Complete the following tasks using SAS. Paste whatever is requested after each question and submit the completed file via the drop box prior to the assigned due date and time. Be sure to use appropriate comments in the SAS program, and that output has appropriate titles.

1. Write PROC SQL step that creates a table from the admissions database with all the columns, but only those rows that correspond to hospital number 3. Add a title to make the table look more professional.

/\*Q1 PROC SQL step that creates a table from the admissions database with all the columns,

but only those rows that correspond to hospital number 3\*/

proc sql;

title "Query to display all columns from admissions table with hosp =3";

footnote "Created by Aditya Bisht";

select \*

from sasuser.admissions

where hosp =3;

quit;

**Query to display all columns from admissions table with hosp =3**

| pt\_id | admdate | disdate | md | hosp | dest | bp\_sys | bp\_dia | primdx |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | 17OCT2010 | 21OCT2010 | 8081 | 3 | 1 | 155 | 92 | 410.01 |
| 3 | 15NOV2010 | 15NOV2010 | 2322 | 3 | 9 | 74 | 40 | 431 |
| 5 | 11APR2010 | 28APR2010 | 7803 | 3 | 1 | 145 | 91 | 411 |
| 8 | 01OCT2010 | 15OCT2010 | 3274 | 3 | 1 | 145 | 74 | 820.8 |
| 8 | 26NOV2010 | 28NOV2010 | 2322 | 3 | 2 | 135 | 76 | V54.8 |
| 14 | 17JAN2011 | 20JAN2011 | 7803 | 3 | 1 | 162 | 93 | 414.1 |
| 18 | 01NOV2010 | 15NOV2010 | 1972 | 3 | 2 | 170 | 88 | 428.1 |
| 18 | 26DEC2010 | 08JAN2011 | 1972 | 3 | 2 | 199 | 93 | 428.1 |

Created by Aditya Bisht

1. Write PROC SQL step that creates a table from the admissions database with all the columns, but only those rows that correspond to the Tarheel hospital. Use an inline query of the hospitals database to determine the hospital number that corresponds to Tarheel. Add a title to make the table look more professional.

/\*Q2 PROC SQL step that creates a table from the admissions database with all the columns,

but only those rows that correspond to the Tarheel hospital.

Use an inline query of the hospitals database to determine the hospital number that corresponds to Tarheel. \*/

proc sql;

title " Inline query of the hospitals database to determine the hospital number that corresponds to Tarheel";

footnote "Created by Aditya Bisht";

select \*

from sasuser.admissions

where hosp = (select hosp\_id from sasuser.hospitals where hospname ="Tarheel" );

quit;

**Inline query of the hospitals database to determine the hospital number that corresponds to Tarheel**

| pt\_id | admdate | disdate | md | hosp | dest | bp\_sys | bp\_dia | primdx |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | 17OCT2010 | 21OCT2010 | 8081 | 3 | 1 | 155 | 92 | 410.01 |
| 3 | 15NOV2010 | 15NOV2010 | 2322 | 3 | 9 | 74 | 40 | 431 |
| 5 | 11APR2010 | 28APR2010 | 7803 | 3 | 1 | 145 | 91 | 411 |
| 8 | 01OCT2010 | 15OCT2010 | 3274 | 3 | 1 | 145 | 74 | 820.8 |
| 8 | 26NOV2010 | 28NOV2010 | 2322 | 3 | 2 | 135 | 76 | V54.8 |
| 14 | 17JAN2011 | 20JAN2011 | 7803 | 3 | 1 | 162 | 93 | 414.1 |
| 18 | 01NOV2010 | 15NOV2010 | 1972 | 3 | 2 | 170 | 88 | 428.1 |
| 18 | 26DEC2010 | 08JAN2011 | 1972 | 3 | 2 | 199 | 93 | 428.1 |

Created by Aditya Bisht

1. Write PROC SQL step that creates a table from the admissions database with all the columns, but only those rows that correspond to the Tarheel hospital. This time, perform a join of the admissions database with the hospitals database, and be sure to show the name of hospital in the table. Add a title to make the table look more professional.

/\*Q3 PROC SQL step that creates a table from the admissions database with all the columns, but only those rows that correspond to the Tarheel hospital.

This time, perform a join of the admissions database with the hospitals database,\*/

proc sql;

title "Join query of the hospitals database to determine the hospital number that corresponds to Tarheel"

footnote "Created by Aditya Bisht";

select admissions.\*,hospname

from sasuser.admissions ,sasuser.hospitals

where admissions.hosp = hospitals.hosp\_id and hospname ="Tarheel";

quit;

**Join query of the hospitals database to determine the hospital number that corresponds to Tarheel**

| pt\_id | admdate | disdate | md | hosp | dest | bp\_sys | bp\_dia | primdx | hospname |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | 17OCT2010 | 21OCT2010 | 8081 | 3 | 1 | 155 | 92 | 410.01 | Tarheel |
| 3 | 15NOV2010 | 15NOV2010 | 2322 | 3 | 9 | 74 | 40 | 431 | Tarheel |
| 5 | 11APR2010 | 28APR2010 | 7803 | 3 | 1 | 145 | 91 | 411 | Tarheel |
| 8 | 01OCT2010 | 15OCT2010 | 3274 | 3 | 1 | 145 | 74 | 820.8 | Tarheel |
| 8 | 26NOV2010 | 28NOV2010 | 2322 | 3 | 2 | 135 | 76 | V54.8 | Tarheel |
| 14 | 17JAN2011 | 20JAN2011 | 7803 | 3 | 1 | 162 | 93 | 414.1 | Tarheel |
| 18 | 01NOV2010 | 15NOV2010 | 1972 | 3 | 2 | 170 | 88 | 428.1 | Tarheel |
| 18 | 26DEC2010 | 08JAN2011 | 1972 | 3 | 2 | 199 | 93 | 428.1 | Tarheel |

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1. Write PROC SQL step creates two new data sets from the admissions table. The first dataset should have admission dates from 2010 and the second should have admissions from 2011. Use PROC PRINT to show the first 10 observations of each dataset. Add a title to make the table look more professional.

/\*Q4 PROC SQL step creates two new data sets from the admissions table. The first dataset should

have admission dates from 2010 and the second should have admissions from 2011. \*/

proc sql;

title "SQL query to create 2 Data sets from Admissions Table with admission dates 2010 and 2011";

footnote "Created by Aditya Bisht";

create table year\_2010 as

select \* from sasuser.admissions

where admdate between '01JAN2010'd and '31DEC2010'd;

create table year\_2011 as

select \* from sasuser.admissions

where admdate between '01JAN2011'd and '31DEC2011'd;

quit;

/\*Print statement to print the admissions data with 2010 as admdate\*/

proc print data=work.year\_2010 (obs=10);

title "Admission table with 2010 admdate";

footnote "Created By Aditya Bisht";

run;

/\*Print statement to print the admissions data with 2011 as admdate\*/

proc print data=work.year\_2011 (obs=10);

title "Admission table with 2011 admdate";

footnote "Created By Aditya Bisht";

run;

**Admission table with 2010 admdate**

| Obs | pt\_id | admdate | disdate | md | hosp | dest | bp\_sys | bp\_dia | primdx |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 07FEB2010 | 08FEB2010 | 3274 | 1 | 1 | 188 | 85 | 410 |
| 2 | 1 | 12APR2010 | 25APR2010 | 1972 | 1 | 1 | 230 | 101 | 428.2 |
| 3 | 1 | 10SEP2010 | 19SEP2010 | 3274 | 2 | 2 | 170 | 78 | 813.9 |
| 4 | 1 | 19SEP2010 | 22SEP2010 | 3274 | 5 | 9 | 185 | 94 | 428.4 |
| 5 | 3 | 17OCT2010 | 21OCT2010 | 8081 | 3 | 1 | 155 | 92 | 410.01 |
| 6 | 3 | 15NOV2010 | 15NOV2010 | 2322 | 3 | 9 | 74 | 40 | 431 |
| 7 | 4 | 18JUN2010 | 24JUN2010 | 7803 | 2 | 2 | 140 | 78 | 434.1 |
| 8 | 5 | 19JAN2010 | 22JAN2010 | 1972 | 1 | 1 | 148 | 84 | 411.81 |
| 9 | 5 | 10MAR2010 | 18MAR2010 | 1972 | 1 | 1 | 160 | 90 | 410.9 |
| 10 | 5 | 10APR2010 | 11APR2010 | 1972 | 2 | 2 | 150 | 89 | 411 |

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**Admission table with 2011 admdate**

| Obs | pt\_id | admdate | disdate | md | hosp | dest | bp\_sys | bp\_dia | primdx |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 6 | 11SEP2011 | 13SEP2011 | 8081 | 5 | 2 | 129 | 83 | 820.01 |
| 2 | 10 | 30NOV2011 | 06DEC2011 | 2322 | 4 | 1 | 147 | 84 | E886.3 |
| 3 | 12 | 04JAN2011 | 09JAN2011 | 4003 | 5 | 9 | 201 | 98 | 433.4 |
| 4 | 14 | 17JAN2011 | 20JAN2011 | 7803 | 3 | 1 | 162 | 93 | 414.1 |
| 5 | 15 | 25MAY2011 | 06JUN2011 | 4003 | 5 | 2 | 142 | 81 | 820.8 |
| 6 | 15 | 17AUG2011 | 24AUG2011 | 4003 | 5 | 2 | 138 | 79 | 38.200000000000003 |
| 7 | 16 | 25JUL2011 | 30JUL2011 | 7803 | 2 | 1 | 189 | 101 | 412.1 |
| 8 | 20 | 04JUL2011 | 08JUL2011 | 2998 | 4 | 1 | 118 | 75 | 414 |
| 9 | 20 | 08OCT2011 | 01NOV2011 | 2322 | 1 | 2 | 162 | 99 | 434 |

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1. Write PROC SQL step that concatenates the two datasets from the previous question into one dataset again. Use PROC PRINT to show the first 10 observations. Add a title to make the table look more professional.

/\*Q5 PROC SQL step that concatenates the two datasets from the previous question into one dataset again. \*/

proc sql;

title "Combining the previously created Data Sets year\_2010 and year\_2011";

footnote "Created By Aditya Bisht";

create table union20101 as

select \*

from work.year\_2010

UNION

select \*

from work.year\_2011;

quit;

/\*PROC PRINT to show the first 10 observations of the combined data set\*/

proc print data=union20101 (obs=10);

title "Admission table with 201o and 2011 admdate";

footnote "Created By Aditya Bisht";

run;

**Admission table with 201o and 2011 admdate**

| Obs | pt\_id | admdate | disdate | md | hosp | dest | bp\_sys | bp\_dia | primdx |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 07FEB2010 | 08FEB2010 | 3274 | 1 | 1 | 188 | 85 | 410 |
| 2 | 1 | 12APR2010 | 25APR2010 | 1972 | 1 | 1 | 230 | 101 | 428.2 |
| 3 | 1 | 10SEP2010 | 19SEP2010 | 3274 | 2 | 2 | 170 | 78 | 813.9 |
| 4 | 1 | 19SEP2010 | 22SEP2010 | 3274 | 5 | 9 | 185 | 94 | 428.4 |
| 5 | 3 | 17OCT2010 | 21OCT2010 | 8081 | 3 | 1 | 155 | 92 | 410.01 |
| 6 | 3 | 15NOV2010 | 15NOV2010 | 2322 | 3 | 9 | 74 | 40 | 431 |
| 7 | 4 | 18JUN2010 | 24JUN2010 | 7803 | 2 | 2 | 140 | 78 | 434.1 |
| 8 | 5 | 19JAN2010 | 22JAN2010 | 1972 | 1 | 1 | 148 | 84 | 411.81 |
| 9 | 5 | 10MAR2010 | 18MAR2010 | 1972 | 1 | 1 | 160 | 90 | 410.9 |
| 10 | 5 | 10APR2010 | 11APR2010 | 1972 | 2 | 2 | 150 | 89 | 411 |

Created By Aditya Bisht

1. Write PROC SQL merges (joins) the admissions table with the patients table. Show only the patients lastname, firstname, date of birth, and their blood pressure numbers.

/\*Q6 6. Write PROC SQL merges (joins) the admissions table with the patients table.

Show only the patients lastname, firstname, date of birth, and their blood pressure numbers.\*/

proc sql;

title "PROC SQL to JOIN the admissions table with patients table.

Showing lastname, firstname, date of birth, and their blood pressure numbers";

footnote "Created By Aditya Bisht";

select p.lastname,p.firstname,p.dob,a.bp\_sys,a.bp\_dia

from sasuser.admissions as a, sasuser.patients as p

where a.pt\_id=p.id;

quit;

**PROC SQL to JOIN the admissions table with patients table. Showing lastname, firstname, date of birth, and their blood pressure numbers**

| lastname | firstname | dob | bp\_sys | bp\_dia |
| --- | --- | --- | --- | --- |
| Williams | Hugh | 10AUG1931 | 188 | 85 |
| Williams | Hugh | 10AUG1931 | 230 | 101 |
| Williams | Hugh | 10AUG1931 | 170 | 78 |
| Williams | Hugh | 10AUG1931 | 185 | 94 |
| Gillette | Michael | 02JUL1927 | 155 | 92 |
| Gillette | Michael | 02JUL1927 | 74 | 40 |
| Wallace | Geoffrey | 25MAY1925 | 140 | 78 |
| Abbott | Celeste | 31AUG1940 | 148 | 84 |
| Abbott | Celeste | 31AUG1940 | 160 | 90 |
| Abbott | Celeste | 31AUG1940 | 150 | 89 |
| Abbott | Celeste | 31AUG1940 | 145 | 91 |

/\*Partial Output\*/

1. Write PROC SQL step shows all the names of Dr. Fitzhugh patients. Note: there are a number of ways this might be done.

/\*Q7 - Write PROC SQL step shows all the names of

Dr. Fitzhugh patients. Note: there are a number of ways this might be done.\*/

proc sql;

title "PROC SQL step shows all the names of

Dr. Fitzhugh patients";

footnote "Created by Aditya Bisht";

select distinct trim(left(firstname) || ' ' || left(p.lastname) )as Patient\_Name,

d.lastname as doctor\_name

from sasuser.patients as p, sasuser.doctors as d

where p.primmd = d.md\_id and doctors.lastname="Fitzhugh";

quit;

**PROC SQL step shows all the names of Dr. Fitzhugh patients**

| Patient\_Name | lastname |
| --- | --- |
| Antonio DeLucia | Fitzhugh |
| Celeste Abbott | Fitzhugh |
| Hugh Williams | Fitzhugh |
| Karen Erickson | Fitzhugh |
| Shelby Baker | Fitzhugh |
| Susan Franklin | Fitzhugh |

Created by Aditya Bisht

1. Write PROC SQL step shows all the names of Dr. Fitzhugh patients, along with the name of the hospital they were admitted to, sorted by hospital and patient’s name. Note: there are a number of ways this might be done.

/\*Q8 Write PROC SQL step shows all the names of Dr. Fitzhugh patients,

along with the name of the hospital they were admitted to, sorted by hospital and patient’s name.

Note: there are a number of ways this might be done.\*/

proc sql;

title "PROC SQL step shows all the names of

Dr. Fitzhugh patients along with hospital name and sorted by hospital name and patient name";

footnote "Created by Aditya Bisht";

select trim(left(firstname) || ' ' || left(p.lastname) )as Patient\_Name, doctors.lastname, h.hospname

from sasuser.patients as p, sasuser.doctors , sasuser.hospitals as h

where p.primmd=doctors.md\_id and doctors.lastname="Fitzhugh" and h.hosp\_id=doctors.hospadm

order by hospname, Patient\_Name;

quit;

**PROC SQL step shows all the names of Dr. Fitzhugh patients along with hospital name and sorted by hospital name and patient name**

| Patient\_Name | lastname | hospname |
| --- | --- | --- |
| Antonio DeLucia | Fitzhugh | City |
| Celeste Abbott | Fitzhugh | City |
| Hugh Williams | Fitzhugh | City |
| Karen Erickson | Fitzhugh | City |
| Shelby Baker | Fitzhugh | City |
| Susan Franklin | Fitzhugh | City |
| Antonio DeLucia | Fitzhugh | Deacon |
| Celeste Abbott | Fitzhugh | Deacon |
| Hugh Williams | Fitzhugh | Deacon |
| Karen Erickson | Fitzhugh | Deacon |
| Shelby Baker | Fitzhugh | Deacon |
| Susan Franklin | Fitzhugh | Deacon |

Created by Aditya Bisht

1. Write PROC SQL step that shows each hospital name and the number of patients admitted (whether or not there was any admits).

/\*PROC SQL step that shows each hospital name and the number of patients admitted . how many different people were admitted to each hospital..\*/

proc sql;

title "PROC SQL to show how many different people were admitted to each hospital. (Discussion Forum)";

footnote "Created by Aditya Bisht";

select h.hospname, count(distinct a.pt\_id) as Number\_of\_Patients

from sasuser.admissions as a, sasuser.hospitals as h

where a.hosp = h.hosp\_id

group by h.hospname;

quit;

**PROC SQL to show how many different people were admitted to each hospital. (Discussion Forum)**

| hospname | Number\_of\_Patients |
| --- | --- |
| BlueDevil | 4 |
| City | 7 |
| Deacon | 3 |
| Peace | 2 |
| Tarheel | 5 |
| Wolfpack | 1 |

Created by Aditya Bisht