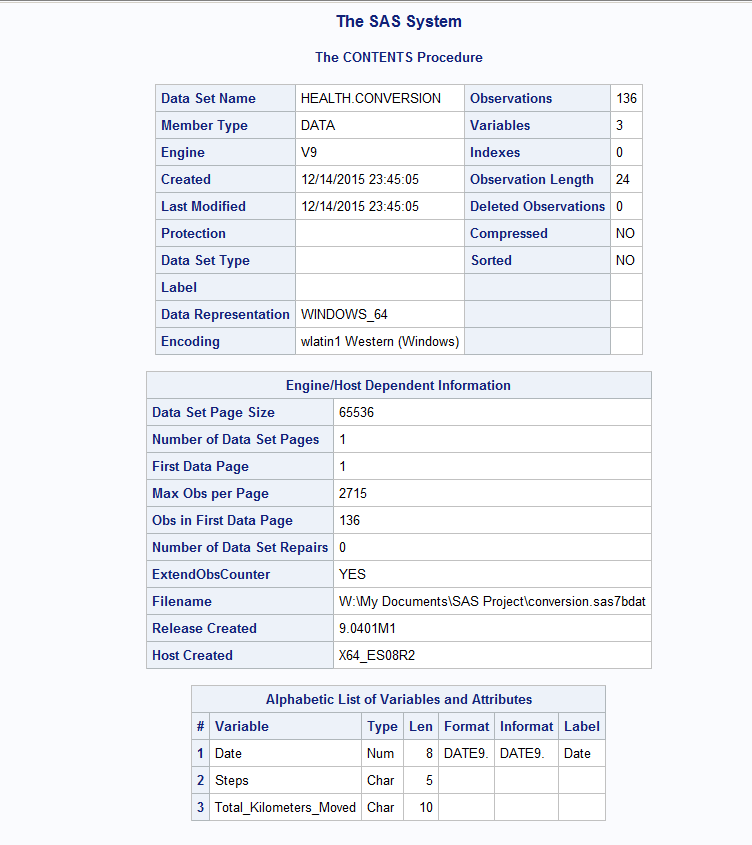
real time 0.22 seconds

cpu time 0.00 seconds

\*/

proc contents data=health.conversion; /\* 21d \*/

run;



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 18. Use the following fuctions

a) SUBSTR

b) LENGTH

c) SCAN

d) PROPCASE

e) One of (RIGHT, LEFT, UPCASE, LOWCASE, CHAR)

f) CATX (or CAT, CATS, CATT)

\*/

data health.functions;

set health.activity;

length Status $40.;

if (Cardio\_Benefit = ' ') then Status = "Lazy Sneha did not workout today!";

else do;

select (substr(Cardio\_Benefit,1,1)); /\* 18a \*/

when ('M') Status = "Sneha worked out pretty well";

when ('L') Status = "Sneha can push herself to do better";

otherwise Status = "Error";

end;

end;

keep Input\_Date Cardio\_Benefit Status;

run;

data health.functions;

set health.activity;

length Emoticon $11.;

if (length(Event\_Type)>5 or length(Event\_Type)<4) then Emoticon = "Thumbs Up"; /\* 18b \*/

else Emoticon = "Thumbs Down";

keep Event\_Type Emoticon;

run;

data health.functions2;

set health.functions;

UporDown = scan(Emoticon,2); /\* 18c \*/

Keep Event\_Type UporDown;

run;

data health.functions3;

set health.functions;

low = lowcase(Event\_Type); /\* 18d \*/

proper = propcase(low); /\* 18e \*/

Keep Event\_Type low proper;

run;

data health.functions4;

set health.activity;

Description = catx("-",Event\_Type,Cardio\_Benefit); /\* 18f \*/

keep Input\_Date Description;

run;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 20. Use the following functions

a) ROUND

b) One of (CEIL, FLOOR, INT)

c) One of (SUM, MEAN)

d) One of (MIN, MAX, N)

e) One of (NMISS, CMISS)

\*/

data health.math;

set health.daily;

Kilometers\_Moved = round(Total\_Kilometers\_Moved,0.1); /\* 20a \*/

keep Date Kilometers\_Moved;

run;

data health.math2;

set health.daily;

Max\_Kilometers\_Moved = ceil(Total\_Kilometers\_Moved); /\* 20b \*/

keep Date Max\_Kilometers\_Moved;

run;

data health.math3;

set health.activity;

total\_calories\_burned = sum(Calories\_Burned\_Carbs,Calories\_Burned\_Fats); /\* 20c \*/

average\_calories\_burned = mean(Calories\_Burned\_Carbs,Calories\_Burned\_Fats);

keep Input\_Date total\_calories\_burned average\_calories\_burned;

run;

data health.math4;

set health.activity;

min\_heart\_rate= min(HR\_Lowest,HR\_Average,HR\_Finish); /\* 20d \*/

keep Input\_Date min\_heart\_rate;

run;

data health.math5;

set health.activity;

number\_of\_missing\_hr = nmiss (HR\_Lowest,HR\_peak,HR\_Average,HR\_Finish); /\* 20e \*/

keep Input\_Date number\_of\_missing\_hr;

run;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 25. Demonstrate the following:

a) OPTIONS SYMBOLGEN

b) %put

c) %let: Create and use at least three user macro variables

d) Use at least three automatic macro Variables

e) %SYMDEL

\*/

options symbolgen; /\* 25a \*/

%put Health Data Captured from MS Band ; /\* 25b \*/

%let a = Run; /\* 25c \*/

%let b = 20000;

%let c = Good;

title "&a Activity";

proc print data=health.activity;

where Event\_Type contains "&a";

run;

title;

proc print data=health.activity;

where Duration\_Seconds > &b ;

run;

proc print data=health.activity;

where Sleep\_Restoration = "&c" ;

run;

/\* 25d \*/

%put Date is &sysdate ;

%put Last dataset &SYSLAST;

%put Who is working on SAS? &sysuserid;

%symdel a b c; /\* 25e \*/

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 27. Write and call at least two macro programs (different from those in another topic) using:

a) %MACRO

b) %MEND

c) OPTIONS MPRINT;

d) OPTIONS MCOMPILENOTE=ALL

\*/

options mcompilenote = all; /\* 27d \*/

%macro daily(day); /\* 27a \*/

proc print data=health.daily;

where date = &day;

run;

%mend; /\* 27b \*/

options mprint; /\* 27c \*/

%daily('29APR2015'd);

%macro daily(day); /\* 27a \*/

proc print data=health.daily;

where date = &day;

run;

%mend; /\* 27b \*/

%macro sleep\_efficiency(wake\_ups); /\* 27a \*/

proc print data=health.activity;

where Wake\_Ups > &wake\_ups ;

var Input\_Date Wake\_Ups Seconds\_Awake Seconds\_Asleep\_Total Seconds\_Asleep\_Restful Seconds\_Asleep\_Light Sleep\_Efficiency;

run;

%mend; /\* 27b \*/

%sleep\_efficiency(3);

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\* 14. Demonstrate the following

a) SELECT group

b) Explicit output to multiple datasets

c) DROP=/KEEP= options in data statement

d) FIRSTOBS= and OBS=

\*/

data Sleep (keep= Wake\_Up\_Time Seconds\_Awake Seconds\_Asleep\_Total

Seconds\_Asleep\_Restful Seconds\_Asleep\_Light

Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency

Sleep\_Restoration Sleep\_HR\_Resting Sleep\_Auto\_Detect) /\* 14c \*/

Run (keep= Duration\_Seconds Calories\_Burned Total\_Kilometers\_Moved )

Exercise (keep= Start\_Time Event\_Type Duration\_Seconds

Seconds\_Paused Calories\_Burned Calories\_Burned\_Carbs Calories\_Burned\_Fats

HR\_Lowest HR\_Peak HR\_Average UV\_Exposure\_Minutes Cardio\_Benefit)

Errored;

set health.activity;

select(Event\_Type); /\* 14 a \*/

when ('Exercise') output Exercise; /\* 14b \*/

when ('Sleep') output Sleep;

when ('Run') output Run;

otherwise output Errored;

end;

run;

title;

proc print data=work.Exercise (firstobs=5 obs=20); /\* 14d \*/

run;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/\*9. Demonstrate the following

a) Creating new variables

b) Usage of two of (YEAR, QTR, MONTH, DAY, WEEKDAY)

c) TODAY()

d) MDY()

\*/

data health.dateuse;

set health.activity end=final;

Birthday = mdy(03,30,1991); /\* 9d \*/

call symputx('bdy',put(Birthday,mmddyy10.));

Year = year(Input\_date); /\* 9a \*/

Month = month(Input\_date); /\* 9b \*/

how\_long\_ago = today() - input\_date; /\* 9c \*/

total\_calories\_burned + calories\_burned;

if final then call symputx('tcb',total\_calories\_burned);

keep Input\_Date Year Month how\_long\_ago;

run;

footnote "Total Caloried Burned while working out : &tcb";

footnote2 "Sneha has her birthday on : &bdy";

proc print data=health.dateuse;

run;

Logs

/\* 6a - Logs \*/

2 libname health excel "W:\My Documents\My SAS Files\Microsoft\_Health\_20150418\_20150831.xls";

NOTE: Libref HEALTH was successfully assigned as follows:

Engine: EXCEL

Physical Name: W:\My Documents\My SAS Files\Microsoft\_Health\_20150418\_20150831.xls

/\* 6b - Logs \*/

NOTE: WORK.ACTIVITY data set was successfully created.

NOTE: The data set WORK.ACTIVITY has 80 observations and 50 variables.

/\* 6c - Logs \*/

NOTE: File "W:\My Documents\SAS Project\exported.xls" will be created if the export process

succeeds.

NOTE: "activity" table was successfully created.

/\* 6d - Logs \*/

19 libname health clear;

NOTE: Libref HEALTH has been deassigned.

/\* 8a - Logs \*/

695 data health.activity; /\* 8a \*/

696 length Event\_Type $10. Cardio\_Benefit $12. Sleep\_Restoration $8. Sleep\_Auto\_Detect

696! $6. ;

697 infile "W:\My Documents\SAS Project\Activity.csv" dlm=',' dsd missover;

698 input Input\_Date :mmddyy9. Start\_Time :time. Event\_Type Duration\_Seconds

698! Seconds\_Paused Calories\_Burned

699 Calories\_Burned\_Carbs Calories\_Burned\_Fats HR\_Lowest HR\_Peak HR\_Average

700 UV\_Exposure\_Minutes Total\_Kilometers\_Moved Cardio\_Benefit Minutes\_Under\_50\_HR

701 Minutes\_In\_HRZ\_Very\_Light\_50\_60 Minutes\_In\_HRZ\_Light\_60\_70

702 Minutes\_In\_HRZ\_Moderate\_70\_80 Minutes\_In\_HRZ\_Hard\_80\_90

702! Minutes\_In\_HRZ\_Very\_Hard\_90\_Plus

703 HR\_Finish HR\_Recovery\_Rate\_1\_Min HR\_Recovery\_Rate\_2\_Min Recovery\_Time\_Seconds

703! Bike\_Average\_KPH

704 Bike\_Max\_KPH Elevation\_Highest\_Meters Elevation\_Lowest\_Meters

704! Elevation\_Gain\_Meters

705 Elevation\_Loss\_Meters Wake\_Up\_Time :MDYAMPM20.2 Seconds\_Awake

705! Seconds\_Asleep\_Total Seconds\_Asleep\_Restful

706 Seconds\_Asleep\_Light Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency

706! Sleep\_Restoration

707 Sleep\_HR\_Resting Sleep\_Auto\_Detect GW\_Plan\_Name GW\_Reps\_Performed

707! GW\_Rounds\_Performed

708 Golf\_Course\_Name Golf\_Course\_Par Golf\_Total\_Score Golf\_Par\_or\_Better

708! Golf\_Pace\_of\_Play\_Minutes

709 Golf\_Longest\_Drive\_Yards;

710 run;

NOTE: The infile "W:\My Documents\SAS Project\Activity.csv" is:

Filename=W:\My Documents\SAS Project\Activity.csv,

RECFM=V,LRECL=32767,File Size (bytes)=9297,

Last Modified=14Dec2015:15:45:29,

Create Time=14Dec2015:13:04:30

NOTE: 80 records were read from the infile "W:\My Documents\SAS Project\Activity.csv".

The minimum record length was 80.

The maximum record length was 134.

NOTE: The data set HEALTH.ACTIVITY has 80 observations and 50 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.01 seconds

/\* 8b - Logs \*/

711 data health.activity; /\* 8b \*/

712 length Event\_Type $10. Cardio\_Benefit $12. Sleep\_Restoration $8. Sleep\_Auto\_Detect

712! $6. ;

713 infile "W:\My Documents\SAS Project\Activity.csv" dlm=',' dsd missover;

714 input Input\_Date :mmddyy9. Start\_Time :time. Event\_Type :$10. Duration\_Seconds :7.

714! Seconds\_Paused Calories\_Burned

715 Calories\_Burned\_Carbs Calories\_Burned\_Fats HR\_Lowest HR\_Peak HR\_Average

716 UV\_Exposure\_Minutes Total\_Kilometers\_Moved Cardio\_Benefit Minutes\_Under\_50\_HR

717 Minutes\_In\_HRZ\_Very\_Light\_50\_60 Minutes\_In\_HRZ\_Light\_60\_70

718 Minutes\_In\_HRZ\_Moderate\_70\_80 Minutes\_In\_HRZ\_Hard\_80\_90

718! Minutes\_In\_HRZ\_Very\_Hard\_90\_Plus

719 HR\_Finish HR\_Recovery\_Rate\_1\_Min HR\_Recovery\_Rate\_2\_Min Recovery\_Time\_Seconds

719! Bike\_Average\_KPH

720 Bike\_Max\_KPH Elevation\_Highest\_Meters Elevation\_Lowest\_Meters

720! Elevation\_Gain\_Meters

721 Elevation\_Loss\_Meters Wake\_Up\_Time :MDYAMPM20.2 Seconds\_Awake

721! Seconds\_Asleep\_Total Seconds\_Asleep\_Restful

722 Seconds\_Asleep\_Light Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency

722! Sleep\_Restoration

723 Sleep\_HR\_Resting Sleep\_Auto\_Detect GW\_Plan\_Name GW\_Reps\_Performed

723! GW\_Rounds\_Performed

724 Golf\_Course\_Name Golf\_Course\_Par Golf\_Total\_Score Golf\_Par\_or\_Better

724! Golf\_Pace\_of\_Play\_Minutes

725 Golf\_Longest\_Drive\_Yards;

726 run;

NOTE: The infile "W:\My Documents\SAS Project\Activity.csv" is:

Filename=W:\My Documents\SAS Project\Activity.csv,

RECFM=V,LRECL=32767,File Size (bytes)=9297,

Last Modified=14Dec2015:15:45:29,

Create Time=14Dec2015:13:04:30

NOTE: 80 records were read from the infile "W:\My Documents\SAS Project\Activity.csv".

The minimum record length was 80.

The maximum record length was 134.

NOTE: The data set HEALTH.ACTIVITY has 80 observations and 50 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.00 seconds

/\* 8c - Logs \*/

727 data health.activity; /\* 8c \*/

728 length Event\_Type $10. Cardio\_Benefit $12. Sleep\_Restoration $8. Sleep\_Auto\_Detect

728! $6. ;

729 infile "W:\My Documents\SAS Project\Activity.csv" dlm=',' dsd missover;

730 input Input\_Date :mmddyy9. Start\_Time :time. Event\_Type :$10. Duration\_Seconds :7.

730! Seconds\_Paused Calories\_Burned

731 Calories\_Burned\_Carbs Calories\_Burned\_Fats HR\_Lowest HR\_Peak HR\_Average

732 UV\_Exposure\_Minutes Total\_Kilometers\_Moved Cardio\_Benefit Minutes\_Under\_50\_HR

733 Minutes\_In\_HRZ\_Very\_Light\_50\_60 Minutes\_In\_HRZ\_Light\_60\_70

734 Minutes\_In\_HRZ\_Moderate\_70\_80 Minutes\_In\_HRZ\_Hard\_80\_90

734! Minutes\_In\_HRZ\_Very\_Hard\_90\_Plus

735 HR\_Finish HR\_Recovery\_Rate\_1\_Min HR\_Recovery\_Rate\_2\_Min Recovery\_Time\_Seconds

735! Bike\_Average\_KPH

736 Bike\_Max\_KPH Elevation\_Highest\_Meters Elevation\_Lowest\_Meters

736! Elevation\_Gain\_Meters

737 Elevation\_Loss\_Meters Wake\_Up\_Time :MDYAMPM20.2 Seconds\_Awake

737! Seconds\_Asleep\_Total Seconds\_Asleep\_Restful

738 Seconds\_Asleep\_Light Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency

738! Sleep\_Restoration

739 Sleep\_HR\_Resting Sleep\_Auto\_Detect GW\_Plan\_Name GW\_Reps\_Performed

739! GW\_Rounds\_Performed

740 Golf\_Course\_Name Golf\_Course\_Par Golf\_Total\_Score Golf\_Par\_or\_Better

740! Golf\_Pace\_of\_Play\_Minutes

741 Golf\_Longest\_Drive\_Yards;

742 Sleep\_Efficiency = Sleep\_Efficiency/100;

743 format Input\_Date date9. Sleep\_Efficiency percent8.2 ;

744 run;

NOTE: The infile "W:\My Documents\SAS Project\Activity.csv" is:

Filename=W:\My Documents\SAS Project\Activity.csv,

RECFM=V,LRECL=32767,File Size (bytes)=9297,

Last Modified=14Dec2015:15:45:29,

Create Time=14Dec2015:13:04:30

NOTE: 80 records were read from the infile "W:\My Documents\SAS Project\Activity.csv".

The minimum record length was 80.

The maximum record length was 134.

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).

62 at 742:46

NOTE: The data set HEALTH.ACTIVITY has 80 observations and 50 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.00 seconds

745 proc contents data=health.activity;

746 run;

NOTE: PROCEDURE CONTENTS used (Total process time):

real time 0.04 seconds

cpu time 0.03 seconds

/\* 8d - Logs \*/

747

748 proc print data=health.activity; /\* 8d \*/

749 format Start\_Time hhmm8.2 Wake\_Up\_Time MDYAMPM20.2;

750 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.21 seconds

cpu time 0.20 seconds

/\* 3a - Logs \*/

751 proc print data=health.Daily; /\* 3a \*/

752 run;

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.23 seconds

cpu time 0.21 seconds

/\* 3b - Logs \*/

755 proc print data=health.Daily Split="\_"; /\* 3b \*/

756 run;

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.23 seconds

cpu time 0.21 seconds

/\* 3c - Logs \*/

757 title "Sneha's Daily Activity"; /\* 3c \*/

758 proc print data=health.Daily Split="\_";

759 run;

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.23 seconds

cpu time 0.23 seconds

/\* 3d - Logs \*/

764 title ;

765 footnote "Data from Sneha's Health Band";

766 proc print data=health.Daily Split="\_";

767 run;

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.23 seconds

cpu time 0.21 seconds

/\* 12a - Logs \*/

40 data matches nonmatches(drop=Calories\_Burned HR\_Peak) ; /\* 12a \*/

41 merge health.activity (in=a) health.daily (rename= (Date=Input\_Date)in=d) ;

42 by Input\_Date;

43 if (a=1 and d=1 ) then output matches;

44 else output nonmatches;

45 keep Input\_Date Calories\_Burned HR\_Peak;

46 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: The data set WORK.MATCHES has 80 observations and 3 variables.

NOTE: The data set WORK.NONMATCHES has 70 observations and 1 variables.

NOTE: DATA statement used (Total process time):

real time 0.04 seconds

cpu time 0.01 seconds

/\* 12b - Logs \*/

57 data merged (keep= Input\_Date Duration\_Seconds Calories\_Burned Total\_Kilometers\_Moved ); /\*

57 ! 12b \*/

58 merge health.activity (rename=(Seconds\_Paused=Pause\_Time\_Sec) in=a) health.daily (rename=

58 ! (Date=Input\_Date)in=d) ;

59 by Input\_Date;

60 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: The data set WORK.MERGED has 150 observations and 4 variables.

NOTE: DATA statement used (Total process time):

real time 0.03 seconds

cpu time 0.01 seconds

/\* 15a - Logs \*/

66 data total; /\* 15a \*/

67 set health.activity;

68 retain Total\_Calories\_Burned 0;

69 Total\_Calories\_Burned = Total\_Calories\_Burned + Calories\_Burned;

70 keep Input\_Date Calories\_Burned Total\_Calories\_Burned;

71 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set WORK.TOTAL has 80 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time 0.03 seconds

cpu time 0.01 seconds

/\* 15b - Logs \*/

77 data total\_to\_date; /\* 15b \*/

78 set health.activity;

79 Total\_Calories\_Burned + Calories\_Burned;

80 keep Input\_Date Calories\_Burned Total\_Calories\_Burned;

81 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set WORK.TOTAL\_TO\_DATE has 80 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time 0.03 seconds

cpu time 0.01 seconds

/\* 15d - Logs \*/

2 proc sort data=health.activity /\* 15d \*/

3 out=activity;

4 by Event\_Type Cardio\_Benefit;

5 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set WORK.ACTIVITY has 80 observations and 50 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time 0.06 seconds

cpu time 0.04 seconds

NOTE: This SAS session is using a registry in WORK. All changes will be lost at the end of

this session.

/\* 15c - Logs \*/

13 data aggregate; /\* 15c \*/

14 set activity;

15 by Event\_Type Cardio\_Benefit;

16 if first.Event\_Type then Calorie\_Count = 0;

17 else Calorie\_Count + Calories\_Burned;

18 if last.Cardio\_Benefit then output;

19 run;

NOTE: There were 80 observations read from the data set WORK.ACTIVITY.

NOTE: The data set WORK.AGGREGATE has 5 observations and 51 variables.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.01 seconds

NOTE: This SAS session is using a registry in WORK. All changes will be lost at the end of

this session.

/\* 21b - Logs \*/

51 data health.conversion; /\* 21b \*/

52 set health.daily (rename=(Steps=numSteps Total\_Kilometers\_Moved=numTLM));

53 Steps = put(numSteps,5.);

54 Total\_Kilometers\_Moved = put(numTLM, 10.2);

55 keep Date Steps Total\_Kilometers\_Moved;

56 run;

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: The data set HEALTH.CONVERSION has 136 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.04 seconds

/\* 21a - Logs \*/

58 data health.toNum (drop=charSteps charTLM); /\* 21a \*/

59 set health.conversion (rename=(Steps=charSteps Total\_Kilometers\_Moved=charTLM));

60 Steps=input(charSteps,5.);

61 Total\_Kilometers\_Moved=input(charTLM,10.2);

62 run;

NOTE: There were 136 observations read from the data set HEALTH.CONVERSION.

NOTE: The data set HEALTH.TONUM has 136 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.03 seconds

/\* 21c - Logs \*/

14

15 data health.autoconversion; /\* 21c \*/

16 set health.conversion;

17 Meters\_Moved = Total\_Kilometers\_Moved \* 1000;

18 run;

NOTE: Character values have been converted to numeric values at the places given by:

(Line):(Column).

17:20

NOTE: There were 136 observations read from the data set HEALTH.CONVERSION.

NOTE: The data set HEALTH.AUTOCONVERSION has 136 observations and 4 variables.

NOTE: DATA statement used (Total process time):

real time 0.22 seconds

cpu time 0.00 seconds

/\* 21d - Logs \*/

19

20 proc contents data=health.conversion; /\* 21d \*/

NOTE: Writing HTML Body file: sashtml.htm

21 run;

NOTE: PROCEDURE CONTENTS used (Total process time):

real time 2.54 seconds

cpu time 0.48 seconds

/\* 18a - Logs \*/

99 data health.functions;

100 set health.activity;

101 length Status $40.;

102 if (Cardio\_Benefit = ' ') then Status = "Lazy Sneha did not workout today!";

103 else do;

104 select (substr(Cardio\_Benefit,1,1)); /\* 18a \*/

105 when ('M') Status = "Sneha worked out pretty well";

106 when ('L') Status = "Sneha can push herself to do better";

107 otherwise Status = "Error";

108 end;

109 end;

110 keep Input\_Date Cardio\_Benefit Status;

111 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set HEALTH.FUNCTIONS has 80 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.03 seconds

/\* 18b - Logs \*/

132 data health.functions;

133 set health.activity;

134 length Emoticon $11.;

135 if (length(Event\_Type)>5 or length(Event\_Type)<4) then Emoticon = "Thumbs Up"; /\* 18b

135! \*/

136 else Emoticon = "Thumbs Down";

137 keep Event\_Type Emoticon;

138 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set HEALTH.FUNCTIONS has 80 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.07 seconds

cpu time 0.00 seconds

/\* 18c - Logs \*/

139 data health.functions2;

140 set health.functions;

141 UporDown = scan(Emoticon,2); /\* 18c \*/

142 Keep Event\_Type UporDown;

143 run;

NOTE: There were 80 observations read from the data set HEALTH.FUNCTIONS.

NOTE: The data set HEALTH.FUNCTIONS2 has 80 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.08 seconds

cpu time 0.00 seconds

/\* 18d and 18e - Logs \*/

144 data health.functions3;

145 set health.functions;

146 low = lowcase(Event\_Type); /\* 18d \*/

147 proper = propcase(low); /\* 18e \*/

148 Keep Event\_Type low proper;

149 run;

NOTE: There were 80 observations read from the data set HEALTH.FUNCTIONS.

NOTE: The data set HEALTH.FUNCTIONS3 has 80 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time 0.09 seconds

cpu time 0.00 seconds

/\* 18f - Logs \*/

165 data health.functions4;

166 set health.activity;

167 Description = catx("-",Event\_Type,Cardio\_Benefit); /\* 18f \*/

168 keep Input\_Date Description;

169 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set HEALTH.FUNCTIONS4 has 80 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.00 seconds

/\* 20a - Logs \*/

180 data health.math;

181 set health.daily;

182 Kilometers\_Moved = round(Total\_Kilometers\_Moved,0.1); /\* 20a \*/

183 keep Date Kilometers\_Moved;

184 run;

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: The data set HEALTH.MATH has 136 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.09 seconds

cpu time 0.01 seconds

/\* 20b - Logs \*/

185 data health.math2;

186 set health.daily;

187 Max\_Kilometers\_Moved = ceil(Total\_Kilometers\_Moved); /\* 20b \*/

188 keep Date Max\_Kilometers\_Moved;

189 run;

NOTE: There were 136 observations read from the data set HEALTH.DAILY.

NOTE: The data set HEALTH.MATH2 has 136 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.05 seconds

cpu time 0.01 seconds

/\* 20c - Logs \*/

202 data health.math3;

203 set health.activity;

204 total\_calories\_burned = sum(Calories\_Burned\_Carbs,Calories\_Burned\_Fats);

205 average\_calories\_burned = mean(Calories\_Burned\_Carbs,Calories\_Burned\_Fats);

206 keep Input\_Date total\_calories\_burned average\_calories\_burned;

207 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).

18 at 204:29 18 at 205:31

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set HEALTH.MATH3 has 80 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.01 seconds

/\* 20d - Logs \*/

208 data health.math4;

209 set health.activity;

210 min\_heart\_rate= min(HR\_Lowest,HR\_Average,HR\_Finish);

211 keep Input\_Date min\_heart\_rate;

212 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).

3 at 210:21

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set HEALTH.MATH4 has 80 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.05 seconds

cpu time 0.01 seconds

/\* 20e - Logs \*/

213 data health.math5;

214 set health.activity;

215 number\_of\_missing\_hr = nmiss (HR\_Lowest,HR\_peak,HR\_Average,HR\_Finish); /\* 20e \*/

216 keep Input\_Date number\_of\_missing\_hr;

217 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set HEALTH.MATH5 has 80 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.05 seconds

cpu time 0.01 seconds

/\* 25a,25b,25c - Logs \*/

274 options symbolgen; /\* 25a \*/

275

276 %put Health Data Captured from MS Band ; /\* 25b \*/

Health Data Captured from MS Band

277

278 %let a = Run; /\* 25c \*/

279 %let b = 20000;

280 %let c = Good;

281

SYMBOLGEN: Macro variable A resolves to Run

282 title "&a Activity";

283

284 proc print data=health.activity;

285 where Event\_Type contains "&a";

SYMBOLGEN: Macro variable A resolves to Run

286 run;

NOTE: There were 3 observations read from the data set HEALTH.ACTIVITY.

WHERE Event\_Type contains 'Run';

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.03 seconds

cpu time 0.01 seconds

287

288 proc print data=health.activity;

289 where Duration\_Seconds

SYMBOLGEN: Macro variable B resolves to 20000

289! > &b ;

290 run;

NOTE: There were 15 observations read from the data set HEALTH.ACTIVITY.

WHERE Duration\_Seconds>20000;

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.05 seconds

cpu time 0.04 seconds

291

292 proc print data=health.activity;

293 where Sleep\_Restoration = "&c" ;

SYMBOLGEN: Macro variable C resolves to Good

294 run;

NOTE: There were 2 observations read from the data set HEALTH.ACTIVITY.

WHERE Sleep\_Restoration='Good';

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.02 seconds

cpu time 0.01 seconds

/\* 25d - Logs \*/

298 %put Date is &sysdate ;

SYMBOLGEN: Macro variable SYSDATE resolves to 15DEC15

Date is 15DEC15

299 %put Last dataset &SYSLAST;

SYMBOLGEN: Macro variable SYSLAST resolves to HEALTH.MATH5

Last dataset HEALTH.MATH5

300 %put Who is working on SAS? &sysuserid;

SYMBOLGEN: Macro variable SYSUSERID resolves to sendait

Who is working on SAS? sendait

/\* 25e - Logs \*/

301 %symdel a b c; /\* 25e \*/

/\* 27 - Logs \*/

303 options mcompilenote = all; /\* 27d \*/

304 %macro daily(day); /\* 27a \*/

305 proc print data=health.daily;

306 where date = &day;

307 run;

308 %mend; /\* 27b \*/

NOTE: The macro DAILY completed compilation without errors.

7 instructions 184 bytes.

309 options mprint; /\* 27c \*/

310 %daily('29APR2015'd);

MPRINT(DAILY): proc print data=health.daily;

SYMBOLGEN: Macro variable DAY resolves to '29APR2015'd

MPRINT(DAILY): where date = '29APR2015'd;

MPRINT(DAILY): run;

NOTE: There were 1 observations read from the data set HEALTH.DAILY.

WHERE date='29APR2015'D;

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.02 seconds

cpu time 0.03 seconds

319 %macro sleep\_efficiency(wake\_ups); /\* 27a \*/

320 proc print data=health.activity;

321 where Wake\_Ups > &wake\_ups ;

322 var Input\_Date Wake\_Ups Seconds\_Awake Seconds\_Asleep\_Total Seconds\_Asleep\_Restful

322! Seconds\_Asleep\_Light Sleep\_Efficiency;

323 run;

324 %mend; /\* 27b \*/

NOTE: The macro SLEEP\_EFFICIENCY completed compilation without errors.

7 instructions 328 bytes.

325

326 %sleep\_efficiency(3);

MPRINT(SLEEP\_EFFICIENCY): proc print data=health.activity;

SYMBOLGEN: Macro variable WAKE\_UPS resolves to 3

MPRINT(SLEEP\_EFFICIENCY): where Wake\_Ups > 3 ;

MPRINT(SLEEP\_EFFICIENCY): var Input\_Date Wake\_Ups Seconds\_Awake Seconds\_Asleep\_Total

Seconds\_Asleep\_Restful Seconds\_Asleep\_Light Sleep\_Efficiency;

MPRINT(SLEEP\_EFFICIENCY): run;

NOTE: There were 8 observations read from the data set HEALTH.ACTIVITY.

WHERE Wake\_Ups>3;

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.09 seconds

cpu time 0.01 seconds

/\* 14a,14b,14c - Logs \*/

362 data Sleep (keep= Wake\_Up\_Time Seconds\_Awake Seconds\_Asleep\_Total

363 Seconds\_Asleep\_Restful Seconds\_Asleep\_Light

364 Wake\_Ups Seconds\_to\_Fall\_Asleep Sleep\_Efficiency

365 Sleep\_Restoration Sleep\_HR\_Resting Sleep\_Auto\_Detect) /\* 14c \*/

366 Run (keep= Duration\_Seconds Calories\_Burned Total\_Kilometers\_Moved )

367 Exercise (keep= Start\_Time Event\_Type Duration\_Seconds

368 Seconds\_Paused Calories\_Burned Calories\_Burned\_Carbs

368! Calories\_Burned\_Fats

369 HR\_Lowest HR\_Peak HR\_Average UV\_Exposure\_Minutes Cardio\_Benefit)

370 Errored;

371 set health.activity;

372 select(Event\_Type); /\* 14 a \*/

373 when ('Exercise') output Exercise; /\* 14b \*/

374 when ('Sleep') output Sleep;

375 when ('Run') output Run;

376 otherwise output Errored;

377 end;

378 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set WORK.SLEEP has 18 observations and 11 variables.

NOTE: The data set WORK.RUN has 3 observations and 3 variables.

NOTE: The data set WORK.EXERCISE has 59 observations and 12 variables.

NOTE: The data set WORK.ERRORED has 0 observations and 50 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.06 seconds

379

/\* 14d - Logs \*/

379

380 title;

381 proc print data=work.Exercise (firstobs=5 obs=20); /\* 14d \*/

382 run;

NOTE: There were 16 observations read from the data set WORK.EXERCISE.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.02 seconds

cpu time 0.01 seconds

/\* 9a,9b,9c,9d - Logs \*/

29 data health.dateuse;

30 set health.activity end=final;

31 Birthday = mdy(03,30,1991); /\* 9d \*/

32 call symputx('bdy',put(Birthday,mmddyy10.));

33 Year = year(Input\_date); /\* 9a \*/

34 Month = month(Input\_date); /\* 9b \*/

35 how\_long\_ago = today() - input\_date; /\* 9c \*/

36 total\_calories\_burned + calories\_burned;

37 if final then call symputx('tcb',total\_calories\_burned);

38 keep Input\_Date Year Month how\_long\_ago;

39 run;

NOTE: There were 80 observations read from the data set HEALTH.ACTIVITY.

NOTE: The data set HEALTH.DATEUSE has 80 observations and 4 variables.

NOTE: DATA statement used (Total process time):

real time 0.07 seconds

cpu time 0.03 seconds

40 footnote "Total Caloried Burned while working out : &tcb";

41 footnote2 "Sneha has her birthday on : &bdy";

42 proc print data=health.dateuse;

43 run;

NOTE: There were 80 observations read from the data set HEALTH.DATEUSE.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.06 seconds

cpu time 0.04 seconds