

## Lab #2 Solution

### Question 1:

```
libname Lecture4 'J:\CLASSES\STAT46';  
DATA Lecture4.LAB2;  
    input ID : $3. Gender : $1. DOB : mmddyy10.  
        Height Weight;  
    Label DOB = 'Date of Birth'  
        Weight = 'Weight in pounds'  
        Height = 'Height in Inches';  
    Format DOB date9.;  
  
    datalines;  
    001 M 10/21/1946 68 150  
    002 F 05/26/1950 63 122  
    003 M 05/11/1981 72 175  
    004 M 07/04/1983 70 128  
    005 F 12/25/2005 30 40  
    ;  
run;  
title ' Table for LAB#2';  
Proc Print data=Lecture4.LAB2;  
run;
```

Log file

```

155 libname Lecture4 'J:\CLASSES\STAT46';
NOTE: Libref LECTURE4 was successfully assigned as follows:
      Engine:          V9
      Physical Name: J:\CLASSES\STAT46
156 DATA Lecture4.LAB2;
157   input ID : $3. Gender : $1. DOB : mmddyy10.
158         Height Weight;
159   Label DOB = 'Date of Birth'
160         Weight = 'Weight in pounds'
161         Height = 'Height in Inches';
162   Format DOB date9.;
163
164 datalines;

NOTE: The data set LECTURE4.LAB2 has 5 observations and 5 variables.
NOTE: DATA statement used (Total process time):
      real time          0.09 seconds
      cpu time           0.01 seconds

170 ;
171 run;
172 title ' Table for LAB#2';
173 Proc Print data=Lecture4.LAB2;
NOTE: Writing HTML Body file: sashtml8.htm
174 run;

NOTE: There were 5 observations read from the data set LECTURE4.LAB2.
NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.28 seconds
      cpu time           0.17 seconds

```

Output:

**Table for LAB#2**

Obs	ID	Gender	DOB	Height	Weight
1	001	M	21OCT1946	68	150
2	002	F	26MAY1950	63	122
3	003	M	11MAY1981	72	175
4	004	M	04JUL1983	70	128
5	005	F	25DEC2005	30	40

**Question 2:** Program:

```

title 'Table for Lab#2: Descriptor portion';
proc contents data=Lecture4.Lab2;
run;
```

Log:

```
67 title 'Table for Lab#2: Descriptor portion';
68 proc contents data=Lecture4.Lab2;
69 run;
```

**NOTE: PROCEDURE CONTENTS used (Total process time):**  
real time 0.03 seconds  
cpu time 0.03 seconds

Output:

Table for Lab#2: Descriptor portion			
The CONTENTS Procedure			
Data Set Name	LECTURE4.LAB2	Observations	5
Member Type	DATA	Variables	5
Engine	V9	Indexes	0
Created	10/04/2018 18:33:00	Observation Length	32
Last Modified	10/04/2018 18:33:00	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_64		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information	
Data Set Page Size	65536
Number of Data Set Pages	1
First Data Page	1
Max Obs per Page	2039
Obs in First Data Page	5
Number of Data Set Repairs	0
ExtendObsCounter	YES
Filename	J:\CLASSES\STAT46\lab2.sas7bdat
Release Created	9.0401M4
Host Created	X64_SR12R2
Owner Name	AMERICAN\zardi
File Size	128KB
File Size (bytes)	131072

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Label
3	DOB	Num	8	DATE9.	Date of Birth
2	Gender	Char	1		
4	Height	Num	8		
1	ID	Char	3		
5	Weight	Num	8		Weight in pounds

The output provides three tables:

- Table 1- Information about the data: the data set name, number of variables, number of observations, the storage length, date of creation and modification, the SAS version used to create the data set, ...
- Table 2 – Engine /Host Dependent Information: File name, dataset page size,...
- Table 3- The Variables and their attributes: the variables are displayed in alphabetical order, with their type numeric or character, length, format and label.

**Question 3:** Option: VARNUM

PROG:

```

title 'Table for Lab#2: Descriptor portion with data set variables ordering';
proc contents data=Lecture4.Lab2 varnum;
run;

```

LOG:

```
70 title 'Table for Lab#2: Descriptor portion with data set variables ordering';
71 proc contents data=Lecture4.Lab2 varnum;
72 run;
```

**NOTE: PROCEDURE CONTENTS used (Total process time):**  
real time 0.03 seconds  
cpu time 0.03 seconds

OUTPUT:

### Table for Lab#2: Descriptor portion with data set variables ordering

#### The CONTENTS Procedure

Data Set Name	LECTURE4.LAB2	Observations	5
Member Type	DATA	Variables	5
Engine	V9	Indexes	0
Created	10/04/2018 18:33:00	Observation Length	32
Last Modified	10/04/2018 18:33:00	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_64		
Encoding	wlatin1 Western (Windows)		

#### Engine/Host Dependent Information

Data Set Page Size	65536
Number of Data Set Pages	1
First Data Page	1
Max Obs per Page	2039
Obs in First Data Page	5
Number of Data Set Repairs	0
ExtendObsCounter	YES
Filename	J:\CLASSES\STAT46\lab2.sas7bdat
Release Created	9.0401M4
Host Created	X64_SR12R2
Owner Name	AMERICAN\zardi
File Size	128KB
File Size (bytes)	131072

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	ID	Char	3		
2	Gender	Char	1		
3	DOB	Num	8	DATE9.	Date of Birth
4	Height	Num	8		
5	Weight	Num	8		Weight in pounds

With the “Varnum” option, on top of the previous 2 first tables, the third table provides the variables with the same attributes as before but with the variables presented in the order of their creation in the data set.

#### Question 4: Option: POSITION

PROG:

```

title 'Table for Lab#2: Descriptor portion with both data set variables ordering';
proc contents data=Lecture4.Lab2 position;
run;

```

Log:

```

'3  title 'Table for Lab#2: Descriptor portion with both data set variables ordering';
'4  proc contents data=Lecture4.Lab2 position;
'5  run;

NOTE: PROCEDURE CONTENTS used (Total process time):
      real time          0.03 seconds
      cpu time           0.03 seconds

'6
'7  run;

```

Output:

**Table for Lab#2: Descriptor portion with both data set variables ordering**

**The CONTENTS Procedure**

<b>Data Set Name</b>	LECTURE4.LAB2	<b>Observations</b>	5
<b>Member Type</b>	DATA	<b>Variables</b>	5
<b>Engine</b>	V9	<b>Indexes</b>	0
<b>Created</b>	10/04/2018 18:33:00	<b>Observation Length</b>	32
<b>Last Modified</b>	10/04/2018 18:33:00	<b>Deleted Observations</b>	0
<b>Protection</b>		<b>Compressed</b>	NO
<b>Data Set Type</b>		<b>Sorted</b>	NO
<b>Label</b>			
<b>Data Representation</b>	WINDOWS_64		
<b>Encoding</b>	wlatin1 Western (Windows)		

<b>Engine/Host Dependent Information</b>	
<b>Data Set Page Size</b>	65536
<b>Number of Data Set Pages</b>	1
<b>First Data Page</b>	1
<b>Max Obs per Page</b>	2039
<b>Obs in First Data Page</b>	5
<b>Number of Data Set Repairs</b>	0
<b>ExtendObsCounter</b>	YES
<b>Filename</b>	J:\CLASSES\STAT46\lab2.sas7bdat
<b>Release Created</b>	9.0401M4
<b>Host Created</b>	X64_SR12R2
<b>Owner Name</b>	AMERICAN\zardi
<b>File Size</b>	128KB
<b>File Size (bytes)</b>	131072

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Label
3	DOB	Num	8	DATE9.	Date of Birth
2	Gender	Char	1		
4	Height	Num	8		
1	ID	Char	3		
5	Weight	Num	8		Weight in pounds

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	ID	Char	3		
2	Gender	Char	1		
3	DOB	Num	8	DATE9.	Date of Birth
4	Height	Num	8		
5	Weight	Num	8		Weight in pounds

With the “Position” option, the output presents again the same two first tables as before but this time two tables of variables and their attributes are presented one in alphabetical order and the other one the variables are presented in the order of their creation.