**1.** 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.

**2.** 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;

**3.** 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.

**4.** 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 ','

**5.** 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.

**6.** 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
;
```

**7.** 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.

**8.** 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

**9.** 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
;
```

**10.** 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

**11.** 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.

**12.** 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.)";

**13.** 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
;
```

**14.** 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;
```

**15.** 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 |

**16.** 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

**17.** 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

**18.** 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.

**19.** 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)";

**20.** 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.

**21.** 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.

**22.** 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;

**23.** 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

**24.** 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

**25.** 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

**26.** 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
;
```

**27.** 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 |

**28.** 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;

**29.** 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

**30.** 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."";

**31.** Given the SAS data sets:

WORK.ONE

| X | Y |
|---|---|
| A | 10 |
| A | 3 |
| A | 14 |
| B | 9 |

WORK.TWO

| SumY |
|---|
| 36 |

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 |

**32.** 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

**33.** 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;

**34.** 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"

**35.** 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.

**36.** 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.

**37.** 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

**38.** 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

**39.** 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

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

A. BUFSIZE= and BUFNO=
B. FULLSTIMER
C. IOBLOCKSIZE=
D. SYSTIMER

**41.** 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

**42.** 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

**43.** 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)

**44.** 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

**45.** 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

**46.** 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

**47.** 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;

**48.** 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;

**49.** 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;

**50.** 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
;
```

**51.** 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;

**52.** 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

**53.**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.

**54.** 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.

**55.** Given the SAS data sets:

WORK.ONE

| Year | Qtr | Budget |
|---|---|---|
| 2001 | 3 | 500 |
| 2001 | 4 | 400 |
| 2003 | 1 | 350 |

WORK.TWO

| Year | Qtr | Sales |
|---|---|---|
| 2001 | 4 | 300 |
| 2002 | 1 | 600 |

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

**56.** 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.

**57.** 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.

**58.** 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

**59.** 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.

**60.** 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

**61.** 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.

**62.** 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

**63.** 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;

Answer (90%正确)

| | | |
|---|---|---|
| 1.C | 24.B | 47.B |
| 2.A | 25.C | 48.C |
| 3.C | 26.A | 49.D |
| 4.C | 27.A | 50.B |
| 5.D | 28.A | 51.A |
| 6.C | 29.B | 52.A |
| 7.A | 30.C | 53.D |
| 8.B | 31.D | 54.B |

9.D
10.D
11.C
12.D
13.C
14.D
15.A
16.C
17.D
18.A
19.D
20.A
21.A
22.C
23.B
32.D
33.B
34.C
35.B
36.B
37.B
38.B
39.C
40.B
41.C
42.B
43.B
44.B
45.D
46.B
55.C
56.C
57.B
58.D
59.A
60.A
61.B
62.B
63.D

答案 2 90%

1.C
2.A
3.C
4.C
5.D
6.C
7.A(Or C?)
24.B
25.C
26.A
27.A
28.A
29.B
30.C
47.B
48.C
49.D
50.B
51.A
52.A
53.D

8.B
9.D
10.D
11.C
12.D
13.C
14.D
15.A
16.C
17.D
18.A
19.D
20.A
21.A
22.C
23.B
31.D
32.D
33.B
34.C
35.B
36.B
37.B
38.B
39.C
40.B
41.C
42.B
43.B
44.B
45.D
46.B
54.B
55.C
56.C
57.B
58.D
59.A
60.A
61.B(OR D?)
62.B
63.D

20：A、B 是 3，X 是 8(by default)

但要注意：数字变量长度最小是 3，否则出错；