特别感谢 Crackman ！ 部分注释来自 crackman 博客

Item 1 of 63 Mark item for review

When attempting to minimize memory usage, the most efficient way to do group processing when using the MEANS procedure is to use:

A.
the BY statement.

B.
GROUPBY with the NOTSORTED specification.

C.
the CLASS statement.

D.
multiple WHERE statements.

C

Item 2 of 63 Mark item for review

The SAS data set WORK.CHECK has a variable named Id_Code in it. Which SQL statement would create an index on this variable?

A.
create index Id_Code on WORK.CHECK;

B.
create index(Id_Code) on WORK.CHECK;

C.
make index=Id_Code from WORK.CHECK;

D.
define index(Id_Code) in WORK.CHECK;

A： prepare guide chapter 6

Item 3 of 63 Mark item for review

Given the SAS data sets:

WORK.EMPLOYEE

Name	Dept
Alan	Sales
Michelle	Sales

WORK.NEWEMPLOYEE

Names	Salary
Michelle	50000
Paresh	60000

A SAS program is submitted and
the following is written to the SAS log:

```
101  proc sql;
102    select dept, name
103    from WORK.EMPLOYEE
104    where name=(select names
                   from newemployee
                   where salary > 40000)
ERROR: Subquery evaluated to more than one row.
105  ;
106  quit;
```

What would allow the program to
successfully execute without errors?

A.
Replace the where clause with:

```
where EMPLOYEE.Name=(select Names delimited with ','
                     from WORK.NEWEMPLOYEE
                     where Salary > 40000);
```

B.
Replace line 104 with:

```
where EMPLOYEE.Name =ANY (select Names separated with ','
                          from WORK.NEWEMPLOYEE
                          where Salary > 40000);
```

C.

Replace the equal sign with the IN operator.

D.
Qualify the column names with the table names.

C: 首先分析这个原程序第 104 行，中 where name=(select names from newemployee where salsry>40000)
原程序在执行过程，应先是执行子查询，select names from newemployee where salsry>40000，将返回的结果作为下一个查询的筛选条件。
在这里返回的结果 NAMES 这个变量包括了两个值 Michelle 和 Paresh，所以在执行过程出现错误。那么应该改成 IN 或者 ANY。IN ANY 指定的是一个匹配范围，而等号必须是一个具体匹配的值。
这里可以思考 SEPARATED WITH 这个语句，SAS 认为是错误

Item 4 of 63 Mark item for review

Given the SAS data set SASUSER.HIGHWAY:

Steering	Seatbelt	Speed	Status	Count
absent	No	0-29	serious	31
absent	No	0-29	not	1419
absent	No	30-49	serious	191
absent	no	30-49	not	2004
absent	no	50+	serious	216

The following SAS program is submitted:

```
proc sql noprint;
   select distinct
      Speed  [_insert_SQL_clause_]
   from SASUSER.HIGHWAY
   ;
quit;

title1 "Speed values represented are: &GROUPS";
proc print data=SASUSER.HIGHWAY;
run;
```

Which SQL clause stores the text 0-29,30-49,50+ in the macro variable GROUPS?

A.

```
into &GROUPS
```

B.

```
into :GROUPS
```

C.

```
into :GROUPS separated by ','
```

D.

```
into &GROUPS separated by ','
```

C: 此题考察的是 SQL 与宏的结合。

用 SQL 语句产生宏变量，语法结构如下：

```
PROC SQL NOPRINT;
SELECT column1<,column2,…>
INTO :macro-variable-1<,:macro-variable-2,…>
FROM table-1 | view-1
<WHERE expression>
<other clauses>;
QUIT;
```

下面这个语法结构是将一变量的多个值组合在一个宏变量里面，例如：

General form, SELECT statement with INTO clause for combining values into one macro variable:

```
PROC SQL NOPRINT;
SELECT column1
INTO :macro-variable-1
SEPARATED BY 'delimiter1'
FROM table-1 | view-1
<WHERE expression>
<other clauses>;
QUIT;
```

回头看看题目的要求：如何将这个文本“ 0-29,30-49,50+”放在一个宏变量&GROUPS 中？

显然是采用第二个语法结构。

Item 5 of 63 Mark item for review

The SAS data set WORK.CHECK has an index on the variable Code and the following SAS program is submitted.

```
proc sort data=WORK.CHECK;
   by Code;
run;
```

Which describes the result of submitting
the SAS program?

A.
The index on Code is deleted.

B.
The index on Code is updated.

C.
The index on Code is uneffected.

D.
The sort does not execute.

D: SORT 过程是不能对已经建立索引 INDEX 的数据集进行 SORT 或者 REPLACE，因为那样会破坏数据集的 INDEX 文件。
当然如果非要排序，破坏 INDEX 文件，可以再后面加入一个参数 force

Item 6 of 63 Mark item for review

The table WORK.PILOTS contains the following data:

WORK.PILOTS

Id	Name	Jobcode	Salary
001	Albert	PT1	50000
002	Brenda	PT1	70000
003	Carl	PT1	60000
004	Donna	PT2	80000
005	Edward	PT2	90000
006	Flora	PT3	100000

The data set was summarized to include average
salary based on jobcode:

Jobcode	Salary	Avg

PT1	50000	60000
PT1	70000	60000
PT1	60000	60000
PT2	80000	85000
PT2	90000	85000
PT3	100000	100000

Which SQL statement could NOT generate this result?

A.

```
select
  Jobcode,
  Salary,
  avg(Salary) label='Avg'
from WORK.PILOTS
group by Jobcode
order by Id
;
```

B.

```
select
  Jobcode,
  Salary,
  (select avg(Salary)
  from WORK.PILOTS as P1
  where P1.Jobcode=P2.Jobcode) as Avg
from WORK.PILOTS as P2
order by Id
;
```

C.

```
select
  Jobcode,
  Salary,
  (select avg(Salary)
  from WORK.PILOTS
  group by Jobcode) as Avg
from WORK.PILOTS
order by Id
;
```

```
     D.
 select
   Jobcode,
   Salary,
   Avg
from
   WORK.PILOTS,
  (select
      Jobcode as Jc,
      avg(Salary) as Avg
   from WORK.PILOTS
   group by 1)
where Jobcode=Jc
order by Id
;
```

C:

A:select id,Jobcode,Salary,avg(Salary) label=’Avg’ from WORK.PILOTS group by Jobcode order by Id ;

这条语句是利用 SQL 过程中的 AVG 函数，计算某一列的均值。本语句中，先按照 JOBCODE 分组计算 SALARY 的均值，然后按照 ID 这个变量排序输出结果。ID 的默认排序是升序，

这个升序是作用了全部数据集，不是针对分组的排序的。

关于是不是分组，可以有如下程序示例：

```
data pilots;
input  id   name $ jobcode $ salary@;
datalines;
     001   Albert     PT1            50000
     002   Brenda     PT1            70000
     003   Carl         PT1            60000
     008   crack       PT1            100000
     004   Donna       PT2            80000
     005   Edward     PT2            90000
     006   Flora       PT3            100000
     ;
     run;
proc  sql;
select id,
     Jobcode,
     Salary,
     avg(Salary) label=’Avg’
from WORK.PILOTS
group by Jobcode
/*先去掉这句话，然后加上这句话，看看结果
order by Id
```

*/
;
quit;
B:
select Jobcode, Salary, (select avg(Salary) from WORK.PILOTS as P1 where P1.Jobcode=P2.Jobcode) as Avg
from WORK.PILOTS as P2 order by Id ;
执行时转化为下面语句：

```
  select P2.jobcode, P2.salary,
                              ( select AVG(P1.salary)
                                      from WORK.PILOTS as P1
                                     where P1.jobcode = P2.jobcode
                              ) as Avg
                    from WORK.PILOTS P2
            order by P2.id asc;
```

这里利用的是自身的数据集，分别设置不同的别名，可以当做两个数据集来使用。不过这里 WHERE 语句很值得学习，我个人对这里的 WHERE 语句这样理解的：(select avg(Salary) from WORK.PILOTS as P1 where P1.Jobcode=P2.Jobcode)启示执行之后返回的是三个 AVG 均值，但是因为这三个 AVG 均值都是与 JOBCODE 匹配的
那么前面的 select Jobcode, Salary 所以当执行到(select avg(Salary) from WORK.PILOTS as P1 where P1.Jobcode=P2.Jobcode)这里时，实际上是选择了 select jobcode 中 jobcode 对应的 avg 均值。
C:
select Jobcode,Salary,(select avg(Salary) from WORK.PILOTS group by Jobcode) as Avg
from WORK.PILOTS
order by Id ;
其实 C 和 B 有点像，但是 C 是错误，因为 C 中“select avg(Salary) from WORK.PILOTS group by Jobcode”一次返回的不是一个值，而是一组数值。
D:
select Jobcode,Salary,Avg from WORK.PILOTS,(select Jobcode as Jc,avg(Salary) as Avg from WORK.PILOTS group by 1)
where Jobcode=Jc
order by Id ;
D 实际上是执行两个表的水平连接。第一个是 POLOTS，另外一个是子查询得到返回结果。按照 JOBCODE 条件筛选出结果。
按照 ID 升序排列。这里子查询中的 GROUP BY 1 等价于 GROUP BY JC.

Item 7 of 63 Mark item for review

A quick rule of thumb for the space required to run PROC SORT is:

A.
two times the size of the SAS data set being sorted.

B.
three times the size of the SAS data set being sorted.

C.
four times the size of the SAS data set being sorted.

D.
five times the size of the SAS data set being sorted.

A

Item 8 of 63 Mark item for review

Multi-threaded processing for PROC SORT will effect which of these system resources?

A.
CPU time will decrease,
wall clock time will decrease

B.
CPU time will increase,
wall clock time will decrease

C.
CPU time will decrease,
wall clock time will increase

D.
CPU time will increase,
wall clock time will increase

B

Item 9 of 63 Mark item for review

Given the SAS data set WORK.TRANSACT:

Rep	Cost	Ship
SMITH	200	50
SMITH	400	20
JONES	100	10
SMITH	600	100
JONES	100	5

The following output is desired:

Rep	
JONES	105
SMITH	250

Which SQL statement was used?

A.

```
select
  rep,
  min(Cost+Ship)
from WORK.TRANSACT
order by Rep
;
```

B.

```
select
  Rep,
  min(Cost,Ship) as Min
from WORK.TRANSACT
summary by Rep
order by Rep
;
```

C.

```
select
  Rep,
  min(Cost,Ship)
from WORK.TRANSACT
group by Rep
order by Rep
;
```

D.

```
select
  Rep,
  min(Cost+Ship)
from WORK.TRANSACT
group by Rep
order by Rep
;
```

D：答案 A:得出的结果应该是没有分组比较的结果，就是自身比较，所以会得到 5 个结果，没有分组，而且 MIN 的值都为 105

答案 B:语法错误，得不到结果

答案 C:得到是在一个 REP 上的这两个变量 COST SHIP 之间的小值。

答案 D：正确答案 因为在要得到的数据集中有一个是没有命名的，所以在

```
select   Rep,min(Cost+Ship)
from WORK.TRANSACT
group by Rep order by Rep ;
```

Item 10 of 63 Mark item for review

The following SAS program is submitted:

```
%let Value=9;
%let Add=5;
%let Newval=%eval(&Value/&Add);
%put &Newval;
```

What is the value of the macro variable Newval when the %PUT statement executes?

A.

0.555

B.

2

C.

1.8

D.

1

D

Item 11 of 63 Mark item for review

The following SAS code is submitted:

```
data WORK.TEMP WORK.ERRORS / view=WORK.TEMP;
   infile RAWDATA;
   input Xa Xb Xc;
   if Xa=. then output WORK.ERRORS;
   else output WORK.TEMP;
run;
```

Which of the following is true of the WORK.ERRORS data set?

A. The data set is created when the DATA step is submitted.

B. The data set is created when the view TEMP is used in another SAS step.

C. The data set is not created because the DATA statement contains a syntax error.

D. The descriptor portion of WORK.ERRORS is created when the DATA step is submitted.

B

Item 12 of 63 Mark item for review

Which title statement would always display the current date?

A.
```
title "Today is: &sysdate.";
```

B.

```
title "Today is: &sysdate9.";
```

C.

```
title "Today is: &today.";
```

D.

```
title "Today is: %sysfunc(today(),worddate.)";
```

D

Item 13 of 63 Mark item for review

Given the SAS data sets:

WORK.ONE

Id	Name
112	Smith
243	Wei
457	Jones

WORK.TWO

Id	Salary
243	150000
355	45000
523	75000

The following SAS program is submitted:

```
data WORK.COMBINE;
   merge WORK.ONE WORK.TWO;
   by Id;
run;
```

Which SQL procedure statement produces the same results?

A.

```
create table WORK.COMBINE as
select
   Id,
   Name,
   Salary
from
```

```
   WORK.ONE
   full join
   WORK.TWO
on ONE.Id=TWO.Id
;
```

B.

```
 create table WORK.COMBINE as
select
   coalesce(ONE.Id, TWO.Id) as Id,
   Name,
   Salary
from
   WORK.ONE,
   WORK.TWO
where ONE.Id=TWO.Id
;
```

C.

```
 create table WORK.COMBINE as
select
   coalesce(ONE.Id, TWO.Id) as Id,
   Name,
   Salary
from
   WORK.ONE
   full join
   WORK.TWO
on ONE.Id=TWO.Id
order by Id
;
```

D.

```
 create table WORK.COMBINE as
select
   coalesce(ONE.Id, TWO.Id) as Id,
   Name,
   Salary
from
   WORK.ONE,
   WORK.TWO
where ONE.Id=TWO.Id
order by ONE.Id
;
```

C:
A:犯了一个明显的错误，就是 ID 这个变量引用不明确。
B:返回只有一个观测，因为 ONE 和 TWO 的连接按照 ON 筛选条件进行了筛选，结果只有一条符合条件。
C:首先执行的是按照 ON 条件执行 FULL JOIN 链接，此时如果不用 COALESCE，数据集会有两个 ID，一个是 ONE 一个是 TWO 的，如果 ONE 和 TWO 的 ID 不匹配，那么想要的 ID 就为缺失值。那么 COALESCE 函数就是合并这两个 ID，然后重复的合并在一起，剔除缺失值，所以结果就和 MERGE 一致。
D:错误和 B 一样，连接方式不是 FULL JOIN，而是 inner join

Item 14 of 63 Mark item for review

The following SAS program is submitted:

```
proc contents data=TESTDATA.ONE;
run;
```

Which SQL procedure step produces similar information about the column attributes of TESTDATA.ONE?

A.
```
proc sql;
  contents from TESTDATA.ONE;
quit;
```

B.
```
proc sql;
  describe from TESTDATA.ONE;
quit;
```

C.
```
proc sql;
  contents table TESTDATA.ONE;
quit;
```

D.
```
proc sql;
  describe table TESTDATA.ONE;
```

```
quit;
```

D：这道题考查 PROC CONTENTS 语句与 SQL 中 DESCRIB 的语句功能。
PROC CONTENTS 是了解一个数据集的属性，包括这个数据集的系统信息，变量属性等。
同样在 SQL 语句中 DESCRIB 也可以了解数据集的属性等。
看看 describe 语句语法格式：
General form, DESCRIBE TABLE statement:
DESCRIBE TABLE table-name-1<, … table-name-n>;
where
table-name
specifies the table to be described as one of the following:
  a one-level name
  a two-level libref.table name
  a physical pathname that is enclosed in single quotation marks.

Item 15 of 63 Mark item for review

Given the SAS data set WORK.ONE:

Rep	Cost
SMITH	200
SMITH	400
JONES	100
SMITH	600
JONES	100

The following SAS program is submitted;

```
proc sql;
   select
      Rep,
      avg(Cost)
   from WORK.ONE
   order by Rep
   ;
quit;
```

Which result set would be generated?

A.

```
JONES     280
```

JONES 280
SMITH 280
SMITH 280
SMITH 280

B.

JONES 600
SMITH 100

C.

JONES 280
SMITH 280

D.

JONES 100
JONES 100
SMITH 600
SMITH 600
SMITH 600

A: SQL 语句中，AVG 计算的是一列的平均值，所以 AVG 只有一个值，答案选择 A。
如果改成为：

```
proc sql;
       select
             Rep,
             avg(Cost)
       from WORK.ONE
       group by Rep
       order by Rep
       ;
  quit;
```

结果会如何呢？
示例程序：

```
data crackman;
input  rep $ cost@;
datalines;
  SMITH              200
  SMITH              400
  JONES              100
  SMITH              600
  JONES              100
  ;
  run;
```

```
proc sql;
     select
          Rep,
          avg(Cost)
     from WORK.CRACKMAN
     order by Rep
     ;
quit;
```

Item 16 of 63 Mark item for review

Given the SAS data sets:

WORK.MATH1A

Name	Fi
Lauren	L
Patel	A
Chang	Z
Hillier	R

WORK.MATH1B

Name	Fi
Smith	M
Lauren	L
Patel	A

The following SAS program is submitted:

```
proc sql;
   select *
   from WORK.MATH1A
   [_insert_set_operator_]
   select *
   from WORK.MATH1B
   ;
quit;
```

The following output is desired:

Name	Fi
Lauren	L
Patel	A
Chang	Z
Hillier	R

Smith M
Lauren L
Patel A

Which SQL set operator completes the program and generates the desired output?

A.
append corr

B.
union corr

C.
outer union corr

D.
intersect corr

C: chapter 4 本题库有类似一道题 考察 outer union corr

Item 17 of 63 Mark item for review

Which of the following is an advantage of SAS views?

A.
SAS views can access the most current data in files that are frequently updated.

B.
SAS views can avoid storing a SAS copy of a large data file.

C.
SAS views can decrease programming time.

D.
both A and B are true

D

Item 18 of 63 Mark item for review

In what order does SAS search for format definitions by default?

A.
1. WORK.FORMATS
2. LIBRARY.FORMATS

B.
1. LIBRARY.FORMATS
2. WORK.FORMATS

C.
There is no default order, it must be defined by the user.

D.
All user defined libraries that have a catalog named FORMATS, in alphabetic order.

A

Item 19 of 63 Mark item for review

Given the dataset WORK.STUDENTS:

Name	Age
Mary	15
Philip	16
Robert	12
Ronald	15

The following SAS program is submitted:

```
%let Value=Philip;

proc print data=WORK.STUDENTS;
   [_insert_WHERE_statement_]
run;
```

Which WHERE statement successfully completes the program and produces a report?

A.
```
where upcase(Name)=upcase(&Value);
```

B.
```
where upcase(Name)=%upcase(&Value);
```

C.
```
where upcase(Name)="upcase(&Value)";
```

D.
```
where upcase(Name)="%upcase(&Value)";
```

D: 此题其实考察的是字符串的引用问题。
记得加引号。另外%upcase 宏函数是对宏字符变量进行字符大写化

Item 20 of 63 Mark item for review

The following SAS program is submitted:

```
data WORK.TEMP;
   length A B 3 X;
   infile RAWDATA;
   input A B X;
run;
```

What is the length of variable A?

A.
```
3
```

B.

8

C.
WORK.TEMP is not created - X has an invalid length.

D.
Unknown.

A: 这里考察的是 LENGTH 语句对变量长度的约束。
如果没有 Length 语句的约束，如 X 就是默认的长度了 8 个 BYTE。
LENGTH 语句制定了 A B 的长度，但是没有指定 X 的长度，如果 X 长度不需要 LENGTH 特别指出，那么就不用 LENGTH X 这样的语句，因为 LOG 里面提示你没有设置长度值，不符合 LENGTH 语句语法。
这里需要指出的是，程序编译时就已经设置了长度，要么是默认的，要么是指定的。在这里也许数据集 WORK.TEMP 没有观测，但是通过 CONTENTS 依然能看到每一个变量的属性

Item 21 of 63 Mark item for review

The following SAS program is submitted:

```
data WORK.NEW;
   do i=1, 2, 3;
      Next=cats('March' || i );
      infile XYZ
         filevar=Next
         end=Eof;
      do until (Eof);
         input Dept $ Sales;
      end;
   end;
run;
```

The purpose of the FILEVAR=option on the INFILE statement is to name the variable Next, whose value:

A.
points to a new input file.

B.

is output to the SAS data set WORK.NEW.

C.
is an input SAS data set reference.

D.
points to an aggregate storage location.

A: 关于 INFILE FILE 等参考下面几篇文献
http://www2.sas.com/proceedings/forum2008/166-2008.pdf
http://support.sas.com/techsup/technote/ts581.pdf

Item 22 of 63 Mark item for review

Given the following partial SAS log:

```
NOTE: SQL table SASHELP.CLASS was created like:

create table SASHELP.CLASS( bufsize=4096 )
  (
   Name char(8),
   Sex char(1),
   Age num,
   Height num,
   Weight num
  );
```

Which SQL procedure statement
generated this output?

A.
CONTENTS FROM SASHELP.CLASS;

B.
CREATE FROM SASHELP.CLASS INTO LOG;

C.
DESCRIBE TABLE SASHELP.CLASS;

D.

```
VALIDATE SELECT * FROM SASHELP.CLASS;
```

C: 本题考察的是 SQL 中 DESCRIB 语句
DESCRIB 语句和 CONTENTS 过程相似，都是了解一个数据集的属性信息。
示例程序：

```
proc  sql;
describe table sashelp.class;
quit;
```

Item 23 of 63 Mark item for review

Given the SAS data set SASUSER.HIGHWAY:

Steering	Seatbelt	Speed	Status	Count
absent	No	0-29	serious	31
absent	No	0-29	not	1419
absent	No	30-49	serious	191
absent	no	30-49	not	2004
absent	no	50+	serious	216

The following SAS program is submitted:

```
%macro SPLIT;
   proc sort
         data=SASUSER.HIGHWAY
         out=WORK.UNIQUES(keep=Status)
         nodupkey;
      by Status;
   run;

   data _null_;
      set uniques end=Lastobs;
      call symputx('Status'||left(_n_),Status);
      if Lastobs then call symputx('Count',_n_);
   run;

   %local i;
   data
      %do i=1 %to &count;
```

```
          [_insert_reference_]
       %end;
       ;
       set SASUSER.HIGHWAY;
       select(Status);
          %do i=1 %to &Count;
             when("[_insert_reference_]") output [_insert_reference_];
          %end;
          otherwise;
       end;
    run;
 %mend;

 %SPLIT
```

What macro variable reference completes the program to create the WORK.NOT and WORK.SERIOUS data sets?

A. &Status&i

B. &&Status&i

C. &Status&Count

D. &&Status&Count

B：

Item 24 of 63 Mark item for review

The following SAS program is submitted:

```
%let Num1=7;
%let Num2=3;
%let Result=%eval(&Num1/&Num2);
%put &Result;
```

What is the value of the macro variable Result when the %PUT statement executes?

A.
2.3

B.
2

C.
. (missing value)

D.
2.33333333333333

B： %eval 和 %sysevalf 的区别
原文：prepare guide chapter11 page 411

Item 25 of 63 Mark item for review

Given the SAS data set SASUSER.HIGHWAY:

Steering	Seatbelt	Speed	Status	Count
absent	No	0-29	serious	31
absent	No	0-29	not	1419
absent	No	30-49	serious	191
absent	no	30-49	not	2004
absent	no	50+	serious	216

The following SAS program is submitted:

```
%macro HIGHWAY(Belt=no);
   proc print data=SASUSER.HIGHWAY;
      where Seatbelt="&Belt" ;
   run;
%mend;

%HIGHWAY(Belt=No)
```

How many observations appear in
the generated report?

A.
0

B.
2

C.
3

D.
5

C: prepare guide chapter11
这里主要是宏参数的默认设置。
宏程序 %HIGHWAY(Belt=no)实际给了两层含义：
1.定义一个宏参数，传递给宏程序
2.设置了宏参数的默认值为 no。如下示例程序，如果在调用宏程序时没有指定具体的参数，那么宏将会引用宏定义时的默认值。

Item 26 of 63 Mark item for review

Given the following SAS data sets:

WORK.VISIT1

Id	Expense
001	500
001	400
003	350

WORK.VISIT2

Id	Cost
001	300
002	600

The following result set was summarized and
consolidated using the SQL procedure:

Id	Cost
001	300
001	900

002 600
003 350

Which of the following SQL statements was most likely used to generate this result?

A.

```
select
  Id,
  sum(Expense) label='COST'
from WORK.VISIT1
group by 1
union all
select
  Id,
  sum(Cost)
from WORK.VISIT2
group by 1
order by 1,2
;
```

B.

```
select
  id,
  sum(expense) as COST
from
  WORK.VISIT1(rename=(Expense=Cost)),
  WORK.VISIT2
where VISIT1.Id=VISIT2.Id
group by Id
order by
  Id,
  Cost
;
```

C.

```
select
  VISIT1.Id,
  sum(Cost) as Cost
from
  WORK.VISIT1(rename=(Expense=Cost)),
  WORK.VISIT2
where VISIT1.Id=VISIT2.Id
```

```
group by Id
order by
   Id,
   Cost
;

     D.
 select
   Id,
   sum(Expense) as Cost
from WORK.VISIT1
group by Id
outer union corr
select
   Id,
   sum(Cost)
from WORK.VISIT2
group by Id
order by 1,2
;
```

A：经过 sas 跑过程序验证为 A
B 和 C 犯了同一个错误，就是 order by 中没有指定是那一个数据集中的 ID CASE。
B C 是先连接形成一个数据集之后，ORDER BY 是对整个数据集排序，
D 答案最后得出的结果是三个变量，ID COST 一个位置命名的变量。

Item 27 of 63 Mark item for review

Given the SAS data sets:

WORK.FIRST

Common	X
A	10
A	13
A	14
B	9

WORK.SECOND

Common	Y
A	1
A	3
B	4
B	2

The following SAS program is submitted:

```
data WORK.COMBINE;
   set WORK.FIRST;
   set WORK.SECOND;
run;
```

What data values are stored in data set WORK.COMBINE?

A.

Common	X	Y
A	10	1
A	13	3
B	14	4
B	9	2

B.

Common	X	Y
A	10	1
A	13	3
A	14	3
B	9	4
B	9	2

C.

Common	X	Y
A	10	1
A	13	3
A	14	.
B	9	4
B	.	2

D.

Common	X	Y
A	10	1
A	13	1
A	14	1
A	10	3
A	13	3
A	14	3

B 9 4
B 9 2

A: 俺理解 这个题目应该是 base 里面的合并问题
本题非常有意思
其实程序的终止主要是看这两个数据集哪一个最后到最后一个观测，就终止。
第一个 SET 建立了 PDV，填入了 COMMON X 数据。
第二个 SET 时，加入 Y 进入 PDV 中，并且每次更新了第一个 SET 中的 COMMON X 变量的值。
程序的终止是由于第一个 SET 数据集首先到最后一个观测

Item 28 of 63 Mark item for review

Which of the following ARRAY statements is similar
to the statement array Yr{1974:2007} Yr1974-Yr2007;
and will compile without errors?

A.
array Yr{34} Yr1974-Yr2007;

B.
array Yr{74:07} Yr1974-Yr2007;

C.
array Yr{74-07} Yr1974-Yr2007;

D.
array Yr{1974-2007} Yr1974-Yr2007;

A：首先看一下 ARRAY 的语法格式
General form, multidimensional ARRAY statement:
ARRAY array-name {rows,cols,…} <$> <length>
<array-elements> <(initial values)>;
where
array-name
names the array.
rows
specifies the number of array elements in a row arrangement.
cols
specifies the number of array elements in a column arrangement.
array-elements
names the variables that make up the array.

initial values
specifies initial values for the corresponding elements in the array that are separated by
commas or spaces.
在{}中指定的是数组的行和列。
Yr{1974:2007} Yr1974-Yr2007 中的 1974:2007 说的是数据集中，某一个变量的值在 1974-2007 这个范围内的行，
满足这个条件的行数应该是 2007-1974+1=34 行。
所以这个语句编译之后建立的是一个 34 行，34 列的数据集，列名分别是 yr1974-yr2007.
等价于语句： array Yr{34} Yr1974-Yr2007;

Item 29 of 63 Mark item for review

The following program is submitted to check
the variables Xa, Xb, and Xc in the SASUSER.LOOK
data set:

```
data _null_ WORK.BAD_DATA / view=WORK.BAD_DATA ;
   set SASUSER.LOOK(keep=Xa Xb Xc);
   length _Check_ $ 10 ;
   if Xa=. then _check_=trim(_Check_)!!" Xa" ;
   if Xb=. then _check_=trim(_Check_)!!" Xb" ;
   if Xc=. then _check_=trim(_Check_)!!" Xc" ;
   put Xa= Xb= Xc= _check_= ;
run ;
```

When is the PUT statement executed?

A.
when the code is submitted

B.
only when the WORK.BAD_DATA view is used

C.
both when the code is submitted and the view is used

D.
never, the use of _null_ in a view is a syntax error

B

Item 30 of 63 Mark item for review

The following SAS program is submitted:

```
%let product=merchandise;
[_insert_%put_statement_]
```

and the following message is written to the SAS log:

```
the value is "merchandise"
```

Which macro statement wrote this message?

A.
```
%put the value is '"'&product.'"';
```

B.
```
%put the value is %quote(&product.);
```

C.
```
%put the value is "&product.";
```

D.
```
%put the value is ""&product."";
```

C: prepare guide chapter9
B如果改成：%sysfunc（quote(&product.))就对了

Item 31 of 63 Mark item for review

Given the SAS data sets:

WORK.ONE

X	Y
A	10
A	3

WORK.TWO

SumY
36

```
A     14
B      9

The following SAS DATA step is submitted:

data WORK.COMBINE;
   if _n_=1 then set WORK.TWO;
   set WORK.ONE;
run;

What data values are stored in data set WORK.COMBINE?
```

A.
An ERROR message is written to the SAS log and
the data set WORK.COMBINE is not created.

B.

SumY	X	Y
36	A	10

C.

SumY	X	Y
36	A	10
.	A	3
.	A	14
.	B	9

D.

SumY	X	Y
36	A	10
36	A	3
36	A	14
36	B	9

D：这道题有意思。已经跑过 sas
可以这样来解释：
一般来说，在读取外部数据生成 SAS 数据集时，系统在数据部迭代开始的时候为每一个变量设置为缺失值，

但是一般下列情况不会受此限制：
1.retain 语句中的变量
2.sum 语句中创建的变量
3.数据_temporary_中的对象
4.FILE 和 INFILE 中创建的变量
5.自动变量
同时在读入 SAS 数据集时，系统只是在第一次执行前设置为缺失值，以后保留其值知道新的字值写入进来。
例如下一次执行 SET 语句时，才更改变量值，在 SET MERGE 语句选项中创建的变量在逐次迭代中保留它的值。
所以这里就是如此。
程序示例：

```
data one;
input  x $ y@;
datalines;
a 10
a 3
a 14
b 9
;
data two;
input  sumy@;
datalines;
36
;
data WORK.COMBINE;
         if _n_=1 then  set  WORK.TWO;
         set WORK.ONE;
   run;
   proc print;
   run;
```

Item 32 of 63 Mark item for review

The following SAS program is submitted:

```
data WORK.NEW(bufno=4);
   set WORK.OLD(bufno=3);
run;
```

Why are the BUFNO options used?

A.
to reduce memory usage

B.
to reduce CPU time usage

C.
to reduce the amount of data read

D.
to reduce the number of I/O operations

D

Item 33 of 63 Mark item for review

Given the following program
and desired results:

```
%let Thing1=gift;
%let Thing2=surprise;
%let Gift1=book;
%let Gift2=jewelry;
%let Surprise1=dinner;
%let Surprise2=movie;

%let Pick=2;
%let Choice=surprise;
```

Desired %PUT Results in LOG:
My favorite surprise is a movie

What is the correct %PUT statement
that generates the desired results?

A.
```
%put My favorite &Thing&Pick is a &&Choice&Pick;
```

B.

```
%put My favorite &&Thing&pick is a &&&Choice&Pick;
```

C.

```
%put My favorite &Choice&pick is a &&Thing&Pick;
```

D.

```
%put My favorite &&Choice&pick is a &&&Thing&Pick;
```

B : 记住一个原则就是“&&”=“&” (prepare guide Chapter10 rescan rule page 345)
B 中，&&Thing&pick=&+thing+&pick=&+thing+2=&thing2=surprise
&&&Choice&Pick=&+&choice+&pick=&+surprise+2=&surprise2=movie.

Item 34 of 63 Mark item for review

Given the SAS dataset WORK.ONE

Name	Salary
Hans	200
Maria	205
Jose	310
Ariel	523

The following SAS program is submitted:

```
proc sql;
   [_insert_select_clause_]
   from WORK.ONE
   ;
quit;
```

The following output is desired:

Salary	Bonus
200	20
205	20.5
310	31
523	52.3

Which SQL procedure clause completes
the program and generates the desired output?

A.
select Salary Bonus as Salary*.10 as Bonus

B.
select Salary Bonus=Salary*.10 'Bonus'

C.
select Salary, Salary*.10 label='Bonus'

D.
select Salary, Salary*.10 column="Bonus"

C ： 本题很简单，就是在 SQL 如何建立一个新变量。
A：如果把“Bonus as”去掉，在 salary 后加一个逗号就对了。

Item 35 of 63 Mark item for review

The following SAS program is submitted:

```
options reuse=YES;
data SASUSER.REALESTATE(compress=CHAR);
   set SASUSER.HOUSES;
run;
```

What is the effect of
the reuse=YES SAS system option?

A.
It allows updates in place.

B.
It tracks and recycles free space.

C.
It allows a permanently stored SAS
data set to be replaced.

D.

It allows users to access the same
SAS data set concurrently.

B： prepare guide chapter 24 page 724
YES
tracks free space and reuses it whenever observations are added to an existing compressed data set.
NO
does not track free space. This is the default.
Details
If space is reused, observations that are added to the SAS data set are inserted wherever enough free space exists, instead of at the end of the SAS data set.
Specifying REUSE=NO results in less efficient usage of space if you delete or update many observations in a SAS data set. However, the APPEND procedure, the FSEDIT procedure, and other procedures that add observations to the SAS data set continue
to add observations to the end of the data set, as they do for uncompressed SAS data sets.
You cannot change the REUSE= attribute of a compressed SAS data set after it is created. This means that space is tracked and reused in the compressed SAS data set according to the REUSE= value that was specified when the SAS data set was created, not when you add and delete observations. Even with REUSE=YES, the APPEND procedure will add observations at the end.

Item 36 of 63 Mark item for review

Which statement is true for Data step HASH objects?

A.
The key component must be numeric.

B.
The data component may consist of numeric
and character values.

C.
The HASH object is created in one step and
referenced in another.

D.
The HASH object must be smaller than 2 to
the 8th power bytes.

B

Item 37 of 63 Mark item for review

Given the SAS data sets:

WORK.CLASS1

Name	Course
Lauren	MATH1
Patel	MATH1
Chang	MATH1
Chang	MATH3

WORK.CLASS2

Name	Class
Smith	MATH2
Farmer	MATH2
Patel	MATH2
Hillier	MATH2

The following SAS program is submitted:

```
proc sql;
   select Name
   from WORK.CLASS1
   [_insert_set_operator_]
   select Name
   from WORK.CLASS2
   ;
quit;
```

The following output is desired:

Name
Chang
Chang
Lauren

Which SQL set operator completes the program and generates the desired output?

A.

intersect corr

B.
except all

C.
intersect all

D.
left except

B: 分别解释一下这四个选项（详细原文查看 prepare guide chapter 4 129 132 页）
C:
The set operator INTERSECT does both of the following:
?? selects unique rows that are common to both tables
?? overlays columns.
这里说到 INTERSECT 是两个数据集的交叉部分，加上 ALL 之后表示如果这两个数据集的交叉部分有重复的观测对象，就一起输出来，如果没有 ALL，就不输出重复的交叉的观测对象。
B:except
Selects unique rows from the first table that are not found in the second table.
就是选择第一个数据集中除去与第二个数据集重叠部分的观测对象。
A:CORR 的解释：
To display both of the following, add the keyword CORR after the set operator.
only columns that have the same name
all unique rows in the first table that do not appear in the second table.
CORR 其实就是输出两个数据集交叉的共同的变量。
D：没有这种表达方法。

Item 38 of 63 Mark item for review

The following SAS program is submitted:

```
%macro CHECK(Num=4);
   %let Result=%eval(&Num gt 5);
   %put Result is &result;
%mend;
%check(Num=10)
```

What is written to the SAS log?

A.
Result is 0

B.
Result is 1

C.
Result is 10 gt 5

D.
Result is true

B: 这里主要是输出表达式的结果
如果&Num gt 5 为真，那么就是 1，假就是 0。
大家可以试一下把 5 改成 5.1，看看结果的差别？为什么会有这个差别。
提示 联想下%sysevalf 的用法
%sysevalf function is using to evaluate arithmetic or logical expressions that cotain non-integer or missing values.

Item 39 of 63 Mark item for review

The following SAS program is submitted:

```
%let Mv=shoes;
%macro PRODUCT(Mv=bicycles);
   %let Mv=clothes;
%mend;

%PRODUCT(Mv=tents)
%put Mv is &Mv;
```

What is written to the SAS log?

A.
Mv is bicycles

B.
Mv is clothes

C.
Mv is shoes

D.

Mv is tents

C：这里主要是考察全局宏变量与局部宏变量的区别。(原文查看 prepare guide 391 页)

看这段英文解释：

全局宏变量：

The global symbol table is created during the initialization of a SAS session and is deleted at the end of the session. Macro variables in the global symbol table

1.are available anytime during the session

2.can be created by a user

3.have values that can be changed during the session (except for some automatic macro variables).

一般来说有以下几个方式创建全局宏变量：

1.用%let 语句（不是宏定义中的%let 语句）。

2.在 DATA 步中通过 SYMPUT 或者 SYMPUTX 这两个程序创建

3.在 SQL 中用 SELECT INTO 语句创建。

4.用%GLOBAL 语句创建。

局部宏变量：

The local symbol table contains macro variables that can be

1.created and initialized at macro invocation (that is, by parameters)

2.created or updated during macro execution

3.referenced anywhere within the macro.

一般来说有以下几个方式创建局部宏变量：

1.在宏定义中使用%LET 语句

2.在宏定义中的 DATA 步里面，使用 SYMPUT 或者 SYMPUTX 这两个程序创建。

3.在宏定义中使用 SELECT INTO 语句可以创建

4.使用%LOCAL 语句。

我们来看一下宏程序读取某一个宏变量值的运行过程：

&Mv

1.先检查&Mv 是否在局部宏变量列表中，如果在，那么就读取或者更新此宏变量的值。

2.如果不在，那么就在全局宏变量表中查询，如果在，读入或者更新。

3.如果都没找到，那么就在 LOG 中提示没有宏变量解析。

但是如果全局变量中，使用%LET 定了&Mv 宏变量，那么在调用&Mv 时，不会在局部宏变量表寻找变量，而是在全局宏变量列表寻找。

此题就是因为第一句中有一个 %let Mv=shoes;所以答案是 C。

Remember that if the macro processor receives either a %let statement or a macro variable reference in open code, it will check only the global symbol table for existence of the macro variable.

Item 40 of 63 Mark item for review

Which of the following SAS System options can aid in benchmarking?

A. BUFSIZE= and BUFNO=

B. FULLSTIMER

C. IOBLOCKSIZE=

D. SYSTIMER

B

Item 41 of 63 Mark item for review

Given the following macro program:

```
%macro MAKEPGM(NEWNAME, SETNAME, PRINT);
   data &NEWNAME;
      set &SETNAME;
   run;
   %if &PRINT=YES %then %do;
      proc print data=&NEWNAME.(obs=10);
      run ;
   %end;
%mend;
```

Which option would provide feedback in the log about the parameter values passed into this macro when invoked?

A. MPRINT

B. MDEBUG

C.
MLOGIC

D.
MPARAM

C

Item 42 of 63 Mark item for review

The NOTSORTED option on the BY statement cannot be used with which other statement or option?

A.
SET

B.
MERGE

C.
IF FIRST.by-variable

D.
BY GROUPFORMAT by-variable

B

Item 43 of 63 Mark item for review

Given the SAS data set WORK.ONE:

Rep	Cost
SMITH	200
SMITH	400
JONES	100
SMITH	600

JONES 100

The following SAS program is submitted:

```
proc sql;
   select
      Rep,
      avg(Cost) as Average
   from WORK.ONE
   [either__insert_SQL_where_clause_]
   group by Rep
   [_or_  _insert_SQL_having_clause_]
   ;
quit;
```

The following output is desired:

Rep	Average
SMITH	400

Which SQL clause completes the program
and generates the desired output?

A.
```
where calculated Average > (select avg(Cost) from WORK.ONE)
```

B.
```
having Average   > (select avg(Cost) from WORK.ONE)
```

C.
```
having avg(Cost) < (select avg(Cost) from WORK.ONE)
```

D.
```
where avg(Cost)  > (select avg(Cost) from WORK.ONE)
```

B

Item 44 of 63 Mark item for review

Which dictionary table provides

information on each occurrence of
the variable named LastName?

A.
DICTIONARY.TABLES

B.
DICTIONARY.COLUMNS

C.
DICTIONARY.MEMBERS

D.
DICTIONARY.VARIABLES

B

Item 45 of 63 Mark item for review

To create a list of unique Customer_Id
values from the customer data set, which
of the following techniques can be used?

technique 1: proc SORT with NODUPKEY and OUT=
technique 2: data step with IF FIRST.Customer_Id=1
technique 3: proc SQL with the SELECT DISTINCT statement

A.
only technique 1

B.
techniques 1 and 2

C.
techniques 1 and 3

D.
techniques 1, 2, or 3

C : if first need sort

Item 46 of 63 Mark item for review

Given the SAS data sets:

WORK.CLASS1

Name	Course
Lauren	MATH1
Patel	MATH1
Chang	MATH1

WORK.CLASS2

Name	Class
Smith	MATH2
Farmer	MATH2
Patel	MATH2
Hillier	MATH2

The following SAS program is submitted:

```
proc sql;
   select Name
   from WORK.CLASS1
   [_insert_set_operator_]
   select Name
   from WORK.CLASS2
   ;
quit;
```

The following output is desired:

Name
Chang
Lauren

Which SQL set operator completes the program and generates the desired output?

A.
intersect corr

B.
except

C.

intersect

D.
left except

B

Item 47 of 63 Mark item for review

The following SAS program is submitted:

```
%macro execute;
   [_insert_statement_here_]
      proc print data=SASUSER.HOUSES;
      run;
   %end;
%mend execute;
%execute
```

Which statement completes the program so that the PROC PRINT step executes on Thursday?

A.
if &sysday = Thursday then %do;

B.
%if &sysday = Thursday %then %do;

C.
%if "&sysday" = Thursday %then %do;

D.
%if &sysday = "Thursday" %then %do;

B

Item 48 of 63 Mark item for review

Given the following program and data:

```
data WORK.BDAYINFO;
  infile datalines;
  input Name $ Birthday : mmddyy10.;
datalines;
Alan  11/15/1950
Barb  08/23/1966
Carl  09/01/1963
;
run;

%let Want=23AUG1966;
proc print data=WORK.BDAYINFO;
  [_insert_statement_]
run;
```

What is the WHERE statement that successfully completes the PROC PRINT and selects the observation for Barb?

A.
```
where Birthday=&Want;
```

B.
```
where Birthday="&Want";
```

C.
```
where Birthday="&Want"d;
```

D.
```
where Birthday='&Want'd;
```

C

Item 49 of 63 Mark item for review

Which macro statement would remove the macro variable Mv_Info from the symbol table?

A.

%mdelete &Mv_Info;

B.
%symerase Mv_Info;

C.
%symdel &Mv_Info;

D.
%symdel Mv_Info;

D:
%SYMDEL macro-variable(s)</option>;
macro-variable(s)
is the name of one or more macro variables or a text expression that generates one or more macro variable names. You cannot use a SAS variable list or a macro expression that generates a SAS variable list in a %SYMDEL statement.

Item 50 of 63 Mark item for review

The table WORK.PILOTS contains the following data:

Id	Name	Jobcode	Salary
001	Albert	PT1	50000
002	Brenda	PT1	70000
003	Carl	PT1	60000
004	Donna	PT2	80000
005	Edward	PT2	90000
006	Flora	PT3	100000

A query was constructed to display the pilot salary means at each level of Jobcode and the difference to the overall mean salary:

Jobcode	Average	Difference
PT1	60000	-15000
PT2	85000	10000
PT3	100000	25000

Which select statement could NOT have

produced this output?

A.

```
select
   Jobcode,
   avg(Salary) as Average,
   calculated Average - Overall as difference
from
   WORK.PILOTS,
   (select avg(Salary) as Overall from WORK.PILOTS)
group by jobcode
;
```

B.

```
select
   Jobcode,
   avg(Salary) as Average,
   (select avg(Salary) from WORK.PILOTS) as Overall,
   calculated Average - Overall as Difference
from WORK.PILOTS
group by 1
;
```

C.

```
select
   Jobcode,
   Average,
   Average-Overall as Difference
from
   (select Jobcode, avg(Salary) as Average
   from WORK.PILOTS
   group by 1),
   (select avg(Salary) as Overall
   from WORK.PILOTS)
;
```

D.

```
select
   Jobcode,
   avg(Salary) as Average,
   calculated Average-(select avg(Salary) from WORK.PILOTS)
      as Difference
from WORK.PILOTS
```

```
group by 1
;
```

B

Item 51 of 63 Mark item for review

The SAS data set WORK.TEMP is indexed on the variable Id:

```
Id  Amount
--  ------
P     52
P     45
A     13
A     56
R     34
R     12
R     78
```

The following SAS program is submitted:

```
proc print data=WORK.TEMP;
   [_insert_BY_statement_]
run;
```

Which BY statement completes the program, creates a listing report that is grouped by Id, and completes without errors?

A.
```
by Id;
```

B.
```
by Id grouped;
```

C.
```
by Id descending;
```

D.
```
by descending Id;
```

A: be careful the test said “The SAS data set WORK.TEMP is indexed” that means the data set is already in APR order

Item 52 of 63 Mark item for review

To create a dataset with unique values of a given varible using a data step and the FIRST. and LAST. varaibales, it is assumed that the input dataset is:

A.
sorted on that variable.

B.
indexed by that variable.

C.
naturally in order.

D.
any of the above A, B, or C

A

Item 53 of 63 Mark item for review

The SASFILE statement requests that a SAS data set be opened and loaded into memory:

A.
one page at a time.

B.
one variable at a time.

C.
one observation at a time.

D.
in its entirety, if possible.

D

Item 54 of 63 Mark item for review

The following SAS program is submitted:

```
%let Name1=Shoes;
%let Name2=Clothes;
%let Root=name;
%let Suffix=2;
%put &&&Root&Suffix;
```

What is written to the SAS log?

A.
&Name2

B.
Clothes

C.
&&&Root&Suffix

D.
WARNING: Apparent symbolic reference ROOT2 not resolved.

B

Item 55 of 63 Mark item for review

Given the SAS data sets:

WORK.ONE

Year	Qtr	Budget

WORK.TWO

Year	Qtr	Sales

```
2001    3     500       2001    4    300
2001    4     400       2002    1    600
2003    1     350
```

The following SAS program is submitted:

```
proc sql;
   select
      TWO.*,
      budget
   from
      WORK.ONE
      [_insert_join_operator_]
      WORK.TWO
   on ONE.Year=TWO.Year
   ;
quit;
```

The following output is desired:

```
Year  Qtr  Sales   Budget
----  ---  -----   ------
2001    4    300      500
2001    4    300      400
2002    1    600        .
   .    .      .      350
```

Which join operator completes the program and generates the desired output?

A.
left join

B.
right join

C.
full join

D.
outer join

C

Item 56 of 63 Mark item for review

The SAS data set WORK.ADDRESSES contains
the email addresses of The XYZ Corporation's
customers in a variable named Email_Address.
The following DATA step is submitted:

```
data  _null_;
   set WORK.ADDRESSES;
   [_insert_statement_]
   put "filename mail email '" Email_Address  "'; ";
   put "data _null_;";
   put "   file mail;";
   put "   put 'Thank you for your continued';";
   put "   put 'support of The XYZ Corporation.';";
   put "   put 'We appreciate your patronage.';";
   put "   put 'Sincerely,';" ;
   put "   put 'The XYZ Corporation';";
   put "run;" ;
run;
```

Which statement completes the program
and creates a SAS program file?

A.
```
infile "c:\email.sas";
```

B.
```
output "c:\email.sas";
```

C.
```
file   "c:\email.sas";
```

D.
None of the above.

C: 看看 HELP 对 FILE 命令的解释：
The FILE command has a different use than the FILE statement; the FILE command writes the current contents of a window to an external file rather than merely specifying,

for example, a destination for PUT statement output in a DATA step.

For example, if you want to save the contents of the LOG window to an external file named C:\SASLOGS\TODAY.LOG, you can issue the following FILE command from the Command dialog box; however, the LOG window must be active: file “c:\saslogs\today.log”

Item 57 of 63 Mark item for review

Which of the following is true about the COMPRESS=YES data set option?

A.
It uses the Ross Data Compression method to compress numeric data.

B.
It is most effective with character data that contains repeated characters.

C.
It is most effective with numeric data that represents large numeric values.

D.
It is most effective with character data that contains patterns, rather than simple repetitions.

D
看看 HELP 中的解释：
specifies that the observations in a newly created SAS data set are compressed (variable-length records) by SAS using RLE (Run Length Encoding). RLE compresses observations by reducing repeated consecutive characters (including blanks) to two-byte or three-byte representations.

Item 58 of 63 Mark item for review

Given the SAS dataset WORK.ONE:

```
 Salary
 ------
    200
    205
      .
    523
```

The following SAS program is submitted:

```
proc sql;
   select *
   from WORK.ONE
   [_insert_where_clause_]
   ;
quit;
```

The following output is desired:

```
 Salary
 ------
    200
    205
    523
```

Which WHERE expression completes
the program and generates the desired output?

A.
```
where Salary is not .
```

B.
```
where Salary ne missing
```

C.
```
where Salary ne null
```

D.
```
where Salary is not missing
```

D

Item 59 of 63 Mark item for review

The SAS data set WORK.TEST has an index on the variable Id and the following SAS program is submitted.

```
data WORK.TEST;
   set WORK.TEST(
      keep=Id Var_1 Var_2
      rename=(Id=Id_Code));
   Total=sum(Var_1, Var_2);
run;
```

Which describes the result of submitting the SAS program?

A. The index on Id is deleted.

B. The index on Id is updated as an index on Id_Code.

C. The index on Id is deleted and an index on Id_Code is created.

D. The index on Id is recreated as an index on Id_Code.

A

Item 60 of 63 Mark item for review

Given the data set SASHELP.CLASS:

Name	Age
Mary	15
Philip	16
Robert	12
Ronald	15

The following SAS program is submitted:

```
%macro MP_ONE(pname=means);
```

```
    proc &pname data=SASHELP.CLASS;
    run;
 %mend;
 %MP_ONE(print)
 %MP_ONE()
```

Which PROC steps execute successfully?

A.
PROC MEANS only

B.
PROC PRINT only

C.
PROC MEANS and PROC PRINT

D.
No PROC steps execute successfully

A: 这里考察的是宏程序的中关键参数值得赋值
如果 %MP_ONE(print) 改成 %MP_ONE(pname=print)就可以执行得到结果

Item 61 of 63 Mark item for review

In a data step merge, the BY variables
in all data sets must have the same:

A.
name.

B.
name and type.

C.
name and length.

D.

name, type, and length.

B

Item 62 of 63 Mark item for review

Given the following macro program and invocation:

```
%macro MAKEPGM(NEWNAME, SETNAME);
   data &NEWNAME;
      set &SETNAME;
   run;
   %put ---> inside macro &NEWNAME &SETNAME;
%mend;

%MAKEPGM(WORK.NEW, SASHELP.CLASS)
%put ---> outside macro &NEWNAME &SETNAME;
```

Which of these choices shows the correct %PUT statement output if the program is submitted at the beginning of a new SAS session? Note that other lines may be written to the SAS log by the program but only the %PUT output is shown here.

A.
```
 ---> inside macro WORK.NEW SASHELP.CLASS
---> outside invocation WORK.NEW SASHELP.CLASS
```

B.
```
 ---> inside macro WORK.NEW SASHELP.CLASS
---> outside invocation &NEWNAME &SETNAME
```

C.
```
 ---> inside macro &NEWNAME &SETNAME
---> outside invocation WORK.NEW SASHELP.CLASS
```

D.
```
 ---> inside macro &NEWNAME &SETNAME
---> outside invocation &NEWNAME &SETNAME
```

B 前面有一道类似的题目 请参考
这里其实考察的是宏变量的作用域
宏程序中，通过参数进入的宏变量被认为局部宏变量，在宏程序内可以调用这些宏程序的值
但是宏程序外就不能调用局部的宏变量

Item 63 of 63 Mark item for review

The following SAS program is submitted:

```
%macro COLS1;
   Name Age;
%mend;
%macro COLS2;
   Height Weight;
%mend;
proc print data=SASHELP.CLASS;
   [_insert_VAR_statement_here_]
run;
```

Which VAR statement successfully completes the program to produce a report containing four variables?

A.
```
var %COLS1 %COLS2;
```

B.
```
var %COLS1-%COLS2;
```

C.
```
var %COLS1 Weight Height;
```

D.
```
var Weight Height %COLS1;
```

D: 这是一道很有意思的题目，如果把宏改成：
```
%macro  COLS1;
Name Age
%mend;
```

%macro COLS2;
Height Weight
%mend;
答案选 A 或者 C
如果把宏改成：
%macro COLS1;
Name Age；
%mend;
%macro COLS2;
Height Weight
%mend;
答案可以选择 D
原因很简单:
宏程序被解析之后是一个带有分号的表达式，而分号在 SAS 语句中是一条语句的终止符号，等于
此行程序执行的终点。