

1. Which of the statements is TRUE regarding the following code used to produce a model of storm data?

```
Title 'Model of Min Pressure/Max Wind';  
PROC REG DATA=pg1.storm_final;  
MODEL maxwindmph=minpressure;  
CODE FILE = "&path.stormmodel.sas";  
RUN;  
QUIT;
```

- A. You must have a SAS STAT license to run the above procedure.
- B. Maxwindmph is the dependent variable of the model.
- C. CODE FILE = "&path.stormmodel.sas" writes a DATA STEP for predicting values according to the fitted model that is created.
- D. The QUIT statement tells SAS terminate the PROC REG procedure.
- E. All of the above.

2. Which one of the following options in the TABLES statement can be used to create a two-way frequency table like this?

2	3	4
6.25	12.50	6.25
25.00	50.00	25.00
100.00	50.00	33.33
0.00	0.00	12.50
0.00	0.00	50.00
0.00	0.00	66.67

- A. NOROW
- B. NOCOL
- C. NOFREQ
- D. NOPERCENT

3. Using the cars data set in sashelp, how would you transpose the data with MSRP as the column to be transposed and having cylinder size as the column name and models as the row name for the new transposed data set?

A. `proc transpose data= cars out = cars_transposed;
id MSRP;
by Model;
var Cylinders;
run;`

B. `proc transpose data= cars out = cars_transposed(drop=_NAME_);
id Cylinders;
by Model;
var MSRP;
run;`

C. `proc transpose data= cars out = cars_transposed;
id Model;
by MSRP;
var Cylinders;
run;`

D. `proc transpose data= cars out = cars_transposed(drop=_NAME_);
id Model;
by MSRP;
var Cylinders;
run;`

E. `proc transpose data= cars out = cars_transposed;
id Model;
by Cylinders;
var MSRP;
run;`

F. `proc transpose data= cars out = cars_transposed(drop=_NAME_);
id MSRP;
by Cylinders;
var Model;
run;`

4. If we want to convert the wide table to narrow table and get the result as showed below, which code(s) is(are) correct?

Season	Basin	Name	Wind1	Wind2	Wind3	Wind4
1980	EP	AGATHA	100	95	90	85
1980	EP	BLAS	50	50	50	45
1980	EP	CELIA	65	65	65	65



Season	Basin	Name	WindRank	WindMPH1
1980	EP	AGATHA	Wind1	100
1980	EP	AGATHA	Wind2	95
1980	EP	AGATHA	Wind3	90
1980	EP	AGATHA	Wind4	85
1980	EP	BLAS	Wind1	50
1980	EP	BLAS	Wind2	50
1980	EP	BLAS	Wind3	50
1980	EP	BLAS	Wind4	45
1980	EP	CELIA	Wind1	65
1980	EP	CELIA	Wind2	65
1980	EP	CELIA	Wind3	65
1980	EP	CELIA	Wind4	65

- A. `proc transpose data=pg2.storm_top4_wide name=WindRank
 prefix=WindMPH1;
 by Season Basin Name;
 var wind1-wind4;
run;`
- B. `proc transpose data=pg2.storm_top4_wide name=WindRank
 prefix=WindMPH;
 by Season Basin Name;
 var wind1-wind4;
run;`
- C. `proc transpose data=pg2.storm_top4_wide name=WindRank
 out=storm_rotate(rename=(col1=WindMPH));
 by Season Basin Name;
 var wind1-wind4;
run;`
- D. `proc transpose data=pg2.storm_top4_wide name=WindRank
 out=storm_rotate(rename=(col1=WindMPH1));
 by Season Basin Name;
 var wind1-wind4;
run;`

5. The proc transpose function will automatically transpose certain columns. If you were given the following data set (heart.sasbdat7 from sas cert data):

Obs	Patient	Sex	Survive	Shock	Arterial	Heart	Cardiac	Urinary
1	203	1	SURV	NONSHOCK	88	95	66	110
2	54	1	DIED	HYPOVOL	83	183	95	0
3	664	2	SURV	CARDIO	72	111	332	12
4	210	2	DIED	BACTER	74	97	369	0
5	101	2	DIED	NEURO	80	130	291	0
6	102	2	SURV	OTHER	87	107	471	65
7	529	1	DIED	CARDIO	103	106	217	15

What result would you see if someone used the following code to only accesses proc transpose's default settings.

```
proc transpose data=cert.heart;
Run;
```

a)

Obs	_NAME_	_203	_54	_664	_210	_101	_102	_529
1	Sex	1	1	2	2	2	2	1
2	Survive	SURV	DIED	SURV	DIED	DIED	SURV	DIED
3	Shock	NONSHOCK	HYPOVOL	CARDIO	BACTER	NEURO	OTHER	CARDIO
4	Arterial	88	83	72	74	80	87	103
5	Heart	95	183	111	97	130	107	106
6	Cardiac	66	95	332	369	291	471	217
7	Urinary	110	0	12	0	0	65	15

b)

Obs	_NAME_	COL1	COL2	COL3	COL4	COL5	COL6	COL7
1	Sex	1	1	2	2	2	2	1
2	Survive	SURV	DIED	SURV	DIED	DIED	SURV	DIED
3	Shock	NONSHOCK	HYPOVOL	CARDIO	BACTER	NEURO	OTHER	CARDIO
4	Arterial	88	83	72	74	80	87	103
5	Heart	95	183	111	97	130	107	106
6	Cardiac	66	95	332	369	291	471	217
7	Urinary	110	0	12	0	0	65	15

c)

Obs	_NAME_	_203	_54	_664	_210	_101	_102	_529
1	Sex	1	1	2	2	2	2	1
2	Arterial	88	83	72	74	80	87	103
3	Heart	95	183	111	97	130	107	106
4	Cardiac	66	95	332	369	291	471	217
5	Urinary	110	0	12	0	0	65	15

d)

Obs	_NAME_	COL1	COL2	COL3	COL4	COL5	COL6	COL7
1	Sex	1	1	2	2	2	2	1
2	Arterial	88	83	72	74	80	87	103
3	Heart	95	183	111	97	130	107	106
4	Cardiac	66	95	332	369	291	471	217
5	Urinary	110	0	12	0	0	65	15

6. The *car* data set is listed below:

Make	Model	Type	CarWeight (LBS)	Group
Audi	A4	Sedan	3252	G1
Audi	A6	Sedan	3561	G2
Audi	RS	Sports	4024	G3
Audi	TT	Sports	3131	G4
BMW	325i	Sedan	3219	G1
BMW	525i	Sedan	3428	G2
BMW	M3	Sports	3415	G3
BMW	Z4	Sports	2932	G4

Run the following code:

```
proc sort data=car out=car_narrow;
```

Code A;

```
run;
```

```
proc transpose data=car_narrow out=car_wide;
```

id group;

Code B;

```
run;
```

```
proc print data=car_wide(drop=_name_) noobs;
```

```
run;
```

How can we get the following result?

Make	G1	G2	G3	G4
Audi	3252	3561	4024	3131
BMW	3219	3428	3415	2932

- | | |
|--------------------------------|-----------------------------|
| A. Code A: by make; | Code B: by make; |
| B. Code A: by descending make; | Code B: by make; |
| C. Code A: by descending make; | Code B: by descending make; |
| D. Code A: by make; | Code B: by descending make; |

7. When will the loop below stop executing?

```
do years=1 to 5 until (payment=2000);  
    payment = (payment + 1000) * 1.01;  
end;
```

- When year is greater than 5
- When payment equals 2000
- (a) or (b), whichever is met first
- None of the above

8. Which of the following code correctly create a temporary output table after performing transpose process on class dataset from sashelp library?

- a.

```
proc transpose data=sashelp.class;  
                out=work.class_t;  
                id Name;  
                var Height Weight;  
run;
```
- b.

```
proc transpose data=sashelp.class  
                out=sashelp.class_t;  
                id Name;  
                var Height Weight;  
run;
```
- c.

```
proc transpose data=sashelp.class  
                out=class_t;  
                id Name;  
                var Height Weight;  
run;
```
- d. None of the above

9. Review the following datastep. The dataset *example.temp1* has the numeric variables *income_month1-income_month12* and *total_income*:

```
data example.temp2;  
  set example.temp1;  
  array income_month {*} |-----1-----|;  
  array |-----2-----| {12} 8.;  
  do i=1 to dim(income_month_pcts);  
    income_month_pcts(i)=100*|-----3-----|/total_income;  
    |-----4-----|;  
  run;
```

Select the answer that fills in the blanks (|-----1, 2, etc.-----|) so that this datastep references the income month count variables, creates 12 new variables for the percentages the monthly percentages of the *total_income* variable:

- A) 1: income1-12. 2: income_month. 3: i. 4: end.
- B) 1: income_month:. 2: income_month_pcts. 3: income_month(i). 4: end.
- C) 1: income_month1-income_month12. 2: i. 3: income_month(j). 4: quit.
- D) 1: income_month:. 2: income_month_pcts. 3: income_month(i). 4: quit.

10. In the following code, which of the following must hold true:

```
DATA combined_data;  
    MERGE df1 df2;  
    BY merge_id;  
RUN;
```

- a) “merge_id” must exist in both df1 and df2 and be of the same type
- b) df1 and df2 must both be sorted by “merge_id”
- c) “merge_id” must be a categorical variable
- d) All of the above
- e) Both a) and b)

11.

A company does quarterly inventory. Each store independently reports their inventory list. Which DATA step is correctly concatenating the data sets to make a PDV without creating additional column?

Store01 Inventory for 2020 1st Quarter

Item#	Description	Quantity
75031	Shoes	140
61344	Jean	265
53612	Polo shirt	341
⋮	⋮	⋮

Store02 Inventory for 2020 1st Quarter

Item#	Description	Unit
75415	Boots	101
10054	Sweater	57
53432	Dress	221
⋮	⋮	⋮

- a.

```
data inv20q1;  
set str01q1(rename=(quantity=qty))  
   str02q1(rename=(unit=each));  
run;
```
- b.

```
data inv20q1;  
set str01q1(rename=(quantity=qty))  
   str02q1(rename=(unit=qty));  
run;
```
- c.

```
data inv20q1;  
set str01q1 str02q1;  
rename str01q1(quantity=amt)  
       str02q1(unit=amt);  
run;
```
- d.

```
data inv20q1;  
set str01q1  
   str02q1(rename=(quantity=unit unit=unit));  
run;
```

12. I have a data set that looks like:

Col. Row	Name	Pet	Number of Pets	Last.Pet
1	Anna	Cat	2	?
2	Anna	Dog	1	?
3	Doug	Dog	3	?
4	Zoe	Fish	2	?

I sort my data 'by Name Pet' (in that order). If another add a column for Last.Pet, what rows would have a '1' in that column?

Options:

- A. All of the rows. The primary variable forces the secondary variable to have a '1'
- B. Rows 1, 3, and 4. The rows when the secondary variable has its last observation is when the Last.Pet variable will have a '1'
- C. All of the rows. Each primary variable and secondary variable combination is unique
- D. Row 4. Only the last row of a data set will have a '1' for Last.Pet

13. Suppose I want to document the details of a saved character format called 'myfmt' that is stored in library 'mylib'. Which of the following accomplishes this goal? ("run;" statements omitted for clarity, assume these are present for all answers).

- A. `proc print data = mylib.myfmt;`
- B. `proc contents data = mylib.myfmt;`
- C. `proc format data = mylib; select $myfmt;`
- D. `proc format library = mylib fmtlib; select $myfmt;`

14. The order in which SAS searches for requested formats when you specify options `fmtsearch = (abcfmt mnofmt xyzfmt)` is

- 1) `work.formats, library.formats, abcfmt.formats, mnofmt.formats, xyzfmt.formats`
- 2) `abcfmt.formats, mnofmt.formats, xyzfmt.formats`
- 3) `abcfmt.formats, mnofmt.formats, xyzfmt.formats, work.formats, library.formats`
- 4) `work.abcfmt, work.mnofmt, work.xyzfmt, work.formats`
- 5) `work.abcfmt, work.mnofmt, work.xyzfmt`

15. By default, when we use a format that SAS cannot load, SAS issues an error message and stops processing the step. With what system option(s) SAS will go ahead and process the file despite the fact that it does not have the format library?

- a. FMTSEARCH
- b. FMterr
- c. NOFMterr
- d. Both a. and b.
- e. Both a. and c.
- f. None of the above.

16. Given that the format created below is successfully applied to a character variable with the following values:

"L", "M", "H", "VH", and missing

which of the following is true regarding the printed format of the "VH" and missing values?

```
proc format;  
  value $risk  
    "L" = "Low"  
    "M" = "Medium"  
    "H" = "High"  
    "other" = "Unknown";  
run;
```

- A. Only the "VH" values will be displayed as Unknown
- B. Only the missing values will be displayed as Unknown
- C. Both the "VH" and missing values will be displayed as Unknown
- D. Neither the "VH" nor the missing values will be displayed as Unknown

17. When the below procedure is run,

```
proc print data=sashelp.cars (obs=100);
```

```
  where origin='America';
```

```
  var Make Model MSRP Origin;
```

```
run;
```

- (A) Observation 100 is printed
- (B) Observation 100 where origin='America' is printed
- (C) The first 100 observations are printed
- (D) The first 100 observations where origin='America' is printed

18. Which of the following steps can be used to successfully apply temporary labels to the selected variables in the data set sashelp.stocks?

- A. `proc print data=sashelp.stocks label;`
 `var stock date volume;`
 `format date monname.;`
 `label stock="Company" date="Month" volume="Number of Shares";`
`run;`
- B. `proc print data=sashelp.stocks label;`
 `var stock date volume;`
 `format date monname.;`
`run;`
- C. `proc print data=sashelp.stocks;`
 `var stock date volume;`
 `format date monname.;`
 `label stock="Company" date="Month" volume="Number of Shares";`
`run;`
- D. `data stocks;`
 `set sashelp.stocks;`
 `var stock date volume;`
 `format date monname.;`
 `label stock="Company" date="Month" volume="Number of Shares";`
`run;`

19. Which of the following correctly prints the temporary data set and shows permanent labels?

a) data work.tx;
 set mylib.alltx;
 label PEOPLE_POSITIVE_CASES_COUNT="Cases";
RUN;
proc print data=work.tx label;
run;

b) data work.tx;
 set mylib.alltx;
 label PEOPLE_POSITIVE_CASES_COUNT="Cases";
RUN;
proc print data=mylib.alltx label;
run;

c) data work.tx;
 set mylib.alltx;
 label PEOPLE_POSITIVE_CASES_COUNT="Cases";
RUN;
proc print data=work.tx label=cases;
run;

d) data work.tx;
 set mylib.alltx;
 label PEOPLE_POSITIVE_CASES_COUNT="Cases";
RUN;
proc print data=work.tx label="cases";
run;

20. Based on the following code, which of the following classification variables determines which page the data is tabulated in?

```
proc tabulate data=sashelp.cars;  
class origin Type Make;  
table Type, Make all, Origin;  
run;
```

- A. Origin
- B. Make
- C. Type
- D. All

21. Below is the temporary data set 'class'.

Obs	Name	Score1	Score2	Score3	Homework
1	DEREK	72	64	56	32
2	LINDA	53	60	66	42
3	MICHAEL	80	55	95	50
4	KATHY	98	82	100	48

If you run the code below, which of the following would be the result?

```
proc print data=class;  
    var homework;  
    by name;  
run;
```

- (A) The code would run without errors and print the homework data on one page with a separate table for each name.
- (B) The code would run without errors and print the homework data for each name on a separate page.
- (C) The code would produce an error because the homework column is not sorted in ascending order.
- (D) The code would produce an error because the name column is not sorted in alphabetical order.

22. Which of the following are not one of the key takeaways for the course?

- a) Know thy data.
- b) Pay attention to detail.
- c) An error-free log means that results are correct.
- d) Think!

23. Pick the correct search order for the following

Options FMTSEARCH=(MYLIB.MYFMTS WORK.formats LIBRARY.formats) ;

- A) Work.Formats mylib.myfmts Library.Formats
- B) mylib.myfmts Worker.Formats Library.Formats
- C) Work.Formats Library.Formats mylib.myfmts
- D) mylib.myfmts Work.Formats Library.Formats

24. Q: which one is correct to get the result shown in the table below without getting any error or warning? Note: The “air” data set has two variables: DATE and AIR, the original label of “AIR” is “international airline travel (thousands)”

Obs	Date	International Airline Travel (thousands)
1	JAN49	112
2	FEB49	118

- a)
proc print data=sashelp.air (obs=2) split='**';
label date='Date'
air='International Airline**Travel (thousands)';
run;
- b)
proc print data=sashelp.air (obs=2) split='*';
label date='Date'
air='International Airline*Travel (thousands)';
run;
- c)
proc print data=sashelp.air (obs=2) label;
label date='Date'
air='International Airline Travel (thousands)';
run;
- d)
proc print data=sashelp.air (obs=2) split='@';
label date='Date'
air='International Airline@Travel (thousands)';
run;
- e)
proc print data=sashelp.air (obs=2) label;
run;

25.

Cars		
Make	Model	MSRP
Acura	MDX	\$36,945
Acura	RSX Type S 2dr	\$23,820
Acura	TSX 4dr	\$26,990
Acura	TL 4dr	\$33,195
Acura	3.5 RL 4dr	\$43,755
Acura	3.5 RL w/Navigation 4dr	\$46,100
Acura	NSX coupe 2dr manual S	\$89,765
Audi	A4 1.8T 4dr	\$25,940
Audi	A4 1.8T convertible 2dr	\$35,940
Audi	A4 3.0 4dr	\$31,840

Question: Which code will produce this output? (Note that this is only displaying the first 10 lines of the output)

---A---

```
PROC PRINT data = sashelp.cars;
    noobs;
    var Make Model MSRP;
    title "Cars";
RUN;
```

---B---

```
PROC PRINT data = sashelp.cars;
    var Make Model MSRP;
    title "Cars";
RUN;
```

---C---

```
PROC PRINT data = sashelp.cars;
    var Make Model MSRP noobs;
    title "Cars";
RUN;
```

---D---

```
PROC PRINT data = sashelp.cars noobs;
    var Make Model MSRP;
    title "Cars";
RUN;
```

26. Given the following code, what is the value of d?

```
data floortest;
    a=floor(3.5);
    b=floor(-3.9);
    c=floor(2);
    d=a+b+c;
run;
```

- a) 2
- b) 1.6
- c) 1
- d) 0
- e) There is a syntax error.
- f) missing

27.

```
data final;
var1=11;
var2=13;
var3=9;
var4=.;
var5=7;
total_1=sum(var1,var2, var3, var4, var5);
total_2=var1+var2+var3+var4+var5;
total_3=sum(of var1-var5);
count=n(of var1-var5);
run;
```

Which of the following is correct regarding the variables total_1, total_2, total_3, and count?

A.

total_1	total_2	total_3	count
40	40	40	4

B.

total_1	total_2	total_3	count
40	.	40	5

C.

total_1	total_2	total_3	count
40	.	40	4

D.

total_1	total_2	total_3	count
40	40	40	1

28. Using ROUND functions below, which one has the smallest result?

- a. newvar=round(6.5);
- b. newvar=round(6.87,0.25);
- c. newvar=round(7.24,0.5);
- d. all of them are the same.

29.

```

DATA Howdy;
  Var1=-6.89;
  IntVar1=int(Var1);
  Var2=6.01;
  IntVar2=int(Var2);
  Var3= 5.99;
  IntVar3=int(Var3);
  Put Var1 Var2 Var3;
run;

```

Which following output is correct based on the code?

	Var1	IntVar1	Var2	IntVar2	Var3	IntVar3
A.	1	-6.89	-7	6.01	7	5.99
B.	1	-6.89	-6	6.01	6	5.99
C.	1	-6.89	-7	6.01	6	5.99
D.	1	-6.89	-6	6.01	7	5.99

30. Q – Consider the following business case and answer the question accordingly
 Aggie Inc needs to get the revenue reports to it's parent company. The data analysts in the firm are using SAS and working on the revenue data. They need to show the change in revenue over the last five years and plot the sales of their flagship hat and joggers in the same report. The analysts want to stack the product plots in a single report so that it makes for an intuitive reading and compare the company profits vis-à-vis the performance of hats and joggers. What is the best plotting option for the analysts of Aggie Inc.

- Use SGPLOT to publish individual plots the company trajectory, hat sales and jogger sales
- Use SGPPANEL to publish the plots the company trajectory, hat sales and jogger sales
- Use SGPPANEL to plot the product inventories and SGPLOT to plot company revenue
- Use SGPLOT to plot the product inventories and SGPPANEL to plot company revenue

31. Please select incorrect PROC SGPanel commands

a.

```
title 'Covid Trend';  
proc sgpanel data=covid_daily_data;  
vbar date / response = Covid_Positive_Cases;  
vline date / response = Covid_Total_Cases;  
run;
```

b.

```
title 'Covid Trend';  
proc sgpanel data=covid_daily_data;  
hbar date / response = Covid_Positive_Cases;  
hline date / response = Covid_Total_Cases;  
run;
```

c.

```
title 'Positive Covid by State';  
proc sgpanel data=covid_daily_data;  
panelby State;  
scatter x= Covid_Positive_Cases y=Age;  
run;
```

d.

```
title 'Positive Covid by State';  
proc sgpanel data=covid_daily_data;  
panelby State;  
scatter x= Covid_Positive_Cases y=Age;  
hline date / response = Covid_Total_Cases;  
run;
```

32. Q – Consider the Output statement and its related options in PROC MEANS procedure and choose all that answers which apply

What are the default measurements which PROC MEANS outputs in a dataset?

- a) – Total Number
- b) – Min
- c) – Max
- d) – Inter Quartile Range
- e) – Standard Deviation
- f) – Mean
- g) – Mode

33. Question

Which of the following code snippet will result in the below output

The SAS System		
Item table		
	Finish	
	maple	oak
	N	N
Style		
pedestal	2	2

Options

A:

```
proc tabulate data=cert.furniture;
class style item finish ;
table item , style, finish ;
run;
```

B.

```
proc tabulate data=cert.furniture;
class finish style item ;
table item , finish ,style;
run;
```

C.

```
proc tabulate data=cert.furniture;
class style item finish ;
table style, finish, item ;
run;
```

D.

```
proc tabulate data=cert.furniture;
class style finish item ;
table finish ,item , style;
run;
```

34. Which code will display the 10 lowest and 10 highest values for the variable "price" in the "holiday.gifts" data set, including the values for the identifying variable "gift_ID"?

- A.

```
proc univariate data = holiday.gifts;  
    nextrobs = 10;  
    var gift_ID;  
    id price;  
run;
```
- B.

```
proc univariate data = holiday.gifts;  
    var price;  
    id gift_ID;  
run;
```
- C.

```
proc print data = holiday.gifts (obs = 10);  
    var price gift_ID;  
run;
```
- D.

```
proc univariate data = holiday.gifts;  
    nextrobs = 10;  
    var price;  
    id gift_ID;  
run;
```
- E.

```
proc print data = holiday.gifts;  
    nextrobs = 10;  
    var price;  
    id gift_ID;  
run;
```

35. In the transpose procedure, how would the following statement affect the output dataset? (Assume that the variable Name only has unique values and that the input dataset is sorted by Name)

id Name;

- A. The first column, _NAME_, will contain the value "Name"
- B. Each value of the Name variable will correspond to a column name
- C. Each row will correspond to each value of the Name variable, with duplicates for each of the variables in the "var" statement
- D. None of the above. "id Name;" is not a valid statement in the transpose procedure.

36. Suppose you have a data set called 'Cardiovascular' that describes the rate of heart attacks in the US population for 2019 by demographic characteristics. Choose the correct set of commands if you were trying to display heart attack rates based on age and separated into two tables—one for males and one for females. Currently the data is sorted by Gender only, not by Age or HeartAttack rate. The age categories include <35-year-old, 35 to <45-year-old, 45 to <55-year-old, 55 to <65-year-old, and >=65-year-old.

- A. Proc means data=Cardiovascular;
Class HeartAttack;
Var Gender Age;
Run;
- B. Proc means data=Cardiovascular;
Var HeartAttack;
Class Age;
By Gender;
Run;
- C. Proc means data=Cardiovascular;
Sort Age;
Class Gender;
Var HeartAttack;
By Age;
Run;
- D. Proc means data=Cardiovascular;
Sort Age Gender;
Var Age;
Class Gender;
By HeartAttack;
Run;

37. What Are the default analysis statistics for the Proc Means Procedure?

- A: N, Mean, Standard Deviation, Minimum and Maximum
- B: Expected Value, Mean, Standard Deviation
- C: Variance, Mean, Minimum
- D: Quartile 1, Quartile 2, Quartile 3, Quartile 4

38. Given the following code, which of the following is the correct output?

```
proc means data=orion.sales min max MAXDEC=2 ;
    var salary;
    class gender country;
run;
```

a)

Analysis Variable: Salary				
Gender	Country	N Obs	Minimum	Maximum
F	AU	58	257.4	385.0
	US	32	620.7	717.9
M	AU	67	482.2	534.0
	US	23	270.0	618.6

b)

Analysis Variable: Salary				
Gender	Country	N Obs	Minimum	Maximum
F	AU	58	257.40	385.00
	US	32	620.74	717.87
M	AU	67	482.21	534.00
	US	23	270.04	618.59

c)

Analysis Variable: Salary			
Gender	Country	Minimum	Maximum
F	AU	257.40	385.00
	US	620.74	717.87
M	AU	482.21	534.00
	US	270.04	618.59

d)

Analysis Variable: Salary				
Gender	Country	Minimum	Maximum	Sum
F	AU	257.4	385.0	860.4
	US	620.7	717.9	2058.6
M	AU	482.2	534.0	1528.2
	US	270.0	618.6	1213.6

39. Question: Which PROC FREQ step creates the output shown here?

The SAS System		
The FREQ Procedure		
Number of Variable Levels		
Variable	Levels	
x	4	

x	Frequency	Percent
2	3	37.50
3	2	25.00
5	1	12.50
6	2	25.00

- [A] **proc freq** data=work.example1;
 tables x;
 run;
- [B] **proc freq** data=work.example1 nlevels;
 tables x/nocum;
 run;
- [C] **proc freq** data=work.example1 nlevels;
 tables x/noprint;
 run;
- [D] **proc freq** data=work.example1 nlevels;
 tables x nocum;
 run;

40. Given the follow codes, choose the correct output table:

```
proc transpose data = fish name = Biometrics prefix = Specimen;
var length1 length2 length3;
by Species Weight;
run;
```

a.

Species	Weight	_NAME_	Specimen1	Specimen2	Specimen3
Bream	242	Length1	23.2	.	.
Bream	242	Length2	25.4	.	26
Bream	242	Length3	30	.	.

B.

Species	Weight	Specimen	Biometrics1	Biometrics2	Biometrics3
Bream	242	Length1	23.2	.	.
Bream	242	Length2	25.4	.	26
Bream	242	Length3	30	.	.

C.

Species	Biometrics	_NAME_	Specimen1	Specimen2	Specimen3
Bream	242	Length1	23.2	.	.
Bream	242	Length2	25.4	.	26
Bream	242	Length3	30	.	.

D.

Species	Weight	Biometrics	Specimen1	Specimen2	Specimen3
Bream	242	Length1	23.2	.	.
Bream	242	Length2	25.4	.	26
Bream	242	Length3	30	.	.

E. None of the above

41. You want to define an array to create three variables that will later be used to calculate monthly points. Which statement may generate an error?

- a) array Points{*} Month1 Month2 Month3;
- b) array Points{3} Month1 Month2 Month3;
- c) array Points{3} Month;;
- d) array Points{3} Month4 February Month1;
- e) All of these will assign the array

42. If you want to sort a permanent data file stored in a library named NICELIB by age and height and have no duplicates what statement is correct?

A.

```
proc sort data=NICELIB
    Nodupkey;
    by Age Height;
run;
```

B.

```
proc sort data=TeamBuild
    Nodupkey;
    by Height Age;
run;
```

C.

```
proc sort data= NICELIB. TeamBuild
    Nodupkey;
    by Age Height;
run;
```

D.

```
proc sort data= NICELIB. TeamBuild
    Nodupkey
    by Height Age;
run;
```

43. Given the following Array statement, what would you expect to see in the Program Data Vector, provided the variable QTRChange does not already exist?

```
array QTRChange{4};
```

- a) Nothing writes to the PDV, and an error message is logged. Since no variables named QTRChange exists, they cannot be added as elements in an array.
- b) Variables QTRChange1, QTRChange2, QTRChange3, QTRChange4 added to the PDV with numeric data type:

QTRChange1	QTRChange2	QTRChange3	QTRChange4
N8	N8	N8	N8

a.

- c) Variables QTRChange1, QTRChange2, QTRChange3, QTRChange4 added to the PDV with character data type:

QTRChange1	QTRChange2	QTRChange3	QTRChange4
\$ 200	\$ 200	\$ 200	\$ 200

a.

- d) Nothing writes to the PDV. Since no variables were listed – just an array with name QTRChange and length 4 was provided – no data can be added to the PDV.

44. Observe the statements below and determine what statements are TRUE about SAS Arrays.

- I. An array is not a variable.
- II. An array name is used to access specific observations/rows in a particular order.
- III. SAS variables are grouped together temporarily that are accessed by a variable name.
- IV. Once an array is created, it will remain during the duration of all DATA steps that follows.
- V. Arrays can only contain all numeric or all character variables.

- a. I, IV, III
- b. I,V
- c. I,II,IV
- d. I, II,V
- e. I,III

45. Which is invalid about interactive and conditional DO Loops?

- a. The DO loop only stops with the stop value is exceeded
- b. The bottom of the loop is where the condition is checked before the index column is incremented.
- c. The DO Loop stops execution with the condition is met.
- d. Both a and c.

46. Question: The data below represents four people Bob owes money to:

Name	Money_Owed	Money_Given
Joe	50	50
Cory	60	0
Brenda	70	0
Alexis	80	0

This dataset above is called "Debts". Bob can't do math and wants to see how many months it will take for him to pay off each person if he can only pay each person 10 dollars a month. Notice that Bob already paid Joe 50 dollars. Look at the desired data set below and check the box next to answers A-D that has code that would output the desired data set. Check E if none of the code creates the desired data set.

Name	Money_Owed	Money_Given	Months
Joe	50	50	0
Cory	60	60	6
Brenda	70	70	7
Alexis	80	80	8

- ☐a. data Debts;
 set Debts;
 Months=0;
 do until (Money_Given>Money_Owed);
 Months+1;
 Money_Given+10;
 End;
Run;
- ☐b. data Debts;
 set Debts;
 Months=0;
 do until (Money_Given>Money_Owed-10);
 Months+1;
 Money_Given+10;
 END;
Run;
- ☐c. data Debts;
 set Debts;
 Months=0;
 do while (Money_Given<=Money_Owed-10);
 Months+1;
 Money_Given+10;
 END;
RUN;
- ☐d. data Debts;
 set Debts;
 Months=0;
 do while (Money_Given<Money_Owed);
 Months+1;
 Money_Given+10;
 End;
Run;
- ☐e. None of the above code would produce the desired output.

47. Question:

After creating a new dataset Work.Electricity from ordering the sashelp.Electric dataset by date, which of the following codes will allow SAS to run without errors **and** create a temporary dataset with a column called "AvgRevenue" for a particular set of years? There may be more than one correct answer. (The years are in the appropriate numeric format for all answers.)

- A. data work.Electric;
 set work.Electricity;
 do Year = 1994 to 2000 by 2;
 AvgRevenue = Revenue/2;
 output;
 end;
run;
- B. data work.Electric;
 set work.Electricity;
 do Year = 1994 to 2000;
 AvgRevenue = Revenue/2;
 output;
run;
- C. data work.Electric;
 set work.Electricity;
 do Year = 1994 to 2000;
 AvgRevenue = Revenue/2;
 output;
 end;
run;
- D. data work.Electric;
 set work.Electricity;
 do Year = 1994 1995 1996 1997 1998 1999 2000;
 AvgRevenue = Revenue/2;
 output;
 end;
run;

48. We are looking to merge the following data sets which represent three consecutive years of employee data (notice missing values in the final two columns in the second and third years). Since it's a small office you happen to know that neither the number of dependents nor the marital status have not changed since the first year of data. Salaries have been frozen for as long as records have been kept.

(EMP2016)	Obs	Employee_ID	Salary	HireDATE	marital_status	dependents
	1	120345	90125	1325	S	0
	2	368093	86064	-2468	M	2
	3	748329	32400	6023	S	1
(EMP2017)	Obs	Employee_ID	Salary	HireDATE	Marital_Status	dependents
	1	120345	90125	1325	S	0
	2	368093	86064	-2468	M	.
	3	748329	32400	6023	S	1
(EMP2018)	Obs	Employee_ID	Salary	HireDATE	marital_status	dependents
	1	120345	90125	1325	S	0
	2	368093	86064	-2468	.	2
	3	748329	32400	6023	S	.

We merge the three sets into a set called emp_current with the following data step:

```
Data emp_current;
```

```
    Merge emp2016, emp2017, emp2018;
```

```
    by employee_id;
```

```
run;
```

What can we change to assure full and correct data in emp_current? (check all that apply)

- A) Use an **OVERRIDE** statement instead of a **MERGE** statement as this will not overwrite existing data with missing values.
- B) Include “**(drop= marital_status dependents)**” to both emp2017 and emp2018 in the merge statement.
- C) Before running this step, be sure to sort by **marital_status dependents** as SAS automatically places missing values as the smallest in an ascending list.
- D) Use an **UPDATE** statement instead of a **MERGE** statement as this will not overwrite existing data with missing values.
- E) Since no other data has changed and as SAS joins the non-BY common variables are overwritten from the right, in this instance we can just reverse the order of the emp2016, emp2017, and emp2018 in our merge statement

49. You have three data sets, **people**, **course**, and **registration**, that share common variables as such:

people and **registration** share **Person_ID**

registration and **course** share **Course_ID**

Based on the methods reviewed in this course, what steps would you follow to combine data from all three sets into one final set?

- a) in one DATA step, MERGE all three data sets by **Person_ID** and **Course_ID**
- b) in one PROC IMPORT step, import matching data from **people** into **registration**, and then in a DATA step, MERGE the results with **course** by **Course_ID**
- c) in one PROC SORT step, combine the data from **people** and **registration** by **Person_ID**, and then in a DATA step, MERGE the results with **course** by **Course_ID**
- d) in one DATA step, MERGE **people** and **registration** by **Person_ID**, and then in a second DATA step, MERGE the results with **course** by **Course_ID**
- e) in one DATA step, MERGE **people** and **registration** by **Course_ID**, and then in a second DATA step, MERGE the results with **course** by **Person_ID**

50. Which one is correct regarding to output to multiple data sets?

```
data EmpsAUC EmpsOnly PhoneOnly;
  merge EmpsAU(in=Emps) PhoneC(in=Cell);
  by EmpID;
  if Emps=1 and Cell=1
    then output EmpsAUC;
  else if Emps=1 and Cell=0
    then output EmpsOnly;
  else if Emps=0 and Cell=1
    then output PhoneOnly;
run;
```

- a. Emps is permanent variable in EmpsAU;
- b. Emps is permanent variable in EmpsOnly;
- c. Emps is a temporary variable;
- d. EmpsAU and PhoneC are not sorted by EmpID before output to multiple data sets.

51.

information

Name	Gender	ID
Key	M	11235
Lynn	F	11356
Richard	M	11249

shoes

ID	Number
11235	7
11249	8.5
15896	6.5

data information;

merge information (in = INFO)

shoes (in = SHOE);

by ID;

run;

How many INFOs do we get when we run the code?

- A. 0
- B. 1
- C. 2
- D. 3

52. Consider two data sets: one containing the student names in STAT604, and the other containing the results for different tests (where each test has its own row in the data set). Each data set has an ID column that identifies the unique student. Select the answer choice(s) that produce(s) the correct one to many merge on these two tables:

a)

```
data studentresults;  
    merge student results;  
    by ID;  
run;
```

b)

```
data studentresults;  
    merge results student;  
    by ID;  
run;
```

c)

```
data studentresults;  
    by ID;  
    merge student results;  
run;
```

d)

```
data studentresults;  
    merge student results  
    by ID;  
run;
```

53. Suppose that you are asked to find the arithmetic mean of a set of values, as shown:

```
1 data practice;  
2 Var1 = 13;  
3 Var2 = 8;  
4 Var3 = .;  
5 Var4 = 0;  
6 run;
```

Which of the following would return the mean of the non-missing values?

A)

```
1 data practice;  
2 Var1 = 13;  
3 Var2 = 8;  
4 Var3 = .;  
5 Var4 = 0;  
6 AvgVar = mean(Var1-Var4)  
7 run;
```

B)

```
1 data practice;  
2 Var1 = 13;  
3 Var2 = 8;  
4 Var3 = .;  
5 Var4 = 0;  
6 AvgVar = (Var1+Var2+Var3+Var4)/4  
7 run;
```

C)

```
1 data practice;  
2 Var1 = 13;  
3 Var2 = 8;  
4 Var3 = .;  
5 Var4 = 0;  
6 run;  
7 proc means data=practice;  
8 run;
```

D)

```
1 data practice;  
2 Var1 = 13;  
3 Var2 = 8;  
4 Var3 = .;  
5 Var4 = 0;  
6 AvgVar = mean(of Var1-Var4)  
7 run;
```


54. There are two data sets.

Given the SAS data set test1:

```
data test1;
length ID $5 Gender $3 Country$6;
input ID $ Gender $ Country $;
datalines;
11111 MEN France
33333 MEN France
44444 MEN France
;
```

Table test1:

ID	Gender	Country
11111	MEN	France
33333	MEN	France
44444	MEN	France

Given the SAS data set test2:

```
data test2;
length ID $5 Gender $6 Country$13 City $8;
input ID $ Gender $ Country $ City $;
datalines;
11111 Female United_States Houston
22222 Female United_States Dallas
44444 Female United_States Austin
;
```

Table test2:

ID	Gender	Country	City
11111	Female	United_States	Houston
22222	Female	United_States	Dallas
44444	Female	United_States	Dallas

The following program is submitted:

```
data testall;
set test1 test2;
by ID;
run;
```

What is the second observation in SAS data set testall?

A:

ID	Gender	Country	City
11111	Female	United_States	Houston

B:

ID	Gender	Country	City
11111	MEN	France	

C:

ID	Gender	Country	City
33333	MEN	France	

D:

ID	Gender	Country	City
11111	Fem	United	Houston

E:

ID	Gender	Country	City
33333	MEN	France	Houston

55. For which of the following sets will Newdata retain all observations, correctly matched as given in the two starting data sets, when they are combined with the code below? Choose all correct answers. (Assume no two people in this population have the same name).

```
DATA Newdata;  
    SET dataset1;  
    SET dataset2;  
RUN;
```

A.

Dataset1

	Name	Phone
1	Akers, Bob	555-1234
2	Atkins, Stephanie	555-3293
3	Bankston, Andrew	555-0101

Dataset2

	Name	Email
1	Akers, Bob	bob@mail.edu
2	Atkins, Stephanie	stephanie@mail.edu
3	Bankston, Andrew	andrew@mail.edu

B.

Dataset1

	Name	Phone	Email
1	Akers, Bob	555-1234	bob@mail.edu
2	Atkins, Stephanie	555-3293	stephanie@mail.edu
3	Bankston, Andrew	555-0101	andrew@mail.edu

Dataset2

	Name	Phone	Email
1	White, Howard	555-8888	howard@mail.edu
2	Wooland, Kate	555-3333	kate@mail.edu
3	Wutherby, Peter	555-2222	peter@mail.edu

C.

Dataset1

	Name	Phone
1	Akers, Bob	555-1234
2	Atkins, Stephanie	555-3293
3	Bankston, Andrew	555-0101

Dataset2

	Name	Email
1	Atkins, Stephanie	stephanie@mail.edu
2	Bankston, Andrew	andrew@mail.edu
3	Akers, Bob	bob@mail.edu

D.

Dataset1

	Name	Phone
1	Akers, Bob	555-1234
2	Atkins, Stephanie	555-3293
3	Bankston, Andrew	555-0101

Dataset2

	Name	Email
1	Akers, Bob	bob@mail.edu
2	Atkins, Stephanie	stephanie@mail.edu
3	Bankston, Andrew	andrew@mail.edu
4	Barrera, Anna	anna@mail.edu
5	Beard, Katherine	katherine@mail.edu
6	Bielamowicz, Sara	sara@mail.edu

56. Suppose the following code is run:

```
data march31;  
    set mylib.alltx (drop=pct_fatal_cases fatality_group);  
    where report_date = "31MAR2020"d;  
    drop report_date county_fips_number;  
    if _n_ = 1 then putlog _all_;  
run;
```

When examining the log, which of the following is true about the PDV? Assume the appropriate libref is assigned.

- A. All variables in mylib.alltx will be written to the log.
- B. All variables in mylib.alltx except pct_fatal_cases, fatality_group, report_date, and county_fips_number will be written to the log.
- C. All variables in mylib.alltx except pct_fatal_cases and fatality_group will be written to the log.
- D. All variables in mylib.alltx except report_date and county_fips_number will be written to the log.

57. PROC SORT DATA=sashelp.cars OUT=table1 **<OPTION>** DUPOUT=table2;

BY DESCENDING make;

RUN;

Which of the following options can be added to the code above (replacing the **<OPTION>** text) to show only the first occurrence of unique values in the "MAKE" column?

- A. NODUP
- B. where first.make
- C. NODUPKEY
- D. NODUPRECS

58. The data set Diabetes has the following variables:
Gender, Age, BMI, Income, Waist/Hip Ratio

We wish to create the following data sets, each with a different subset of the original variables:

New 1---Gender, Age

New 2---Gender, BMI, Income, Waist/Hip Ratio

New 3---Income, Waist/Hip Ratio, BMI

Which data statements below result in the following output data sets containing only the variables listed? Select all that apply.

1. data New 1(drop=BMI Income Waist/Hip Ratio)
New2(drop= Age)
New 3(drop= Gender Age);
set Diabetes;
run;
2. data New 1(keep=Gender Age)
New2(keep= Gender, BMI, Income, Waist/Hip Ratio)
New 3(keep= Income, Waist/Hip Ratio, BMI);
set Diabetes;
run;
3. data Diabetes;
set New 1(keep=Gender Age)
New2(keep= Gender, BMI, Income, Waist/Hip Ratio)
New 3(keep= Income, Waist/Hip Ratio, BMI);
run;
4. data Diabetes;
set New 1(drop=BMI Income Waist/Hip Ratio)
New2(drop= Age)
New 3(drop= Gender Age);
run;
5. data New 1(keep=Gender Age)
New2(drop= Age)
New 3(drop= Gender Age);
set Diabetes;
run;
6. data New 1(drop=Gender Age)
New2(keep= Age)
New 3(keep= Gender Age);
set Diabetes;
run;

59. Select the correct option for the logic to apply changes only in the last row of the group:

- a) Data players;
Set nba2020;
By Team;
If Team = last;
Salary = Salary*2;
Run;
- b) Data players;
Set nba2020;
By Team;
If last.Team = 1;
Salary = Salary*2;
Run;
- c) Data players;
Set nba2020;
By Team;
If Team = Team.last;
Salary = Salary*2;
Run;
- d) Data players;
Set nba2020;
By Team;
If Team.last = 1;
Salary = Salary*2;
Run;

60. Q. Which temporary variables are available for DATA step processing during the group processing using BY. But not added to the output data set?

- 1. FIRST.variable & LAST.variable
- 2. _NAME_ & _LABEL_
- 3. _N_ & _ERROR_
- 4. Both 1 & 3

61. Which of the following code below would be the most efficient way to correctly add a sum statement and create a new column named Total_Salaries to produce the given output?

```
data salary;
  set mylib.income;
  ???
run;
```

Income	Total_Salaries
23750	23750
21250	45000
26250	71250

- Total_Salaries = Total_Salaries + Income;
- Total_Salaries + Income;
- Total_Salaries + 23750;
- Total_Salaries = sum(Total_Salaries, Income);

62. What would you add to the following program to create column **NewPoints**?

```
data temp;
  set violation;
  ???
```

run;

	student_name	violation_id	points	NewPoints
1	John	1	10	90
2	John	2	5	85
3	John	3	5	80
4	John	4	10	70

- NewPoints = NewPoints – points;
- Retain NewPoints 90;
NewPoints = NewPoints – points;
- Retain NewPoints 100;
NewPoints = NewPoints – points;
- Retain NewPoints 90;
NewPoints = NewPoints + points;

63. Q. How can we save custom format in a permanent location?

- By default, it is saved in the permanent location.
- Use Library= option to save custom format in the permanent location
- Custom format can't be saved in the permanent location
- None of the above options are correct

64. We must define a format for a continuous range; however, we are not certain about the boundaries of the measurements.

What is the **best** option for formatting the lower value for the systolic blood pressure (for what is considered Normal Blood Pressure for the systolic measurement in mmHg)?:

a) Proc format;

```
Value systolic
  Min-<120    =    'Normal'
  ...
  ...
  ;
```

b) Proc format;

```
Value systolic
  Lower-<120  =    'Normal'
  ...
  ...
  ;
```

c) Proc format;

```
Value systolic
  Low-<120    =    'Normal'
  ...
  ...
  ;
```

d) Proc Format;

```
Value systolic
  90-<120     =    'Normal'
  ...
  ...
  ;
```


65. Let var1 be a numeric column variable containing historic temperature data from around Texas. Which of the following successfully creates the most appropriate Format? (Note: all temperatures are in Fahrenheit, where water freezes at 32 degrees)

A)

```
proc format
    value TempRange    -25-32 = "Freezing"
                        32<-85 = "Normal"
                        85<-115 = "Hot";

run;
```

B)

```
proc format;
    value TempRange    -25-32 = "Freezing"
                        32-85 = "Normal"
                        85<-115 = "Hot";

run;
```

C)

```
proc format;
    value TempRange    -25-32 = "Freezing"
                        32<-85 = "Normal"
                        85<-115 = "Hot";

run;
```

D)

```
proc format;
    value TempRange    -25-32 = "Freezing"
                        32<-85 = "Normal"
                        85<-High = "Hot";

run;
```

66. Which of the following segments of code successfully create a format that can be used to categorize percentages into 'None' (0 percent), 'Low' (from 0 to less than 1 percent), 'Medium' (1 to less than 10 percent), 'High' (10 percent to 50 percent)?

a. `proc format;`
`value Fatality_Rate`
`0 = 'None'`
`0-0.01='Low'`
`0.01-0.10='Medium'`
`0.10-0.50='High';`
`run;`

b. `proc format;`
`value Fatality_Rate`
`0 = 'None'`
`0<-<0.01='Low'`
`0.01-<0.10='Medium'`
`0.10-0.50='High';`
`run;`

c. `proc format;`
`value Fatality Rate`
`0 = 'None'`
`0-0.01='Low'`
`0.01-0.10='Medium'`
`0.10-0.50='High';`
`run;`

d. `proc format;`
`value Fatality_Rate`
`0 = 'None'`
`0-<0.01='Low'`
`0.01-<0.10='Medium'`
`0.10-0.50='High';`
`run;`

67. Question

When creating a format using PROC FORMAT, which of the following will NOT result in an error or incorrect creation of a SAS format?

Options

(i) PROC FORMAT;
VALUE \$char "F" = "Women's"
"M" = "Men's";
RUN;

(ii) PROC FORMAT;
VALUE char "F" = "Women's";
"M" = "Men's";
RUN;

(iii) PROC FORMAT;
VALUE char. 'F' = 'Women's'
'M' = 'Men's';
RUN;

(iv) PROC FORMAT;
VALUE \$char. 'F' = "Women's"
'M' = "Men's";
RUN;

68. Question: Which proc step produces a sorted output data set without overwriting the original data set?

- a. PROC SORT DATA=MYLIB.ALLTX ;
OUT=WORK.SORTED ;
BY COUNTY_NAME ;
- b. PROC SORT DATA=MYLIB.ALLTX
OUT=ALLTX.SORTED.PDF ;
BY COUNTY_NAME ;
- c. PROC SORT DATA=MYLIB.ALLTX NOREPLACE ;
BY COUNTY_NAME ;
- d. PROC SORT DATA=MYLIB.ALLTX
OUT=SORTED ;
BY COUNTY_NAME ;

69. Question: Which of the below PROC PRINT will yield a final 'VAR1' sum result different than the others?

```
LIBNAME MYLIB BASE "/FOLDERS/MYFOLDERS/CERT/INPUT/";  
PROC SORT DATA=MYLIB.INPUT04 OUT=WORK.CHECK;  
  BY VAR2;  
RUN;
```

- A. PROC PRINT DATA=CHECK;
 VAR VAR1;
 SUM VAR1;
 RUN;
- B. PROC PRINT DATA=CHECK;
 VAR VAR2;
 SUM VAR1;
 RUN;
- C. PROC PRINT DATA=CHECK;
 SUM VAR1;
 BY VAR2;
 ID VAR2;
 RUN;
- D. PROC PRINT DATA=CHECK;
 SUM VAR1;
 BY VAR1;
 ID VAR1;
 RUN;

70. data trees;
 set forestry.survey (firstobs=25);
 where species = "Sycamore";
run;

Considering this data step, which of the following statements is true?

- a) The data step will process the first 25 observations.
- b) The data step will process all observations starting at observation 25 then filter by species.
- c) The data will be filtered by species and then begin processing on the 25th observation.
- d) The data will be filtered by species and then process 25 observations.

71. **Question:** Which statement could give the following output?

Sex	Name	Age	Height	Weight
M	Alfred	14	69.0	112.5
F	Alice	13	56.5	84.0
F	Barbara	13	65.3	98.0
F	Carol	14	62.8	102.5
M	Henry	14	63.5	102.5
M	James	12	57.3	83.0
F	Jane	12	59.8	84.5
F	Janet	15	62.5	112.5
M	Jeffrey	13	62.5	84.0
M	John	12	59.0	99.5
F	Joyce	11	51.3	50.5
F	Judy	14	64.3	90.0
F	Louise	12	56.3	77.0
F	Mary	15	66.5	112.0
M	Philip	16	72.0	150.0
M	Robert	12	64.8	128.0
M	Ronald	15	67.0	133.0
M	Thomas	11	57.5	85.0
M	William	15	66.5	112.0

- A. PROC PRINT DATA=SASHELP.CLASS;
ID SEX NAME;
VAR AGE HEIGHT WEIGHT;
RUN;
- B. PROC PRINT DATA=SASHELP.CLASS;
ID SEX NAME;
VAR SEX NAME AGE HEIGHT WEIGHT;
RUN;
- C. PROC PRINT DATA=SASHELP.CLASS;
ID SEX;
VAR NAME AGE HEIGHT WEIGHT;
RUN;
- D. PROC PRINT DATA=SASHELP.CLASS;
ID NAME SEX;
VAR AGE HEIGHT WEIGHT;
RUN;

72. The PDV shows the current value of **Var1**, **Var2**, **Var3**, **Var4**, **Var5**.

PDV

Var1	Var2	Var3	Var4	Var5
10	.	20	30	40

We want to get an average of these five. Please select from (a) to (c) for the expression that will calculate the mean, and choose one from (d) to (f) for the value that we will get.

- (a) AvgVars = mean (Var1 Var2 Var3 Var4 Var5);
- (b) AvgVars = mean (of Var1 – Var5);
- (c) AvgVars = mean (Var1 – Var5);
- (d) .
- (e) 20
- (f) 25

What is the result that the following code will generate?

```
data new_date;  
  X = '14Jan1960'd;  
  Y = X - 20.005;  
  Z = ceil(Y);  
run;  
proc print data=new_date;run;
```

- a. Error occurred because datetime is not numeric.
- b. -6.005
- c. -6
- d. -8
- e. -7