

## Review Quiz: Analyzing Data

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Select the best answer for each question. When you are finished, click **Submit Quiz**.

1. If you run this program, which title or titles appear in the final PROC PRINT results?

```
title 'ABC Company';  
title2 'Sales Report';  
proc print data=sales;  
run;  
  
title2 'Inventory Report';  
proc print data=inventory;  
run;
```

- ☐ a. Inventory Report
  - ☐ b. <blank line>  
Inventory Report
  - ☐ c. ABC Company  
Sales Report
  - ☐ d. ABC Company  
Inventory Report
- 

2. Which statement is true based on the given program?

```
data pressure;  
  set data.health;  
  BP=cats(Systolic, "/", Diastolic);  
  label BP_Status=  
        "Blood Pressure Status";  
run;  
  
proc print data=pressure(obs=10);  
  var BP BP_Status;  
run;  
  
proc freq data=pressure;  
  tables BP_Status;  
run;
```

- ☐ a. The column **BP\_Status** has a permanent label in the **data.health** table.
  - ☐ b. The label for **BP\_Status** appears in the PRINT report.
  - ☐ c. The label for **BP\_Status** appears in the FREQ report.
  - ☐ d. The label for **BP\_Status** appears in both reports.
- 

3. Which of the following statements about the BY statement in a reporting procedure is false?

display

- ☐ a. The input data must be sorted by the BY variables.
- ☐ b. The procedure results are grouped by the unique values of the BY variables.
- ☐ c. The BY statement can be used in the PRINT, MEANS, FREQ, and UNIVARIATE procedures.
- ☐ d. **First./Last.** variables are created for each BY variable.

4. Which statements must be added to this program to create the following report?

```
proc print data=employee;
  where Department="Executives";
  var Job_Title Salary;
  format Salary dollar10.;
run;
```

Employee_ID	Job_Title	Salary
120259	Chief Executive Officer	\$433,800
120260	Chief Marketing Officer	\$207,885
120261	Chief Sales Officer	\$243,190
120262	Chief Financial Officer	\$268,455
		<b>\$1,153,330</b>

- ☐ a. `id Employee_ID;`
- ☐ b. `sum Salary;`
- ☐ c. `keep Employee_ID Job_Title Salary;`
- ☐ d. a and b
- ☐ e. b and c

5. By default, PROC FREQ creates a table of frequencies and percentages for which column types?

- ☐ a. character columns
- ☐ b. numeric columns
- ☐ c. both character and numeric columns
- ☐ d. None. Columns must always be specified.

6. Which TABLES statement can be used to create the following output?

Frequency Percent	Table of Department by City			
	Department	City		
		Melbourne	Sydney	Total
	Administration	5 6.85	8 10.96	13 17.81
	Engineering	1 1.37	3 4.11	4 5.48
	Sales	17 23.29	29 39.73	46 63.01
	Sales Management	1 1.37	2 2.74	3 4.11
	Stock & Shipping	2 2.74	5 6.85	7 9.59
	Total	26 35.62	47 64.38	73 100.00

- ☐ a. `tables Department*City;`
- ☐ b. `tables Department*City / norow nocol`
- ☐ c. `tables Department City / crosslist;`
- ☐ d. `tables Department City / freq percent;`

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7. Which option is **not** required in the PROC FREQ step to produce this output?

Employees by Department		
Number of Variable Levels		
Variable	Levels	
Department	17	
Department	Frequency	Percent
Sales	122	39.61
Administration	31	10.06
IS	20	6.49
Marketing	19	6.17
Stock & Shipping	18	5.84
Group HR Management	15	4.87
Purchasing	15	4.87
Accounts	14	4.55
Logistics Management	12	3.90
Sales Management	10	3.25
Engineering	9	2.92
Concession Management	8	2.60
Accounts Management	7	2.27
Executives	4	1.30
Secretary of the Board	2	0.65
Group Financials	1	0.32
Strategy	1	0.32

- ☐ a. LIST  
☐ b. NLEVELS  
☐ c. NOCUM  
☐ d. ORDER=FREQ

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8. Which statement about the MEANS procedure is true?

- ☐ a. The input table must be sorted by the column(s) in the CLASS statement.  
☐ b. Default statistics include N, SUM, MEAN, MIN, and MAX.  
☐ c. The default output is a table.  
☐ d. Without a VAR statement, PROC MEANS summarizes all numeric columns from the input table.

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9. Which WAYS statement creates the following report?

```
proc means data=employee;
  var Salary;
  class Country City;
```

run;

Analysis Variable : Salary					
N Obs	N	Mean	Std Dev	Minimum	Maximum
308	308	40476.92	36347.59	22710.00	433800.00

  

Analysis Variable : Salary						
City	N Obs	N	Mean	Std Dev	Minimum	Maximum
Melbourne	26	26	31394.62	15853.18	25275.00	108255.00
Miami-Dade	85	85	46933.59	50272.33	25020.00	433800.00
Philadelphia	68	68	45292.87	40935.07	25125.00	268455.00
San Diego	82	82	36696.65	22656.12	22710.00	207885.00
Sydney	47	47	33451.81	22072.40	25745.00	163040.00

  

Analysis Variable : Salary						
Country	N Obs	N	Mean	Std Dev	Minimum	Maximum
AU	73	73	32719.11	19987.74	25275.00	163040.00
US	235	235	42886.79	39821.69	22710.00	433800.00

- ☐ a. ways 1, 2, 3;
- ☐ b. ways \_all\_;
- ☐ c. ways 2;
- ☐ d. ways 0 1;

10. True or False: To create the **SumSalary** and **MedianSalary** columns in the **SalSum** table, you must add the SUM and MEDIAN options to the PROC MEANS statement.

```
proc means data=employee noprint;
  var Salary;
  class Country City;
  output out=SalSum;
  ways 2;
run;
```

Country	City	_TYPE_	_FREQ_	SumSalary	MedianSalary
AU	Melbourne	3	26	\$816,260.00	\$27,462.50
AU	Sydney	3	47	\$1572235.00	\$27,365.00
US	Miami-Dade	3	85	\$3989355.00	\$32,650.00
US	Philadelphia	3	68	\$3079915.00	\$31,372.50
US	San Diego	3	82	\$3009125.00	\$30,215.00

- ☐ a. True

☐ *b.* False

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