Q1

**DATA** GROUPED\_AGE;

SET LOAN\_RISK;

if **15** <= age <= **19** then age\_group = '15-19';

else if **20** <= age <= **24** then age\_group = '20-24';

else if **25** <= age <= **29** then age\_group = '25-29';

else if **30** <= age <= **34** then age\_group = '30-34';

else if **35** <= age <= **44** then age\_group = '35-44';

else if **45** <= age <= **64** then age\_group = '45-64';

else if **65** <= age <= **74** then age\_group = '65-74';

**run**;

**proc** **means**

data = GROUPED\_AGE nway noprint; /\*nway specifies that out will contain class variable, noprint specifies that the default mean proocedure should not be printed\*/

class age\_group;

var credits amount duration;

output out = GROUPED\_AGE (drop = \_type\_ \_freq\_)

sum(credits) = number\_of\_loans\_requested

mean(amount) = average\_amount\_of\_loan\_requested

mean(duration)= average\_duration;

**run**;

**proc** **sort**

data = GROUPED\_AGE nodupkey;

by age\_group;

**run**;

**proc** **print**

data = GROUPED\_AGE;

**run**;

Q2

**proc** **sql**;

create table GROUPED\_AGE2 as

Select case /\*define the condition- age group\*/

when age between **15** and **19** then '15-19'

when age between **20** and **24** then '20-24'

when age between **25** and **29** then '25-29'

when age between **30** and **34** then '30-34'

when age between **35** and **44** then '35-44'

when age between **45** and **64** then '45-64'

when age between **65** and **74** then '65-74'

else 'other'

end as age\_group,

sum(credits)as number\_of\_loans\_requested,

avg(amount) as average\_amount\_of\_loan\_requested,

avg(duration) as average\_duration

from LOAN\_RISK

group by age\_group;

delete from GROUPED\_AGE2

where age\_group = 'other'

;

**QUIT**;

**PROC** **PRINT**

DATA = GROUPED\_AGE2;

**RUN**;

Q3

**Data** SELECTED\_AGE;

set LOAN\_RISK;

where **20**<= age <= **25**;

**run**;

**proc** **sort**

data = SELECTED\_AGE;

by age;

**run**; /\*will sort data selected\_age by the variable age in ascending order \*/

**proc** **summary**

data= SELECTED\_AGE;

by age;

output out = agecount

(drop=\_type\_ rename=(\_freq\_= age\_count));

**run**;

**proc** **print**

data = agecount;

**run**;

**proc** **print**

data= SELECTED\_AGE;

**run**;

Q4

**proc** **sql**;

create table SELECTED\_AGE2 as

select \*

from LOAN\_RISK

where **20**<= age <= **24**

order by age;

/\* count the records\*/

select age, count(age) as age\_count

from selected\_age2

group by age;

**quit**;

**proc** **print**

data= SELECTED\_AGE2;

**run**;

Q5

**proc** **sql**;

create table LOAN\_RISK2 as

select customer.\*,

rating.rating,

assessment.when\_assessed

from customer full join rating

on customer.customer=rating.customer

full join assessment

on rating.customer=assessment.customer

;

**quit**;

**data** LOAN\_RISK2;

set LOAN\_RISK2;

format;

if history = **9** then history = **.**;

if age = **999** then age = **.**;

if married = **9** then married = **.**;

if debtors = **9** then debtors = **.**;

if resident = **9** then resident = **.**;

if plans = **9** then plans = **.**;

if housing = **9** then housing = **.**;

if job = **9** then job = **.**;

if telephone = **9** then telephone = **.**;

label

customer = 'Customer ID'

account = 'Chequing account [overdraft?]'

duration = 'Duration in months'

history = 'Credit history'

purpose = 'Purpose [of loan?]'

amount = 'Credit amount [requested?]'

savings = 'Savings accounts/bonds'

employment = 'Present employment since'

instalment = 'Instalment rate % income'

married = 'Personal status and sex'

debtors = 'Other debtors/guarantors'

resident = 'Present residence since'

property = 'Property [purchase method?]'

age = 'Age in years'

plans = 'Other instalment plans'

housing = 'Housing [ownership?]'

credits = 'Number of existing credits'

job = 'Job [type?]'

dependents = 'Number of dependents'

telephone = 'Telephone [line rental?]'

foreign = 'Foreign worker'

when\_assessed = 'Date of assessment'

rating = 'Credit rating'

;

format

account cr\_account.

history cr\_history.

purpose $cr\_purpose.

amount nlmnlgbp8.0

savings cr\_savings.

employment cr\_employment.

married cr\_married.

debtors cr\_debtors.

resident cr\_resident.

property cr\_property.

plans cr\_plans.

housing cr\_housing.

job cr\_job.

telephone cr\_telephone.

foreign cr\_foreign.

when\_assessed nldate10.

rating cr\_rating.

;

**run**;

**proc** **print**

data = LOAN\_RISK2(obs=**10**)

label noobs;

**run**;

**proc** **compare**

base = LOAN\_RISK

compare = LOAN\_RISK2;

**run**;

Q6

**data** EXERCISE\_MEAN;

SET EXERCISE;

array pulse(**3**) pulse1-pulse3; /\*declare the array\*/

pulse\_mean = mean(of pulse(\*)); /\*find mean of pulse\*/

**run**;

**proc** **print**

data= EXERCISE\_MEAN;

**run**;

Q7

**proc** **transpose**

data = EXERCISE

out = EXERCISE\_(rename=(\_name\_=pulse\_time col1=pulse));

by id exertype diet;

var pulse1-pulse3;

**run**;

**proc** **print**

data = EXERCISE\_;

**run**;

Q8

**proc** **transpose**

data = EXERCISE\_

out = EXERCISE1 (drop=\_name\_);

by id exertype diet;

id pulse\_time;

**run**;

**proc** **print**

data = EXERCISE1;

**run**;

**proc** **compare**

base = EXERCISE

compare = EXERCISE1;

**run**;