Sample Questions

The following sample questions are not inclusive and do not necessarily represent all of the types of questions that comprise the exams. The questions are not designed to assess an individual's readiness to take a certification exam.

SAS 9.4 Base Programming – Performance-based Exam

Practical Programming Questions:

Project 1:

This project will use data set sashelp.shoes.

Write a SAS program that will:

- Read sashelp.shoes as input.
- Create the SAS data set work.sortedshoes.
- Sort the sashelp.shoes data set:
  - First by variable product in descending order.
  - Second by variable sales in ascending order.

Run the program and answer the following questions:

**Question 1:** What is the value of the product variable in observation 148?

Answer: Slipper

**Question 2:** What is the value of the Region variable in observation 130?

Answer: Pacific

Project 2:

This project will use the data set sashelp.shoes.

Write a SAS program that will:

- Read sashelp.shoes as input.
- Create a new SAS data set, work.shoerange.
- Create a new character variable SalesRange that will be used to categorize the observations into three groups.
- Set the value of SalesRange to the following:
  - Lower when Sales are less than $100,000.
  - Middle when Sales are between $100,000 and $200,000, inclusively.
  - Upper when Sales are above $200,000.

Run the program, then use additional SAS procedures to answer the following questions:

**Question 3:** How many observations are classified into the “Lower” group?
Question 4: What is the mean value of observations in the “Middle” group? Round your answer to the nearest whole number.

Answer: 135127

Project 3:

This project will work with the following program:

```sas
data work.lowchol work.highchol;
  set sashelp.heart;
  if cholesterol lt 200 output work.lowchol;
  if cholesterol ge 200 output work.highchol;
  if cholesterol is missing output work.misschol;
run;
```

This program is intended to:

- Divide the observations of `sashelp.heart` into three data sets, `work.highchol`, `work.lowchol`, and `work.misschol`
- Only observations with `cholesterol` below 200 should be in the `work.lowchol` data set.
- Only observations with `cholesterol` that is 200 and above should be in the `work.highchol` data set.
- Observations with missing cholesterol values should only be in the `work.misschol` data set.

Fix the errors in the above program. There may be multiple errors in the program. Errors may be syntax errors, program structure errors, or logic errors. In the case of logic errors, the program may not produce an error in the log.

After fixing all of the errors in the program, answer the following questions:

Question 5: How many observations are in the `work.highchol` data set?

Answer: 3652

Question 6: How many observations are in the `work.lowchol` data set?

Answer: 1405

Standard Questions:

Question 7:

The following SAS program is submitted:

```sas
data WORK.TEMP;
  Char1='0123456789';
```
Char2=substr(Char1,3,4);
run;

What is the value of Char2?
A. 23
B. 34
C. 345
D. 2345
Answer: D

Question 8:
The following SAS program is submitted:

proc format;
  value score 1 - 50 = 'Fail'
        51 - 100 = 'Pass';
run;

Which one of the following PRINT procedure steps correctly applies the format?
A. proc print data = SASUSER.CLASS;
   var test;
   format test score;
   run;
B. proc print data = SASUSER.CLASS;
   var test;
   format test score.;
   run;
C. proc print data = SASUSER.CLASS format = score;
   var test;
   run;
D. proc print data = SASUSER.CLASS format = score.;
   var test;
   run;

Answer: B

Question 9:
Given the SAS data set WORK.ONE:

<table>
<thead>
<tr>
<th>Revenue2008</th>
<th>Revenue2009</th>
<th>Revenue2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>1.6</td>
<td>2.0</td>
</tr>
</tbody>
</table>
The following SAS program is submitted:

```sas
data WORK.TWO;
  set WORK.ONE;
  Total=sum(of Rev:);
run;
```

What value will SAS assign to **Total**?

A) 3  
B) 1.6  
C) 4.8  
D) The program fails to execute due to errors.

**Answer:** C

**Question 10:**

Given the SAS data set WORK.INPUT:

<table>
<thead>
<tr>
<th>Var1</th>
<th>Var2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>one</td>
</tr>
<tr>
<td>A</td>
<td>two</td>
</tr>
<tr>
<td>B</td>
<td>three</td>
</tr>
<tr>
<td>C</td>
<td>four</td>
</tr>
<tr>
<td>A</td>
<td>five</td>
</tr>
</tbody>
</table>

The following SAS program is submitted:

```sas
data WORK.ONE WORK.TWO;
  set WORK.INPUT;
  if Var1='A' then output WORK.ONE;
  output;
run;
```

How many observations will be in data set WORK.ONE?

**Enter your numeric answer in the space below.**

**Answer:** 8