

```

1665 *****;
1666 * f=prog_mbquest2.sas *;
1667 * *;
1668 * SAS code to answer the research- *;
1669 * oriented questions, using the *;
1670 * simulated MB Health data in a *;
1671 * program that creates the necessary *;
1672 * code in one data step. *;
1673 * This assumes the temporary SAS *;
1674 * set "test" has been created. *;
1675 * *;
1676 * NOTE: the "formchar" option in the *;
1677 * PROC FREQ statements were required *;
1678 * here to enable Web display of *;
1679 * tables - it is not normally needed. *;
1680 *****;
1681
1682 %include 'c:\winnt\profiles\Ruth\personal\My SAS
1682! files\sasmanual\formats\fmts95.sas';
NOTE: Format $ABSTYPL is already on the library.
NOTE: Format $ABSTYPL has been output.
NOTE: Format $CHARL is already on the library.
NOTE: Format $CHARL has been output.
NOTE: Format $DISCREL is already on the library.
NOTE: Format $DISCREL has been output.
NOTE: Format $GENDERL is already on the library.
NOTE: Format $GENDERL has been output.
NOTE: Format $ICD17L is already on the library.
NOTE: Format $ICD17L has been output.
NOTE: Format $INCDRL is already on the library.
NOTE: Format $INCDRL has been output.
NOTE: Format $REGIONL is already on the library.
NOTE: Format $REGIONL has been output.
NOTE: Format $RISKL is already on the library.
NOTE: Format $RISKL has been output.
NOTE: Format $$SCHEDL is already on the library.
NOTE: Format $$SCHEDL has been output.
NOTE: Format $$SEVRL is already on the library.
NOTE: Format $$SEVRL has been output.
NOTE: Format $TREATYL is already on the library.
NOTE: Format $TREATYL has been output.
NOTE: Format $TRNADML is already on the library.
NOTE: Format $TRNADML has been output.
NOTE: Format $TRNDISL is already on the library.
NOTE: Format $TRNDISL has been output.
NOTE: Format $TYPEHL is already on the library.
NOTE: Format $TYPEHL has been output.
NOTE: Format $WBURGL is already on the library.
NOTE: Format $WBURGL has been output.

NOTE: PROCEDURE FORMAT used:
      real time          0.16 seconds
      cpu time           0.15 seconds

1775
1776
1777 data final;
1778     set test;
1779
1780 ****---Question 1-----****;
1781
1782     lensop = ('13 '<=op01<='1399'); /* Flag eye operations

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1782!  */
1783
1784     *Another way of flagging the eye operations: *;
1785
1786     lensop2=substr(op01,1,2)='13';
1787
1788     *(Question 2 does not need new variable code)*;
1789
1790     ****---Question 3----****;
1791
1792     if '820  '<=diag01<='82099' then hipfx=1;
1793     else if '820  '<=diag02<='82099' then hipfx=1;
1794     else hipfx=0;
1795
1796     *(Note that substring could be used instead.
1797       Also note that a DO loop, with an ARRAY,
1798       can be used for performing repetitive tasks
1799       such as the above and should be used when
1800       many fields need to be processed.)
1801
1802     *(Question 4 does not need new variable code)*;
1803
1804     ****---Question 5-----****;
1805
1806     deathall= (.<deathsep<9999);
1807     death90 = (.<deathsep<=90);
1808     readm90 = (.<daystor<=90);
1809
1810     run;

```

NOTE: The data set WORK.FINAL has 5000 observations and 39 variables.

NOTE: DATA statement used:

real time	0.37 seconds
cpu time	0.35 seconds

```

1811
1812 title1 'Research-Oriented Questions Using Simulated MB
1812! Health Data';
1813
1814 proc print data=final (obs=40);
1815     var op01 lensop lensop2;
1816 title2 'Question 1 - Check new variables';
1817 run;

```

NOTE: PROCEDURE PRINT used:

real time	0.08 seconds
cpu time	0.03 seconds

```

1818
1819 proc sort data=final;
1820     by lensop;
1821 run;

```

NOTE: The data set WORK.FINAL has 5000 observations and 39 variables.

NOTE: PROCEDURE SORT used:

real time	0.32 seconds
cpu time	0.29 seconds

```
1822
1823 proc means;
1824   var age;
1825   by lensop;
1826 title2 'Question 1 - mean age for lens vs no lens
1826! operation';
1827 run;
```

```
NOTE: PROCEDURE MEANS used:
      real time          0.15 seconds
      cpu time           0.10 seconds
```

```
1828
1829 proc freq formchar (1,2,7) = '|-+';
1830   tables diag01 * diag02 /list missing;
1831 where hipfx=1;
1832 title2 'Question 2 - Check new variable';
1833 run;
```

```
NOTE: PROCEDURE FREQ used:
      real time          0.26 seconds
      cpu time           0.15 seconds
```

```
1834
1835 proc freq formchar (1,2,7) = '|-+';
1836   tables incdr * typehsp;
1837 format typehsp $typehl. incdr $incdrl.;
1838 title2 'Question 2 - income by type of hospital';
1839 run;
```

```
NOTE: PROCEDURE FREQ used:
      real time          0.33 seconds
      cpu time           0.23 seconds
```

```
1840
1841 proc freq formchar (1,2,7) = '|-+';
1842   tables tranadm trandis;
1843   where hipfx=1;
1844   format tranadm $trnadml. trandis $trndisl.;
1845 title2 'Question 3 - Hip fractures by transfers';
1846 run;
```

```
NOTE: PROCEDURE FREQ used:
      real time          0.25 seconds
      cpu time           0.14 seconds
```

```
1847
1848 proc freq formchar (1,2,7) = '|-+';
1849   tables icd17brk * (charyes gender);
1850   format icd17brk $icd17l. charyes $charl. gender
1850! $genderl.;
1851 title2 'Question 4 - 17 ICD-9-CM categories by CCI, by
1851! Gender';
1852 run;
```

```
NOTE: PROCEDURE FREQ used:
      real time          0.44 seconds
      cpu time           0.25 seconds
```

```
1853
1854 proc freq formchar (1,2,7) = '|-+';
1855     tables deathsep * death90 * deathall /list missing;
1856     tables deathall * death90 /list missing;
1857 title2 'Question 5 - Check new variables';
1858 run;
```

NOTE: PROCEDURE FREQ used:

real time	0.41 seconds
cpu time	0.25 seconds

```
1859
1860 proc freq formchar (1,2,7) = '|-+';
1861     tables deathall death90;
1862 title2 'Question 5: All deaths and 90-day mortality';
1863 run;
```

NOTE: PROCEDURE FREQ used:

real time	0.23 seconds
cpu time	0.15 seconds