***STAT 611 SAS Project***

**Question 1**

*Part A*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.SNOW1 | **Observations** | 70 |
| **Member Type** | DATA | **Variables** | 12 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 17:59:19 | **Observation Length** | 96 |
| **Last Modified** | 10/21/2018 17:59:19 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 1 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 681 |
| **Obs in First Data Page** | 70 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/snow1.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410470 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 128KB |
| **File Size (bytes)** | 131072 |

| **Alphabetic List of Variables and Attributes** | | | |
| --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** |
| **10** | Apr | Char | 8 |
| **6** | Dec | Char | 8 |
| **8** | Feb | Char | 8 |
| **7** | Jan | Char | 8 |
| **9** | Mar | Char | 8 |
| **11** | May | Char | 8 |
| **5** | Nov | Char | 8 |
| **4** | Oct | Char | 8 |
| **2** | Season | Char | 7 |
| **3** | Sep | Char | 8 |
| **12** | Total | Char | 8 |
| **1** | Year | Num | 8 |

| **Obs** | **Year** | **Season** | **Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Total** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 1884 | 1884-85 | 0 | 0 | 1 | 27.1 | 22.2 | 17 | 3.5 | 19.5 | 0 | 90.3 |
| **2** | 1885 | 1885-86 | 0 | 1.7 | 8.2 | 8.4 | 16.9 | 16 | 6.5 | 7 | 0 | 64.7 |
| **3** | 1886 | 1886-87 | 0 | 0 | 22.2 | 12.5 | 12 | 18.4 | 6.3 | 1.2 | 0 | 72.6 |
| **4** | 1893 | 1893-94 | 0 | 0.5 | 6.1 | 27.6 | 20 | 29.5 | 5.4 | 13.3 | 0 | 102.4 |
| **5** | 1894 | 1894-95 | 0 | 0 | 11.1 | 22.1 | 26.5 | 23.6 | 9.5 | 0.6 | 0 | 93.4 |
| **6** | 1895 | 1895-96 | 0 | 1.5 | 5.9 | 8.7 | 22.5 | 39.1 | 45.1 | 1 | 0 | 123.8 |
| **7** | 1896 | 1896-97 | 0 | 0 | 5.5 | 13.9 | 20.1 | 13.7 | 8.1 | 5.2 | 0 | 66.5 |
| **8** | 1897 | 1897-98 | 0 | 0 | 10.1 | 18.4 | 32.1 | 26.8 | 1.2 | 2.4 | 0 | 91 |
| **9** | 1898 | 1898-99 | 0 | 0 | 10.6 | 27 | 16.6 | 16.3 | 21.2 | 4.3 | 0 | 96 |
| **10** | 1899 | 1899-00 | 0 | 0 | 1.3 | 21.5 | 24.7 | 28.5 | 54 | 1.3 | 0 | 131.3 |
| **11** | 1906 | 1906-07 | 0 | 5 | 5.7 | 18.7 | 11.7 | 15.7 | 3.1 | 2.5 | 1.3 | 63.7 |
| **12** | 1907 | 1907-08 | 0 | 0 | 2.2 | 11.6 | 16.5 | 19.8 | 7.9 | 6.3 | 3 | 67.3 |
| **13** | 1908 | 1908-09 | 0 | 0.5 | 4.6 | 10 | 22.5 | 6.1 | 9.7 | 9.8 | 3.3 | 66.5 |
| **14** | 1909 | 1909-10 | 0 | 0 | 1.7 | 14.6 | 22 | 42.7 | 3.4 | 0.5 | 0 | 84.9 |
| **15** | 1910 | 1910-11 | 0 | 2.2 | 15.7 | 29.8 | 9.5 | 30 | 13.5 | 4.7 | 2 | 107.4 |
| **16** | 1911 | 1911-12 | 0 | 0 | 6.5 | 7.5 | 21.5 | 10.8 | 8.8 | 6.9 | 0 | 62 |
| **17** | 1912 | 1912-13 | 0 | 0 | 7.2 | 6.9 | 10 | 18.6 | 15.2 | 1.3 | 0 | 59.2 |
| **18** | 1913 | 1913-14 | 0 | 0.2 | 0.3 | 14.4 | 15.1 | 21.6 | 27.9 | 7.2 | 0 | 86.7 |
| **19** | 1914 | 1914-15 | 0 | 0.8 | 4.7 | 16.1 | 22.9 | 9.8 | 6 | 0.5 | 0 | 60.8 |
| **20** | 1926 | 1926-27 | 0 | 0 | 3.4 | 28.5 | 21.7 | 21.8 | 4.7 | 0.5 | 0 | 80.6 |
| **21** | 1927 | 1927-28 | 0 | 0 | 0.9 | 13.4 | 12.8 | 8.3 | 30.1 | 3 | 0 | 68.5 |
| **22** | 1928 | 1928-29 | 0 | 1 | 9.2 | 2.6 | 22.9 | 14.1 | 5 | 0.3 | 0 | 55.1 |
| **23** | 1929 | 1929-30 | 0 | 0 | 1.3 | 19.3 | 6.2 | 12.6 | 17.8 | 2.3 | 0 | 59.5 |
| **24** | 1930 | 1930-31 | 0 | 2.5 | 6.2 | 11.7 | 28.7 | 6.8 | 21.4 | 0 | 0 | 77.3 |
| **25** | 1931 | 1931-32 | 0 | 0 | 0.9 | 5 | 6.3 | 25.3 | 32.1 | 6.1 | 0 | 75.7 |
| **26** | 1932 | 1932-33 | 0 | 0 | 5 | 4.1 | 1 | 10.7 | 8 | 0.4 | 0 | 29.2 |
| **27** | 1933 | 1933-34 | 0 | 0 | 19.3 | 17.2 | 8.5 | 25.3 | 5.8 | 1 | 0 | 77.1 |
| **28** | 1934 | 1934-35 | 0 | 1 | 1.6 | 12.3 | 15.5 | 14.1 | 4.3 | 0.7 | 0 | 49.5 |
| **29** | 1935 | 1935-36 | 0 | 0 | 0 | 28.6 | 28 | 11.9 | 19.2 | 2.3 | 0 | 90 |
| **30** | 1936 | 1936-37 | 0 | 0 | 9.2 | 12.2 | 7.4 | 6.1 | 30 | 1 | 0 | 65.9 |
| **31** | 1937 | 1937-38 | 0 | 0.2 | 5.7 | 8.1 | 12.7 | 14.9 | 4.8 | 8.3 | 0 | 54.7 |
| **32** | 1938 | 1938-39 | 0 | 0 | 7.2 | 8.3 | 34.4 | 11.7 | 13.6 | 3.9 | 0 | 79.1 |
| **33** | 1939 | 1939-40 | 0 | 0 | 0.1 | 2.6 | 9.3 | 23 | 15.8 | 3.7 | 0 | 54.5 |
| **34** | 1940 | 1940-41 | 0 | 0 | 13.5 | 7 | 13 | 20.2 | 19.6 | 0.4 | 0 | 73.7 |
| **35** | 1941 | 1941-42 | 0 | 0 | 0.2 | 5.9 | 5 | 31.5 | 18.4 | 5.3 | 0 | 66.3 |
| **36** | 1942 | 1942-43 | 0 | 0 | 5.5 | 18.5 | 17.2 | 17.6 | 10.7 | 1.1 | 0 | 70.6 |
| **37** | 1962 | 1962-63 | 0 | 0.8 | 6 | 14.2 | 23.7 | 22.9 | 6.7 | 1.1 | 1 | 76.4 |
| **38** | 1963 | 1963-64 | 0 | 0 | 4.4 | 34.6 | 20.2 | 13.1 | 16.1 | 3.6 | 0 | 92 |
| **39** | 1964 | 1964-65 | 0 | 0 | 5.1 | 11.6 | 26.6 | 10.3 | 15.6 | 1.9 | 0 | 71.1 |
| **40** | 1965 | 1965-66 | 0 | 0.9 | 8 | 6 | 60.2 | 21 | 6.2 | 0.9 | 0 | 103.2 |
| **41** | 1966 | 1966-67 | 0 | 0 | 3 | 14.4 | 12.7 | 27.6 | 16 | 0 | 0.3 | 74 |
| **42** | 1967 | 1967-68 | 0 | 0 | 10 | 6.9 | 24.2 | 20.4 | 15.2 | 0 | 0 | 76.7 |
| **43** | 1968 | 1968-69 | 0 | 0 | 8.6 | 22.2 | 25.6 | 17.8 | 4.6 | 1 | 0 | 79.8 |
| **44** | 1969 | 1969-70 | 0 | 0 | 5.8 | 42 | 37.9 | 27.7 | 4.9 | 1.3 | 0 | 119.6 |
| **45** | 1970 | 1970-71 | 0 | 0.2 | 3.6 | 44.2 | 34.1 | 29.7 | 29.7 | 1.2 | 0 | 142.7 |
| **46** | 1971 | 1971-72 | 0 | 0 | 11.2 | 13.8 | 18.1 | 35.7 | 19 | 7.3 | 0 | 105.1 |
| **47** | 1972 | 1972-73 | 0 | 0.2 | 16.9 | 22.7 | 8.9 | 18.4 | 4.4 | 1.5 | 0 | 73 |
| **48** | 1973 | 1973-74 | 0 | 0 | 4.2 | 23.4 | 14.4 | 26.6 | 22.3 | 8.2 | 0 | 99.1 |
| **49** | 1974 | 1974-75 | 0 | 0.3 | 4.6 | 26.5 | 10.8 | 23.2 | 10.9 | 14.9 | 0 | 91.2 |
| **50** | 1975 | 1975-76 | 0 | 0 | 1.8 | 28.3 | 29.9 | 8.8 | 15.2 | 1.8 | 0.4 | 86.2 |
| **51** | 1976 | 1976-77 | 0 | 0.5 | 6.5 | 24.5 | 30.2 | 15 | 13 | 1.8 | 0.6 | 92.1 |
| **52** | 1977 | 1977-78 | 0 | 0 | 12.7 | 35.2 | 60.4 | 40.7 | 7.5 | 4.2 | 0.2 | 160.9 |
| **53** | 1978 | 1978-79 | 0 | 0 | 3.3 | 30.9 | 36.8 | 39.1 | 8.2 | 20.2 | 0 | 138.5 |
| **54** | 1979 | 1979-80 | 0 | 0.2 | 1.2 | 12.2 | 13.1 | 24 | 21.2 | 0.3 | 0 | 72.2 |
| **55** | 1980 | 1980-81 | 0 | 0 | 8.4 | 31.8 | 31.5 | 9.3 | 12 | 1.4 | 0 | 94.4 |
| **56** | 1981 | 1981-82 | 0 | 0.1 | 2.4 | 46.1 | 43.6 | 14.9 | 8.9 | 12.4 | 0 | 128.4 |
| **57** | 1982 | 1982-83 | 0 | 0 | 3 | 11.6 | 10.2 | 13.6 | 9.3 | 12.2 | 0 | 59.9 |
| **58** | 1983 | 1983-84 | 0 | 0 | 17.6 | 19.6 | 23.4 | 27.8 | 29.1 | 0.5 | 0 | 118 |
| **59** | 1984 | 1984-85 | 0 | 0 | 1.6 | 11.6 | 36.8 | 26.1 | 8.4 | 2.6 | 0 | 87.1 |
| **60** | 1985 | 1985-86 | 0 | 0 | 7.6 | 18.3 | 15.5 | 17.9 | 9.3 | 2.1 | 0 | 70.7 |
| **61** | 1986 | 1986-87 | 0 | 0 | 7.4 | 9.3 | 29.6 | 13 | 5.3 | 2.5 | 0 | 67.1 |
| **62** | 1987 | 1987-88 | 0 | 0 | 4.6 | 19.3 | 9.8 | 29.4 | 5.6 | 1.1 | 0 | 69.8 |
| **63** | 1988 | 1988-89 | 0 | 0.1 | 0.2 | 10.3 | 15 | 30.6 | 15.6 | 3.9 | 10.9 | 86.6 |
| **64** | 1989 | 1989-90 | 0 | 0 | 6.5 | 32.8 | 14 | 31.3 | 5.4 | 15.8 | 0 | 105.8 |
| **65** | 1990 | 1990-91 | 0 | 0 | 4.4 | 18.2 | 26.5 | 16.1 | 2 | 1.1 | 0 | 68.3 |
| **66** | 1991 | 1991-92 | 0 | 0 | 13.7 | 23.9 | 18.3 | 12.8 | 38.1 | 3.8 | 0 | 110.6 |
| **67** | 1992 | 1992-93 | 0 | 0 | 9.5 | 29.3 | 22.4 | 31.2 | 37.1 | 2 | 0 | 131.5 |
| **68** | 1993 | 1993-94 | 0 | 2.6 | 9.8 | 14 | 43 | 35.1 | 12.1 | 9.6 | 0 | 126.2 |
| **69** | 1994 | 1994-95 | 0 | 0 | 2.8 | 7.6 | 12.8 | 23.6 | 5.3 | 4.1 | 0 | 56.2 |
| **70** | 1999 | 1999-00 | 0 | 0 | 4.7 | 19.1 | 42 | 25.7 | 13.6 | 5.6 | 0 | 110.7 |

*Part B*

1 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

72

73

74 Title "Q1b";

75 data fullsnow;

76 set snow1 end=eof;

77 if eof then put \_N\_'Full Years of Snowfall Data.';

78 run;

70 Full Years of Snowfall Data.

NOTE: There were 70 observations read from the data set WORK.SNOW1.

NOTE: The data set WORK.FULLSNOW has 70 observations and 12 variables.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.00 seconds

79 Footnote "Q1b";

80

81 proc print data=fullsnow;

82 \*Title 'Full Seasons of Snow';

83 run;

NOTE: There were 70 observations read from the data set WORK.FULLSNOW.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.37 seconds

cpu time 0.37 seconds

84

85 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

98

*Part C*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.SNOW2 | **Observations** | 35 |
| **Member Type** | DATA | **Variables** | 12 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:03:27 | **Observation Length** | 96 |
| **Last Modified** | 10/21/2018 18:03:27 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 1 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 681 |
| **Obs in First Data Page** | 35 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/snow2.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410489 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 128KB |
| **File Size (bytes)** | 131072 |

| **Alphabetic List of Variables and Attributes** | | | |
| --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** |
| **10** | Apr | Char | 8 |
| **6** | Dec | Char | 8 |
| **8** | Feb | Char | 8 |
| **7** | Jan | Char | 8 |
| **9** | Mar | Char | 8 |
| **11** | May | Char | 8 |
| **5** | Nov | Char | 8 |
| **4** | Oct | Char | 8 |
| **2** | Season | Char | 7 |
| **3** | Sep | Char | 8 |
| **12** | Total | Char | 8 |
| **1** | Year | Num | 8 |

| **Obs** | **Year** | **Season** | **Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Total** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 1886 | 1886-87 | 0 | 0 | 22.2 | 12.5 | 12 | 18.4 | 6.3 | 1.2 | 0 | 72.6 |
| **2** | 1893 | 1893-94 | 0 | 0.5 | 6.1 | 27.6 | 20 | 29.5 | 5.4 | 13.3 | 0 | 102.4 |
| **3** | 1894 | 1894-95 | 0 | 0 | 11.1 | 22.1 | 26.5 | 23.6 | 9.5 | 0.6 | 0 | 93.4 |
| **4** | 1931 | 1931-32 | 0 | 0 | 0.9 | 5 | 6.3 | 25.3 | 32.1 | 6.1 | 0 | 75.7 |
| **5** | 1932 | 1932-33 | 0 | 0 | 5 | 4.1 | 1 | 10.7 | 8 | 0.4 | 0 | 29.2 |
| **6** | 1933 | 1933-34 | 0 | 0 | 19.3 | 17.2 | 8.5 | 25.3 | 5.8 | 1 | 0 | 77.1 |
| **7** | 1934 | 1934-35 | 0 | 1 | 1.6 | 12.3 | 15.5 | 14.1 | 4.3 | 0.7 | 0 | 49.5 |
| **8** | 1935 | 1935-36 | 0 | 0 | 0 | 28.6 | 28 | 11.9 | 19.2 | 2.3 | 0 | 90 |
| **9** | 1936 | 1936-37 | 0 | 0 | 9.2 | 12.2 | 7.4 | 6.1 | 30 | 1 | 0 | 65.9 |
| **10** | 1937 | 1937-38 | 0 | 0.2 | 5.7 | 8.1 | 12.7 | 14.9 | 4.8 | 8.3 | 0 | 54.7 |
| **11** | 1938 | 1938-39 | 0 | 0 | 7.2 | 8.3 | 34.4 | 11.7 | 13.6 | 3.9 | 0 | 79.1 |
| **12** | 1939 | 1939-40 | 0 | 0 | 0.1 | 2.6 | 9.3 | 23 | 15.8 | 3.7 | 0 | 54.5 |
| **13** | 1940 | 1940-41 | 0 | 0 | 13.5 | 7 | 13 | 20.2 | 19.6 | 0.4 | 0 | 73.7 |
| **14** | 1941 | 1941-42 | 0 | 0 | 0.2 | 5.9 | 5 | 31.5 | 18.4 | 5.3 | 0 | 66.3 |
| **15** | 1942 | 1942-43 | 0 | 0 | 5.5 | 18.5 | 17.2 | 17.6 | 10.7 | 1.1 | 0 | 70.6 |
| **16** | 1962 | 1962-63 | 0 | 0.8 | 6 | 14.2 | 23.7 | 22.9 | 6.7 | 1.1 | 1 | 76.4 |
| **17** | 1963 | 1963-64 | 0 | 0 | 4.4 | 34.6 | 20.2 | 13.1 | 16.1 | 3.6 | 0 | 92 |
| **18** | 1964 | 1964-65 | 0 | 0 | 5.1 | 11.6 | 26.6 | 10.3 | 15.6 | 1.9 | 0 | 71.1 |
| **19** | 1965 | 1965-66 | 0 | 0.9 | 8 | 6 | 60.2 | 21 | 6.2 | 0.9 | 0 | 103.2 |
| **20** | 1966 | 1966-67 | 0 | 0 | 3 | 14.4 | 12.7 | 27.6 | 16 | 0 | 0.3 | 74 |
| **21** | 1967 | 1967-68 | 0 | 0 | 10 | 6.9 | 24.2 | 20.4 | 15.2 | 0 | 0 | 76.7 |
| **22** | 1968 | 1968-69 | 0 | 0 | 8.6 | 22.2 | 25.6 | 17.8 | 4.6 | 1 | 0 | 79.8 |
| **23** | 1969 | 1969-70 | 0 | 0 | 5.8 | 42 | 37.9 | 27.7 | 4.9 | 1.3 | 0 | 119.6 |
| **24** | 1970 | 1970-71 | 0 | 0.2 | 3.6 | 44.2 | 34.1 | 29.7 | 29.7 | 1.2 | 0 | 142.7 |
| **25** | 1971 | 1971-72 | 0 | 0 | 11.2 | 13.8 | 18.1 | 35.7 | 19 | 7.3 | 0 | 105.1 |
| **26** | 1972 | 1972-73 | 0 | 0.2 | 16.9 | 22.7 | 8.9 | 18.4 | 4.4 | 1.5 | 0 | 73 |
| **27** | 1973 | 1973-74 | 0 | 0 | 4.2 | 23.4 | 14.4 | 26.6 | 22.3 | 8.2 | 0 | 99.1 |
| **28** | 1974 | 1974-75 | 0 | 0.3 | 4.6 | 26.5 | 10.8 | 23.2 | 10.9 | 14.9 | 0 | 91.2 |
| **29** | 1975 | 1975-76 | 0 | 0 | 1.8 | 28.3 | 29.9 | 8.8 | 15.2 | 1.8 | 0.4 | 86.2 |
| **30** | 1988 | 1988-89 | 0 | 0.1 | 0.2 | 10.3 | 15 | 30.6 | 15.6 | 3.9 | 10.9 | 86.6 |
| **31** | 1989 | 1989-90 | 0 | 0 | 6.5 | 32.8 | 14 | 31.3 | 5.4 | 15.8 | 0 | 105.8 |
| **32** | 1990 | 1990-91 | 0 | 0 | 4.4 | 18.2 | 26.5 | 16.1 | 2 | 1.1 | 0 | 68.3 |
| **33** | 1991 | 1991-92 | 0 | 0 | 13.7 | 23.9 | 18.3 | 12.8 | 38.1 | 3.8 | 0 | 110.6 |
| **34** | 1992 | 1992-93 | 0 | 0 | 9.5 | 29.3 | 22.4 | 31.2 | 37.1 | 2 | 0 | 131.5 |
| **35** | 1993 | 1993-94 | 0 | 2.6 | 9.8 | 14 | 43 | 35.1 | 12.1 | 9.6 | 0 | 126.2 |

**Question 2**

*Part A*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.CT1 | **Observations** | 2138 |
| **Member Type** | DATA | **Variables** | 10 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:10:49 | **Observation Length** | 88 |
| **Last Modified** | 10/21/2018 18:10:49 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 3 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 743 |
| **Obs in First Data Page** | 709 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/ct1.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410500 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 256KB |
| **File Size (bytes)** | 262144 |

| **Alphabetic List of Variables and Attributes** | | | |
| --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** |
| **1** | PatientID | Char | 8 |
| **3** | Race | Char | 15 |
| **5** | Sens0 | Num | 8 |
| **6** | Sens1 | Num | 8 |
| **7** | Sens3 | Num | 8 |
| **8** | Sens6 | Num | 8 |
| **9** | Sens12 | Num | 8 |
| **10** | Sens24 | Num | 8 |
| **2** | Sex | Char | 8 |
| **4** | Treatment | Char | 8 |

| **Obs** | **PatientID** | **Sex** | **Race** | **Treatment** | **Sens0** | **Sens1** | **Sens3** | **Sens6** | **Sens12** | **Sens24** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | B165 | F | Caucasian | C | 2581 | 1842 | 2244 | 1925 | 2208 | 1877 |
| **2** | B228 | F | Caucasian | T | 2186 | 2201 | 2332 | 1960 | 2018 | 2109 |
| **3** | B231 | M | Caucasian | T | 1882 | 1866 | 1971 | 2078 | 1757 | 1732 |
| **4** | B301 | M | Caucasian | C | 2128 | 1711 | 1937 | 2222 | 1905 | 1824 |
| **5** | B329 | F | Caucasian | T | 2102 | 2244 | 2468 | 1980 | 2099 | 1622 |
| **6** | H132 | M | Caucasian | C | 2164 | 2293 | 2501 | 2614 | 2197 | 2459 |
| **7** | H214 | F | Black | C | 2554 | 2164 | 2071 | 2069 | 2264 | 2290 |
| **8** | H229 | F | Hispanic/Latino | T | 2274 | 2217 | 2214 | 2129 | 2278 | 1906 |
| **9** | H255 | M | Hispanic/Latino | T | 2285 | 2157 | 2029 | 2065 | 1933 | 1931 |
| **10** | H257 | F | Black | C | 2338 | 2464 | 1982 | 2353 | 2591 | 2133 |
| **11** | H266 | F | Asian | T | 2200 | 1968 | 2054 | 2269 | 2155 | 2056 |
| **12** | H296 | M | Caucasian | C | 2446 | 1872 | 2116 | 2061 | 2336 | 2228 |
| **13** | H301 | M | Asian | C | 2247 | 2141 | 2552 | 2296 | 2102 | 2205 |
| **14** | H303 | M | Caucasian | C | 2126 | 2063 | 2321 | 2290 | 2184 | 2389 |
| **15** | H342 | F | Caucasian | T | 2353 | 2036 | 2222 | 2477 | 1913 | 2251 |
| **16** | H380 | M | Black | C | 2445 | 2171 | 1935 | 2397 | 2329 | 2251 |
| **17** | H388 | F | Caucasian | T | 2334 | 2381 | 2183 | 2258 | 2331 | 2133 |
| **18** | H390 | F | Black | C | 2179 | 2137 | 2286 | 2205 | 2380 | 2275 |
| **19** | H401 | F | . | C | 2347 | 2543 | 1973 | 2026 | 2527 | 2408 |
| **20** | H425 | M | Hispanic/Latino | T | 2066 | 1916 | 2209 | 2457 | 2139 | 1870 |
| **21** | J102 | F | Caucasian | C | 2196 | 1788 | 2122 | 2141 | 2136 | 2210 |
| **22** | J103 | F | Other | T | 2357 | 2284 | 2110 | 1979 | 2141 | 2112 |
| **23** | J104 | M | Caucasian | T | 2153 | 2310 | 2222 | 2380 | 2327 | 2450 |
| **24** | J106 | M | Hispanic/Latino | T | 2100 | 2668 | 2043 | 2037 | 2207 | 2247 |
| **25** | J107 | F | Asain | C | 2376 | 2488 | 2082 | 2410 | 2579 | 2501 |
| **26** | J108 | F | Caucasian | T | 2166 | 2218 | 1879 | 1853 | 2500 | 2396 |
| **27** | J109 | M | Caucasian | C | 2343 | 2173 | 1958 | 2316 | 2048 | 2261 |
| **28** | J110 | F | Hispanic/ Latin | C | 2469 | 2069 | 2069 | 2102 | 2505 | 2369 |
| **29** | J111 | F | Caucasian | T | 2177 | 2013 | 2308 | 1975 | 2083 | 2119 |
| **30** | J112 | M | Hispanic/Latino | T | 1833 | 2619 | 2182 | 1991 | 1966 | 2206 |
| **31** | J113 | F | Caucasian | T | 2041 | 2004 | 2068 | 2484 | 2031 | 1901 |
| **32** | J114 | F | Caucasian | T | 2499 | 2468 | 2037 | 2048 | 2244 | 2159 |
| **33** | J115 | M | Caucasian | C | 1985 | 1832 | 2196 | 2406 | 2452 | 2350 |
| **34** | J116 | M | Caucasian | T | 2576 | 2183 | 2313 | 1942 | 2079 | 2104 |
| **35** | J117 | M | Caucasian | T | 2452 | 2352 | 1816 | 2219 | 2531 | 1937 |
| **36** | J118 | F | Asian | T | 1929 | 2091 | 2157 | 2357 | 2043 | 2133 |
| **37** | J120 | F | Black | C | 2194 | 2450 | 2522 | 2027 | 2141 | 2258 |
| **38** | J121 | M | Caucasian | T | 2465 | 2115 | 1860 | 2349 | 2110 | 2153 |
| **39** | J124 | M | . | C | 2205 | 2044 | 1843 | 2440 | 2326 | 2425 |
| **40** | J125 | F | Caucasian | C | 2328 | 2055 | 2023 | 2240 | 1866 | 2143 |
| **41** | J126 | F | Caucasian | T | 2589 | 2100 | 2392 | 2046 | 2126 | 1905 |
| **42** | J127 | F | Caucasian | C | 2050 | 2535 | 1868 | 2292 | 2611 | 2341 |
| **43** | J128 | F | Asian | C | 2484 | 2069 | 2302 | 2357 | 2175 | 2091 |
| **44** | J129 | M | Hispanic/Latino | C | 2143 | 2855 | 1918 | 2099 | 2321 | 1993 |
| **45** | J130 | M | Caucasian | T | 2004 | 2096 | 1998 | 2230 | 1857 | 1875 |
| **46** | J131 | F | Caucasian | C | 1911 | 2523 | 2250 | 1858 | 1922 | 2307 |
| **47** | J134 | M | Caucasian | C | 2004 | 2015 | 2294 | 2161 | 2198 | 2278 |
| **48** | J136 | F | Caucasian | T | 1862 | 2114 | 2155 | 2193 | 2069 | 2457 |
| **49** | J137 | F | Caucasian | T | 2549 | 2188 | 2045 | 2005 | 2114 | 1912 |
| **50** | J138 | F | Caucasian | C | 2566 | 2392 | 2383 | 2380 | 2409 | 2519 |

*Part B*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.CT2 | **Observations** | 2138 |
| **Member Type** | DATA | **Variables** | 12 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:13:35 | **Observation Length** | 104 |
| **Last Modified** | 10/21/2018 18:13:35 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 4 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 629 |
| **Obs in First Data Page** | 597 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/ct2.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410513 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 320KB |
| **File Size (bytes)** | 327680 |

| **Alphabetic List of Variables and Attributes** | | | |
| --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** |
| **12** | IDNumber | Char | 8 |
| **11** | Location | Char | 8 |
| **1** | PatientID | Char | 8 |
| **3** | Race | Char | 15 |
| **5** | Sens0 | Num | 8 |
| **6** | Sens1 | Num | 8 |
| **7** | Sens3 | Num | 8 |
| **8** | Sens6 | Num | 8 |
| **9** | Sens12 | Num | 8 |
| **10** | Sens24 | Num | 8 |
| **2** | Sex | Char | 8 |
| **4** | Treatment | Char | 8 |

| **Obs** | **PatientID** | **Sex** | **Race** | **Treatment** | **Sens0** | **Sens1** | **Sens3** | **Sens6** | **Sens12** | **Sens24** | **Location** | **IDNumber** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | B165 | F | Caucasian | C | 2581 | 1842 | 2244 | 1925 | 2208 | 1877 | B | 165 |
| **2** | B228 | F | Caucasian | T | 2186 | 2201 | 2332 | 1960 | 2018 | 2109 | B | 228 |
| **3** | B231 | M | Caucasian | T | 1882 | 1866 | 1971 | 2078 | 1757 | 1732 | B | 231 |
| **4** | B301 | M | Caucasian | C | 2128 | 1711 | 1937 | 2222 | 1905 | 1824 | B | 301 |
| **5** | B329 | F | Caucasian | T | 2102 | 2244 | 2468 | 1980 | 2099 | 1622 | B | 329 |
| **6** | H132 | M | Caucasian | C | 2164 | 2293 | 2501 | 2614 | 2197 | 2459 | H | 132 |
| **7** | H214 | F | Black | C | 2554 | 2164 | 2071 | 2069 | 2264 | 2290 | H | 214 |
| **8** | H229 | F | Hispanic/Latino | T | 2274 | 2217 | 2214 | 2129 | 2278 | 1906 | H | 229 |
| **9** | H255 | M | Hispanic/Latino | T | 2285 | 2157 | 2029 | 2065 | 1933 | 1931 | H | 255 |
| **10** | H257 | F | Black | C | 2338 | 2464 | 1982 | 2353 | 2591 | 2133 | H | 257 |
| **11** | H266 | F | Asian | T | 2200 | 1968 | 2054 | 2269 | 2155 | 2056 | H | 266 |
| **12** | H296 | M | Caucasian | C | 2446 | 1872 | 2116 | 2061 | 2336 | 2228 | H | 296 |
| **13** | H301 | M | Asian | C | 2247 | 2141 | 2552 | 2296 | 2102 | 2205 | H | 301 |
| **14** | H303 | M | Caucasian | C | 2126 | 2063 | 2321 | 2290 | 2184 | 2389 | H | 303 |
| **15** | H342 | F | Caucasian | T | 2353 | 2036 | 2222 | 2477 | 1913 | 2251 | H | 342 |
| **16** | H380 | M | Black | C | 2445 | 2171 | 1935 | 2397 | 2329 | 2251 | H | 380 |
| **17** | H388 | F | Caucasian | T | 2334 | 2381 | 2183 | 2258 | 2331 | 2133 | H | 388 |
| **18** | H390 | F | Black | C | 2179 | 2137 | 2286 | 2205 | 2380 | 2275 | H | 390 |
| **19** | H401 | F | . | C | 2347 | 2543 | 1973 | 2026 | 2527 | 2408 | H | 401 |
| **20** | H425 | M | Hispanic/Latino | T | 2066 | 1916 | 2209 | 2457 | 2139 | 1870 | H | 425 |
| **21** | J102 | F | Caucasian | C | 2196 | 1788 | 2122 | 2141 | 2136 | 2210 | J | 102 |
| **22** | J103 | F | Other | T | 2357 | 2284 | 2110 | 1979 | 2141 | 2112 | J | 103 |
| **23** | J104 | M | Caucasian | T | 2153 | 2310 | 2222 | 2380 | 2327 | 2450 | J | 104 |
| **24** | J106 | M | Hispanic/Latino | T | 2100 | 2668 | 2043 | 2037 | 2207 | 2247 | J | 106 |
| **25** | J107 | F | Asain | C | 2376 | 2488 | 2082 | 2410 | 2579 | 2501 | J | 107 |
| **26** | J108 | F | Caucasian | T | 2166 | 2218 | 1879 | 1853 | 2500 | 2396 | J | 108 |
| **27** | J109 | M | Caucasian | C | 2343 | 2173 | 1958 | 2316 | 2048 | 2261 | J | 109 |
| **28** | J110 | F | Hispanic/ Latin | C | 2469 | 2069 | 2069 | 2102 | 2505 | 2369 | J | 110 |
| **29** | J111 | F | Caucasian | T | 2177 | 2013 | 2308 | 1975 | 2083 | 2119 | J | 111 |
| **30** | J112 | M | Hispanic/Latino | T | 1833 | 2619 | 2182 | 1991 | 1966 | 2206 | J | 112 |
| **31** | J113 | F | Caucasian | T | 2041 | 2004 | 2068 | 2484 | 2031 | 1901 | J | 113 |
| **32** | J114 | F | Caucasian | T | 2499 | 2468 | 2037 | 2048 | 2244 | 2159 | J | 114 |
| **33** | J115 | M | Caucasian | C | 1985 | 1832 | 2196 | 2406 | 2452 | 2350 | J | 115 |
| **34** | J116 | M | Caucasian | T | 2576 | 2183 | 2313 | 1942 | 2079 | 2104 | J | 116 |
| **35** | J117 | M | Caucasian | T | 2452 | 2352 | 1816 | 2219 | 2531 | 1937 | J | 117 |
| **36** | J118 | F | Asian | T | 1929 | 2091 | 2157 | 2357 | 2043 | 2133 | J | 118 |
| **37** | J120 | F | Black | C | 2194 | 2450 | 2522 | 2027 | 2141 | 2258 | J | 120 |
| **38** | J121 | M | Caucasian | T | 2465 | 2115 | 1860 | 2349 | 2110 | 2153 | J | 121 |
| **39** | J124 | M | . | C | 2205 | 2044 | 1843 | 2440 | 2326 | 2425 | J | 124 |
| **40** | J125 | F | Caucasian | C | 2328 | 2055 | 2023 | 2240 | 1866 | 2143 | J | 125 |
| **41** | J126 | F | Caucasian | T | 2589 | 2100 | 2392 | 2046 | 2126 | 1905 | J | 126 |
| **42** | J127 | F | Caucasian | C | 2050 | 2535 | 1868 | 2292 | 2611 | 2341 | J | 127 |
| **43** | J128 | F | Asian | C | 2484 | 2069 | 2302 | 2357 | 2175 | 2091 | J | 128 |
| **44** | J129 | M | Hispanic/Latino | C | 2143 | 2855 | 1918 | 2099 | 2321 | 1993 | J | 129 |
| **45** | J130 | M | Caucasian | T | 2004 | 2096 | 1998 | 2230 | 1857 | 1875 | J | 130 |
| **46** | J131 | F | Caucasian | C | 1911 | 2523 | 2250 | 1858 | 1922 | 2307 | J | 131 |
| **47** | J134 | M | Caucasian | C | 2004 | 2015 | 2294 | 2161 | 2198 | 2278 | J | 134 |
| **48** | J136 | F | Caucasian | T | 1862 | 2114 | 2155 | 2193 | 2069 | 2457 | J | 136 |
| **49** | J137 | F | Caucasian | T | 2549 | 2188 | 2045 | 2005 | 2114 | 1912 | J | 137 |
| **50** | J138 | F | Caucasian | C | 2566 | 2392 | 2383 | 2380 | 2409 | 2519 | J | 138 |

*Part C*

1 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

72

73

74 Title "Q2c";

75 data CT3;

76 set CT2 end=eof;

77 if Location in ('P','J','M','N','V') then good=1;

78 else good=0;

79 Loction=Location;

80 if good=0 then Location="X";

81 retain Total 0;

82 Total=Total + good;

83 \*Need to adjust Total in if statement for all possible values.;

84 if eof and Total=\_n\_ Then put "All Location Values Are Correct";

85 if good=0 then put "Error: Location " Loction "changed to X for PatientID " PatientID;

86 drop good Total Loction;

87 run;

Error: Location B changed to X for PatientID B165

Error: Location B changed to X for PatientID B228

Error: Location B changed to X for PatientID B231

Error: Location B changed to X for PatientID B301

Error: Location B changed to X for PatientID B329

Error: Location H changed to X for PatientID H132

Error: Location H changed to X for PatientID H214

Error: Location H changed to X for PatientID H229

Error: Location H changed to X for PatientID H255

Error: Location H changed to X for PatientID H257

Error: Location H changed to X for PatientID H266

Error: Location H changed to X for PatientID H296

Error: Location H changed to X for PatientID H301

Error: Location H changed to X for PatientID H303

Error: Location H changed to X for PatientID H342

Error: Location H changed to X for PatientID H380

Error: Location H changed to X for PatientID H388

Error: Location H changed to X for PatientID H390

Error: Location H changed to X for PatientID H401

Error: Location H changed to X for PatientID H425

Error: Location O changed to X for PatientID O117

Error: Location O changed to X for PatientID O132

Error: Location O changed to X for PatientID O157

Error: Location O changed to X for PatientID O181

Error: Location O changed to X for PatientID O185

Error: Location O changed to X for PatientID O200

Error: Location O changed to X for PatientID O222

Error: Location O changed to X for PatientID O252

Error: Location O changed to X for PatientID O309

Error: Location O changed to X for PatientID O326

Error: Location O changed to X for PatientID O357

Error: Location O changed to X for PatientID O377

Error: Location O changed to X for PatientID O388

Error: Location O changed to X for PatientID O419

Error: Location O changed to X for PatientID O428

Error: Location O changed to X for PatientID O479

Error: Location O changed to X for PatientID O509

Error: Location O changed to X for PatientID O522

Error: Location O changed to X for PatientID O537

Error: Location O changed to X for PatientID O541

Error: Location O changed to X for PatientID O583

Error: Location O changed to X for PatientID O594

Error: Location O changed to X for PatientID O613

Error: Location O changed to X for PatientID O639

Error: Location O changed to X for PatientID O641

NOTE: There were 2138 observations read from the data set WORK.CT2.

NOTE: The data set WORK.CT3 has 2138 observations and 12 variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

88 Footnote "Q2c";

89

90 proc print data=CT3 (obs=50);

91 \*Title 'Clinical Trial Dataset with Updated Locations';

92 run;

NOTE: There were 50 observations read from the data set WORK.CT3.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.18 seconds

cpu time 0.19 seconds

93

94 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

107

| **Obs** | **PatientID** | **Sex** | **Race** | **Treatment** | **Sens0** | **Sens1** | **Sens3** | **Sens6** | **Sens12** | **Sens24** | **Location** | **IDNumber** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | B165 | F | Caucasian | C | 2581 | 1842 | 2244 | 1925 | 2208 | 1877 | X | 165 |
| **2** | B228 | F | Caucasian | T | 2186 | 2201 | 2332 | 1960 | 2018 | 2109 | X | 228 |
| **3** | B231 | M | Caucasian | T | 1882 | 1866 | 1971 | 2078 | 1757 | 1732 | X | 231 |
| **4** | B301 | M | Caucasian | C | 2128 | 1711 | 1937 | 2222 | 1905 | 1824 | X | 301 |
| **5** | B329 | F | Caucasian | T | 2102 | 2244 | 2468 | 1980 | 2099 | 1622 | X | 329 |
| **6** | H132 | M | Caucasian | C | 2164 | 2293 | 2501 | 2614 | 2197 | 2459 | X | 132 |
| **7** | H214 | F | Black | C | 2554 | 2164 | 2071 | 2069 | 2264 | 2290 | X | 214 |
| **8** | H229 | F | Hispanic/Latino | T | 2274 | 2217 | 2214 | 2129 | 2278 | 1906 | X | 229 |
| **9** | H255 | M | Hispanic/Latino | T | 2285 | 2157 | 2029 | 2065 | 1933 | 1931 | X | 255 |
| **10** | H257 | F | Black | C | 2338 | 2464 | 1982 | 2353 | 2591 | 2133 | X | 257 |
| **11** | H266 | F | Asian | T | 2200 | 1968 | 2054 | 2269 | 2155 | 2056 | X | 266 |
| **12** | H296 | M | Caucasian | C | 2446 | 1872 | 2116 | 2061 | 2336 | 2228 | X | 296 |
| **13** | H301 | M | Asian | C | 2247 | 2141 | 2552 | 2296 | 2102 | 2205 | X | 301 |
| **14** | H303 | M | Caucasian | C | 2126 | 2063 | 2321 | 2290 | 2184 | 2389 | X | 303 |
| **15** | H342 | F | Caucasian | T | 2353 | 2036 | 2222 | 2477 | 1913 | 2251 | X | 342 |
| **16** | H380 | M | Black | C | 2445 | 2171 | 1935 | 2397 | 2329 | 2251 | X | 380 |
| **17** | H388 | F | Caucasian | T | 2334 | 2381 | 2183 | 2258 | 2331 | 2133 | X | 388 |
| **18** | H390 | F | Black | C | 2179 | 2137 | 2286 | 2205 | 2380 | 2275 | X | 390 |
| **19** | H401 | F | . | C | 2347 | 2543 | 1973 | 2026 | 2527 | 2408 | X | 401 |
| **20** | H425 | M | Hispanic/Latino | T | 2066 | 1916 | 2209 | 2457 | 2139 | 1870 | X | 425 |
| **21** | J102 | F | Caucasian | C | 2196 | 1788 | 2122 | 2141 | 2136 | 2210 | J | 102 |
| **22** | J103 | F | Other | T | 2357 | 2284 | 2110 | 1979 | 2141 | 2112 | J | 103 |
| **23** | J104 | M | Caucasian | T | 2153 | 2310 | 2222 | 2380 | 2327 | 2450 | J | 104 |
| **24** | J106 | M | Hispanic/Latino | T | 2100 | 2668 | 2043 | 2037 | 2207 | 2247 | J | 106 |
| **25** | J107 | F | Asain | C | 2376 | 2488 | 2082 | 2410 | 2579 | 2501 | J | 107 |
| **26** | J108 | F | Caucasian | T | 2166 | 2218 | 1879 | 1853 | 2500 | 2396 | J | 108 |
| **27** | J109 | M | Caucasian | C | 2343 | 2173 | 1958 | 2316 | 2048 | 2261 | J | 109 |
| **28** | J110 | F | Hispanic/ Latin | C | 2469 | 2069 | 2069 | 2102 | 2505 | 2369 | J | 110 |
| **29** | J111 | F | Caucasian | T | 2177 | 2013 | 2308 | 1975 | 2083 | 2119 | J | 111 |
| **30** | J112 | M | Hispanic/Latino | T | 1833 | 2619 | 2182 | 1991 | 1966 | 2206 | J | 112 |
| **31** | J113 | F | Caucasian | T | 2041 | 2004 | 2068 | 2484 | 2031 | 1901 | J | 113 |
| **32** | J114 | F | Caucasian | T | 2499 | 2468 | 2037 | 2048 | 2244 | 2159 | J | 114 |
| **33** | J115 | M | Caucasian | C | 1985 | 1832 | 2196 | 2406 | 2452 | 2350 | J | 115 |
| **34** | J116 | M | Caucasian | T | 2576 | 2183 | 2313 | 1942 | 2079 | 2104 | J | 116 |
| **35** | J117 | M | Caucasian | T | 2452 | 2352 | 1816 | 2219 | 2531 | 1937 | J | 117 |
| **36** | J118 | F | Asian | T | 1929 | 2091 | 2157 | 2357 | 2043 | 2133 | J | 118 |
| **37** | J120 | F | Black | C | 2194 | 2450 | 2522 | 2027 | 2141 | 2258 | J | 120 |
| **38** | J121 | M | Caucasian | T | 2465 | 2115 | 1860 | 2349 | 2110 | 2153 | J | 121 |
| **39** | J124 | M | . | C | 2205 | 2044 | 1843 | 2440 | 2326 | 2425 | J | 124 |
| **40** | J125 | F | Caucasian | C | 2328 | 2055 | 2023 | 2240 | 1866 | 2143 | J | 125 |
| **41** | J126 | F | Caucasian | T | 2589 | 2100 | 2392 | 2046 | 2126 | 1905 | J | 126 |
| **42** | J127 | F | Caucasian | C | 2050 | 2535 | 1868 | 2292 | 2611 | 2341 | J | 127 |
| **43** | J128 | F | Asian | C | 2484 | 2069 | 2302 | 2357 | 2175 | 2091 | J | 128 |
| **44** | J129 | M | Hispanic/Latino | C | 2143 | 2855 | 1918 | 2099 | 2321 | 1993 | J | 129 |
| **45** | J130 | M | Caucasian | T | 2004 | 2096 | 1998 | 2230 | 1857 | 1875 | J | 130 |
| **46** | J131 | F | Caucasian | C | 1911 | 2523 | 2250 | 1858 | 1922 | 2307 | J | 131 |
| **47** | J134 | M | Caucasian | C | 2004 | 2015 | 2294 | 2161 | 2198 | 2278 | J | 134 |
| **48** | J136 | F | Caucasian | T | 1862 | 2114 | 2155 | 2193 | 2069 | 2457 | J | 136 |
| **49** | J137 | F | Caucasian | T | 2549 | 2188 | 2045 | 2005 | 2114 | 1912 | J | 137 |
| **50** | J138 | F | Caucasian | C | 2566 | 2392 | 2383 | 2380 | 2409 | 2519 | J | 138 |

*Part D*

1 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

72

73

74 Title "Q2d";

75 data CT4;

76 set CT3 end=eof;

77 IDNuber=int(IDNumber);

78 if IDNuber^=. and IDNuber>101 and IDNuber<999 then intgood=1;

79 else intgood=0;

80 IDNumer=IDNumber;

81 if intgood=0 then IDNumber=999;

82 retain TotalNum 0;

83 TotalNum=TotalNum+intgood;

84 if eof and TotalNum=\_n\_ then put "All ID Values Are Corrct";

85 if intgood=0 then put "Error: ID Value " IDNumer "changed to 999 for PatientID " PatientID;

86 \*Many notes generated in Log for convertion of variables and invalid data. Should find out how to get rid;

87 drop intgood TotalNum IDNuber IDNumer;

88 run;

NOTE: Character values have been converted to numeric values at the places given by: (Line):(Column).

77:14

NOTE: Numeric values have been converted to character values at the places given by: (Line):(Column).

81:29

NOTE: Invalid numeric data, IDNumber='23-' , at line 77 column 14.

Error: ID Value 23- changed to 999 for PatientID J23-

eof=0 PatientID=J23- Sex=F Race=Caucasian Treatment=T Sens0=2229 Sens1=2080 Sens3=1802 Sens6=2422 Sens12=2133 Sens24=2224 Location=J IDNumber=999 IDNuber=. intgood=0 IDNumer=23- TotalNum=121 \_ERROR\_=1 \_N\_=122

Error: ID Value 101 changed to 999 for PatientID N101

Error: ID Value 060 changed to 999 for PatientID N060

NOTE: Invalid numeric data, IDNumber='6r5' , at line 77 column 14.

Error: ID Value 6r5 changed to 999 for PatientID N6r5

eof=0 PatientID=N6r5 Sex=F Race=Other Treatment=C Sens0=1815 Sens1=2283 Sens3=2243 Sens6=2124 Sens12=2169 Sens24=2591 Location=N IDNumber=999 IDNuber=. intgood=0 IDNumer=6r5 TotalNum=1240 \_ERROR\_=1 \_N\_=1244

NOTE: Invalid numeric data, IDNumber='u34' , at line 77 column 14.

Error: ID Value u34 changed to 999 for PatientID Nu34

eof=0 PatientID=Nu34 Sex=M Race=Hispanic/Latino Treatment=T Sens0=2092 Sens1=1727 Sens3=2347 Sens6=2328 Sens12=1692 Sens24=2082 Location=N IDNumber=999 IDNuber=. intgood=0 IDNumer=u34 TotalNum=1315 \_ERROR\_=1 \_N\_=1320

Error: ID Value 101 changed to 999 for PatientID P101

Error: ID Value 101 changed to 999 for PatientID V101

NOTE: Invalid numeric data, IDNumber='38)' , at line 77 column 14.

Error: ID Value 38) changed to 999 for PatientID V38)

eof=0 PatientID=V38) Sex=F Race=Caucasian Treatment=T Sens0=2335 Sens1=2244 Sens3=1862 Sens6=2308 Sens12=1851 Sens24=1979 Location=V IDNumber=999 IDNuber=. intgood=0 IDNumer=38) TotalNum=2094 \_ERROR\_=1 \_N\_=2102

NOTE: Missing values were generated as a result of performing an operation on missing values.

Each place is given by: (Number of times) at (Line):(Column).

4 at 77:10

NOTE: There were 2138 observations read from the data set WORK.CT3.

NOTE: The data set WORK.CT4 has 2138 observations and 12 variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

89 Footnote "Q2d";

90

91 proc print data=CT4 (obs=50);

92 \*Title 'Clinical Trial Dataset with Updated IDNumber';

93 run;

NOTE: There were 50 observations read from the data set WORK.CT4.

NOTE: PROCEDURE PRINT used (Total process time):

real time 0.15 seconds

cpu time 0.15 seconds

94

95 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

108

| **Obs** | **PatientID** | **Sex** | **Race** | **Treatment** | **Sens0** | **Sens1** | **Sens3** | **Sens6** | **Sens12** | **Sens24** | **Location** | **IDNumber** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | B165 | F | Caucasian | C | 2581 | 1842 | 2244 | 1925 | 2208 | 1877 | X | 165 |
| **2** | B228 | F | Caucasian | T | 2186 | 2201 | 2332 | 1960 | 2018 | 2109 | X | 228 |
| **3** | B231 | M | Caucasian | T | 1882 | 1866 | 1971 | 2078 | 1757 | 1732 | X | 231 |
| **4** | B301 | M | Caucasian | C | 2128 | 1711 | 1937 | 2222 | 1905 | 1824 | X | 301 |
| **5** | B329 | F | Caucasian | T | 2102 | 2244 | 2468 | 1980 | 2099 | 1622 | X | 329 |
| **6** | H132 | M | Caucasian | C | 2164 | 2293 | 2501 | 2614 | 2197 | 2459 | X | 132 |
| **7** | H214 | F | Black | C | 2554 | 2164 | 2071 | 2069 | 2264 | 2290 | X | 214 |
| **8** | H229 | F | Hispanic/Latino | T | 2274 | 2217 | 2214 | 2129 | 2278 | 1906 | X | 229 |
| **9** | H255 | M | Hispanic/Latino | T | 2285 | 2157 | 2029 | 2065 | 1933 | 1931 | X | 255 |
| **10** | H257 | F | Black | C | 2338 | 2464 | 1982 | 2353 | 2591 | 2133 | X | 257 |
| **11** | H266 | F | Asian | T | 2200 | 1968 | 2054 | 2269 | 2155 | 2056 | X | 266 |
| **12** | H296 | M | Caucasian | C | 2446 | 1872 | 2116 | 2061 | 2336 | 2228 | X | 296 |
| **13** | H301 | M | Asian | C | 2247 | 2141 | 2552 | 2296 | 2102 | 2205 | X | 301 |
| **14** | H303 | M | Caucasian | C | 2126 | 2063 | 2321 | 2290 | 2184 | 2389 | X | 303 |
| **15** | H342 | F | Caucasian | T | 2353 | 2036 | 2222 | 2477 | 1913 | 2251 | X | 342 |
| **16** | H380 | M | Black | C | 2445 | 2171 | 1935 | 2397 | 2329 | 2251 | X | 380 |
| **17** | H388 | F | Caucasian | T | 2334 | 2381 | 2183 | 2258 | 2331 | 2133 | X | 388 |
| **18** | H390 | F | Black | C | 2179 | 2137 | 2286 | 2205 | 2380 | 2275 | X | 390 |
| **19** | H401 | F | . | C | 2347 | 2543 | 1973 | 2026 | 2527 | 2408 | X | 401 |
| **20** | H425 | M | Hispanic/Latino | T | 2066 | 1916 | 2209 | 2457 | 2139 | 1870 | X | 425 |
| **21** | J102 | F | Caucasian | C | 2196 | 1788 | 2122 | 2141 | 2136 | 2210 | J | 102 |
| **22** | J103 | F | Other | T | 2357 | 2284 | 2110 | 1979 | 2141 | 2112 | J | 103 |
| **23** | J104 | M | Caucasian | T | 2153 | 2310 | 2222 | 2380 | 2327 | 2450 | J | 104 |
| **24** | J106 | M | Hispanic/Latino | T | 2100 | 2668 | 2043 | 2037 | 2207 | 2247 | J | 106 |
| **25** | J107 | F | Asain | C | 2376 | 2488 | 2082 | 2410 | 2579 | 2501 | J | 107 |
| **26** | J108 | F | Caucasian | T | 2166 | 2218 | 1879 | 1853 | 2500 | 2396 | J | 108 |
| **27** | J109 | M | Caucasian | C | 2343 | 2173 | 1958 | 2316 | 2048 | 2261 | J | 109 |
| **28** | J110 | F | Hispanic/ Latin | C | 2469 | 2069 | 2069 | 2102 | 2505 | 2369 | J | 110 |
| **29** | J111 | F | Caucasian | T | 2177 | 2013 | 2308 | 1975 | 2083 | 2119 | J | 111 |
| **30** | J112 | M | Hispanic/Latino | T | 1833 | 2619 | 2182 | 1991 | 1966 | 2206 | J | 112 |
| **31** | J113 | F | Caucasian | T | 2041 | 2004 | 2068 | 2484 | 2031 | 1901 | J | 113 |
| **32** | J114 | F | Caucasian | T | 2499 | 2468 | 2037 | 2048 | 2244 | 2159 | J | 114 |
| **33** | J115 | M | Caucasian | C | 1985 | 1832 | 2196 | 2406 | 2452 | 2350 | J | 115 |
| **34** | J116 | M | Caucasian | T | 2576 | 2183 | 2313 | 1942 | 2079 | 2104 | J | 116 |
| **35** | J117 | M | Caucasian | T | 2452 | 2352 | 1816 | 2219 | 2531 | 1937 | J | 117 |
| **36** | J118 | F | Asian | T | 1929 | 2091 | 2157 | 2357 | 2043 | 2133 | J | 118 |
| **37** | J120 | F | Black | C | 2194 | 2450 | 2522 | 2027 | 2141 | 2258 | J | 120 |
| **38** | J121 | M | Caucasian | T | 2465 | 2115 | 1860 | 2349 | 2110 | 2153 | J | 121 |
| **39** | J124 | M | . | C | 2205 | 2044 | 1843 | 2440 | 2326 | 2425 | J | 124 |
| **40** | J125 | F | Caucasian | C | 2328 | 2055 | 2023 | 2240 | 1866 | 2143 | J | 125 |
| **41** | J126 | F | Caucasian | T | 2589 | 2100 | 2392 | 2046 | 2126 | 1905 | J | 126 |
| **42** | J127 | F | Caucasian | C | 2050 | 2535 | 1868 | 2292 | 2611 | 2341 | J | 127 |
| **43** | J128 | F | Asian | C | 2484 | 2069 | 2302 | 2357 | 2175 | 2091 | J | 128 |
| **44** | J129 | M | Hispanic/Latino | C | 2143 | 2855 | 1918 | 2099 | 2321 | 1993 | J | 129 |
| **45** | J130 | M | Caucasian | T | 2004 | 2096 | 1998 | 2230 | 1857 | 1875 | J | 130 |
| **46** | J131 | F | Caucasian | C | 1911 | 2523 | 2250 | 1858 | 1922 | 2307 | J | 131 |
| **47** | J134 | M | Caucasian | C | 2004 | 2015 | 2294 | 2161 | 2198 | 2278 | J | 134 |
| **48** | J136 | F | Caucasian | T | 1862 | 2114 | 2155 | 2193 | 2069 | 2457 | J | 136 |
| **49** | J137 | F | Caucasian | T | 2549 | 2188 | 2045 | 2005 | 2114 | 1912 | J | 137 |
| **50** | J138 | F | Caucasian | C | 2566 | 2392 | 2383 | 2380 | 2409 | 2519 | J | 138 |

*Part E*

|  | | **Sens0** | **Sens1** | **Sens3** | **Sens6** | **Sens12** | **Sens24** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Treatment** | 2154 | 2164 | 2162 | 2162 | 2162 | 2152 |
| **C** |
| **T** | 2160 | 2156 | 2144 | 2129 | 2094 | 2077 |
| **StdDev** | **Treatment** | 196 | 195 | 202 | 193 | 197 | 197 |
| **C** |
| **T** | 194 | 196 | 196 | 192 | 191 | 197 |

**Question 3**

*Part A*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.WBUFF1 | **Observations** | 1438 |
| **Member Type** | DATA | **Variables** | 24 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:23:23 | **Observation Length** | 240 |
| **Last Modified** | 10/21/2018 18:23:23 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 6 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 272 |
| **Obs in First Data Page** | 252 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/wbuff1.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410556 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 448KB |
| **File Size (bytes)** | 458752 |

| **Alphabetic List of Variables and Attributes** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** | **Format** | **Informat** |
| **9** | CMiss | Num | 8 |  |  |
| **12** | CMiss\_1 | Num | 8 |  |  |
| **15** | CMiss\_2 | Num | 8 |  |  |
| **18** | CMiss\_3 | Num | 8 |  |  |
| **21** | CMiss\_4 | Num | 8 |  |  |
| **24** | CMiss\_5 | Num | 8 |  |  |
| **6** | Date | Num | 8 | YYMMDD10. | YYMMDD8. |
| **3** | Elevation | Num | 8 |  |  |
| **4** | Latitude | Num | 8 |  |  |
| **5** | Longitude | Num | 8 |  |  |
| **7** | MaxSnow | Num | 8 |  |  |
| **16** | MeanMaxTemp | Num | 8 |  |  |
| **19** | MeanMinTemp | Num | 8 |  |  |
| **22** | MeanTemp | Num | 8 |  |  |
| **8** | Miss | Num | 8 |  |  |
| **11** | Miss\_1 | Num | 8 |  |  |
| **14** | Miss\_2 | Num | 8 |  |  |
| **17** | Miss\_3 | Num | 8 |  |  |
| **20** | Miss\_4 | Num | 8 |  |  |
| **23** | Miss\_5 | Num | 8 |  |  |
| **10** | Precip | Num | 8 |  |  |
| **13** | Snowfall | Num | 8 |  |  |
| **2** | Station | Char | 43 |  |  |
| **1** | Station\_ID | Char | 17 |  |  |

| **Obs** | **Station\_ID** | **Station** | **Elevation** | **Latitude** | **Longitude** | **Date** | **MaxSnow** | **Miss** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-01-01 | 102 | 0 |
| **2** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-02-01 | 203 | 0 |
| **3** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-03-01 | 635 | 0 |
| **4** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-04-01 | 0 | 0 |
| **5** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-05-01 | 0 | 0 |
| **6** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-06-01 | 0 | 0 |
| **7** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-07-01 | 0 | 0 |
| **8** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-08-01 | 0 | 0 |
| **9** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-09-01 | 0 | 0 |
| **10** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-10-01 | 0 | 0 |
| **11** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-11-01 | 178 | 0 |
| **12** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1900-12-01 | 76 | 0 |
| **13** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-01-01 | 203 | 0 |
| **14** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-02-01 | 330 | 0 |
| **15** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-03-01 | 102 | 0 |
| **16** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-04-01 | 152 | 0 |
| **17** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-05-01 | 0 | 0 |
| **18** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-06-01 | 0 | 0 |
| **19** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-07-01 | 0 | 0 |
| **20** | GHCND:USC00301010 | BUFFALO NY US | 234.1 | 42.8833 | -78.8833 | 1901-08-01 | 0 | 0 |

| **Obs** | **CMiss** | **Precip** | **Miss\_1** | **CMiss\_1** | **Snowfall** | **Miss\_2** | **CMiss\_2** | **MeanMaxTemp** | **Miss\_3** | **CMiss\_3** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 0 | 972 | 0 | 0 | 241 | 0 | 0 | 9 | 0 | 0 |
| **2** | 0 | 1327 | 0 | 0 | 649 | 0 | 0 | -12 | 0 | 0 |
| **3** | 0 | 965 | 0 | 0 | 854 | 0 | 0 | -1 | 0 | 0 |
| **4** | 0 | 288 | 0 | 0 | 13 | 0 | 0 | 103 | 0 | 0 |
| **5** | 0 | 309 | 0 | 0 | 35 | 0 | 0 | 172 | 0 | 0 |
| **6** | 0 | 310 | 0 | 0 | 0 | 0 | 0 | 235 | 0 | 0 |
| **7** | 0 | 757 | 0 | 0 | 0 | 0 | 0 | 249 | 0 | 0 |
| **8** | 0 | 938 | 0 | 0 | 0 | 0 | 0 | 262 | 0 | 0 |
| **9** | 0 | 737 | 0 | 0 | 0 | 0 | 0 | 237 | 0 | 0 |
| **10** | 0 | 862 | 0 | 0 | 0 | 0 | 0 | 198 | 0 | 0 |
| **11** | 0 | 1351 | 0 | 0 | 454 | 0 | 0 | 83 | 0 | 0 |
| **12** | 0 | 323 | 0 | 0 | 183 | 0 | 0 | 26 | 0 | 0 |
| **13** | 0 | 843 | 0 | 0 | 463 | 0 | 0 | 3 | 0 | 0 |
| **14** | 0 | 829 | 0 | 0 | 829 | 0 | 0 | -50 | 0 | 0 |
| **15** | 0 | 771 | 0 | 0 | 268 | 0 | 0 | 44 | 0 | 0 |
| **16** | 0 | 796 | 0 | 0 | 265 | 0 | 0 | 119 | 0 | 0 |
| **17** | 0 | 834 | 0 | 0 | 0 | 0 | 0 | 160 | 0 | 0 |
| **18** | 0 | 354 | 0 | 0 | 0 | 0 | 0 | 228 | 0 | 0 |
| **19** | 0 | 776 | 0 | 0 | 0 | 0 | 0 | 268 | 0 | 0 |
| **20** | 0 | 525 | 0 | 0 | 0 | 0 | 0 | 259 | 0 | 0 |

| **Obs** | **MeanMinTemp** | **Miss\_4** | **CMiss\_4** | **MeanTemp** | **Miss\_5** | **CMiss\_5** |
| --- | --- | --- | --- | --- | --- | --- |
| **1** | -57 | 0 | 0 | -24 | 0 | 0 |
| **2** | -83 | 0 | 0 | -47 | 0 | 0 |
| **3** | -72 | 0 | 0 | -37 | 0 | 0 |
| **4** | 25 | 0 | 0 | 64 | 0 | 0 |
| **5** | 83 | 0 | 0 | 128 | 0 | 0 |
| **6** | 144 | 0 | 0 | 190 | 0 | 0 |
| **7** | 179 | 0 | 0 | 214 | 0 | 0 |
| **8** | 194 | 0 | 0 | 228 | 0 | 0 |
| **9** | 151 | 0 | 0 | 194 | 0 | 0 |
| **10** | 118 | 0 | 0 | 158 | 0 | 0 |
| **11** | 25 | 0 | 0 | 54 | 0 | 0 |
| **12** | -33 | 0 | 0 | -4 | 0 | 0 |
| **13** | -64 | 0 | 0 | -30 | 0 | 0 |
| **14** | -107 | 0 | 0 | -79 | 0 | 0 |
| **15** | -37 | 0 | 0 | 4 | 0 | 0 |
| **16** | 34 | 0 | 0 | 77 | 0 | 0 |
| **17** | 88 | 0 | 0 | 124 | 0 | 0 |
| **18** | 150 | 0 | 0 | 189 | 0 | 0 |
| **19** | 197 | 0 | 0 | 233 | 0 | 0 |
| **20** | 180 | 0 | 0 | 219 | 0 | 0 |

*Part B*

| **Obs** | **TotalM** | **TotalCM** | **TotalM1** | **TotalCM1** | **TotalM2** | **TotalCM2** | **TotalM3** | **TotalCM3** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 33 | 30 | 0 | 0 | 28 | 27 | 9 | 8 |

| **Obs** | **TotalM4** | **TotalCM4** | **TotalM5** | **TotalCM5** |
| --- | --- | --- | --- | --- |
| **1** | 8 | 7 | 10 | 9 |

*Part C*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.WBUFFNODUP | **Observations** | 2 |
| **Member Type** | DATA | **Variables** | 8 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:32:13 | **Observation Length** | 104 |
| **Last Modified** | 10/21/2018 18:32:13 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | YES |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 1 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 629 |
| **Obs in First Data Page** | 2 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/wbuffnodup.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410396 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 128KB |
| **File Size (bytes)** | 131072 |

| **Alphabetic List of Variables and Attributes** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** | **Format** | **Informat** |
| **2** | Date | Num | 8 | YYMMDD10. | YYMMDD8. |
| **3** | MaxSnow | Num | 8 |  |  |
| **6** | MeanMaxTemp | Num | 8 |  |  |
| **7** | MeanMinTemp | Num | 8 |  |  |
| **8** | MeanTemp | Num | 8 |  |  |
| **4** | Precip | Num | 8 |  |  |
| **5** | Snowfall | Num | 8 |  |  |
| **1** | Station | Char | 43 |  |  |

| **Sort Information** | |
| --- | --- |
| **Sortedby** | Station |
| **Validated** | YES |
| **Character Set** | ASCII |
| **Sort Option** | NODUPKEY |

| **Obs** | **Station** | **Date** | **MaxSnow** | **Precip** | **Snowfall** | **MeanMaxTemp** | **MeanMinTemp** | **MeanTemp** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | BUFFALO NIAGARA INTERNATIONAL AIRPORT NY US | 1938-05-01 | . | 729 | . | 187 | 75 | 131 |
| **2** | BUFFALO NY US | 1900-01-01 | 102 | 972 | 241 | 9 | -57 | -24 |

*Part D*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.WBUFF3 | **Observations** | 1438 |
| **Member Type** | DATA | **Variables** | 10 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:34:19 | **Observation Length** | 192 |
| **Last Modified** | 10/21/2018 18:34:19 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 5 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 340 |
| **Obs in First Data Page** | 325 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/wbuff3.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410597 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 384KB |
| **File Size (bytes)** | 393216 |

| **Alphabetic List of Variables and Attributes** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** | **Format** | **Informat** |
| **9** | City | Char | 43 |  |  |
| **2** | Date | Num | 8 | YYMMDD10. | YYMMDD8. |
| **3** | MaxSnow | Num | 8 |  |  |
| **6** | MeanMaxTemp | Num | 8 |  |  |
| **7** | MeanMinTemp | Num | 8 |  |  |
| **8** | MeanTemp | Num | 8 |  |  |
| **4** | Precip | Num | 8 |  |  |
| **10** | Site | Char | 43 |  |  |
| **5** | Snowfall | Num | 8 |  |  |
| **1** | Station | Char | 43 |  |  |

| **Obs** | **Station** | **Date** | **MaxSnow** | **Precip** | **Snowfall** | **MeanMaxTemp** | **MeanMinTemp** | **MeanTemp** | **City** | **Site** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | Buffalo City | 1900-01-01 | 102 | 972 | 241 | 9 | -57 | -24 | Buffalo | City |
| **2** | Buffalo City | 1900-02-01 | 203 | 1327 | 649 | -12 | -83 | -47 | Buffalo | City |
| **3** | Buffalo City | 1900-03-01 | 635 | 965 | 854 | -1 | -72 | -37 | Buffalo | City |
| **4** | Buffalo City | 1900-04-01 | 0 | 288 | 13 | 103 | 25 | 64 | Buffalo | City |
| **5** | Buffalo City | 1900-05-01 | 0 | 309 | 35 | 172 | 83 | 128 | Buffalo | City |
| **6** | Buffalo City | 1900-06-01 | 0 | 310 | 0 | 235 | 144 | 190 | Buffalo | City |
| **7** | Buffalo City | 1900-07-01 | 0 | 757 | 0 | 249 | 179 | 214 | Buffalo | City |
| **8** | Buffalo City | 1900-08-01 | 0 | 938 | 0 | 262 | 194 | 228 | Buffalo | City |
| **9** | Buffalo City | 1900-09-01 | 0 | 737 | 0 | 237 | 151 | 194 | Buffalo | City |
| **10** | Buffalo City | 1900-10-01 | 0 | 862 | 0 | 198 | 118 | 158 | Buffalo | City |
| **11** | Buffalo City | 1900-11-01 | 178 | 1351 | 454 | 83 | 25 | 54 | Buffalo | City |
| **12** | Buffalo City | 1900-12-01 | 76 | 323 | 183 | 26 | -33 | -4 | Buffalo | City |
| **13** | Buffalo City | 1901-01-01 | 203 | 843 | 463 | 3 | -64 | -30 | Buffalo | City |
| **14** | Buffalo City | 1901-02-01 | 330 | 829 | 829 | -50 | -107 | -79 | Buffalo | City |
| **15** | Buffalo City | 1901-03-01 | 102 | 771 | 268 | 44 | -37 | 4 | Buffalo | City |
| **16** | Buffalo City | 1901-04-01 | 152 | 796 | 265 | 119 | 34 | 77 | Buffalo | City |
| **17** | Buffalo City | 1901-05-01 | 0 | 834 | 0 | 160 | 88 | 124 | Buffalo | City |
| **18** | Buffalo City | 1901-06-01 | 0 | 354 | 0 | 228 | 150 | 189 | Buffalo | City |
| **19** | Buffalo City | 1901-07-01 | 0 | 776 | 0 | 268 | 197 | 233 | Buffalo | City |
| **20** | Buffalo City | 1901-08-01 | 0 | 525 | 0 | 259 | 180 | 219 | Buffalo | City |

*Part E*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.WBUFF4 | **Observations** | 1438 |
| **Member Type** | DATA | **Variables** | 14 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:36:59 | **Observation Length** | 216 |
| **Last Modified** | 10/21/2018 18:36:59 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 5 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 303 |
| **Obs in First Data Page** | 286 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/wbuff4.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410604 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 384KB |
| **File Size (bytes)** | 393216 |

| **Alphabetic List of Variables and Attributes** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** | **Format** | **Informat** |
| **9** | City | Char | 43 |  |  |
| **2** | Date | Num | 8 | YYMMDD10. | YYMMDD8. |
| **3** | MaxSnow | Num | 8 |  |  |
| **6** | MeanMaxTemp | Num | 8 |  |  |
| **7** | MeanMinTemp | Num | 8 |  |  |
| **8** | MeanTemp | Num | 8 |  |  |
| **12** | Month | Char | 3 |  |  |
| **11** | MonthN | Num | 8 |  |  |
| **4** | Precip | Num | 8 |  |  |
| **10** | Site | Char | 43 |  |  |
| **14** | SnowSeasonLong | Num | 8 |  |  |
| **5** | Snowfall | Num | 8 |  |  |
| **1** | Station | Char | 43 |  |  |
| **13** | Year | Num | 8 |  |  |

| **Obs** | **Station** | **Date** | **MaxSnow** | **Precip** | **Snowfall** | **MeanMaxTemp** | **MeanMinTemp** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | Buffalo City | 1900-01-01 | 102 | 972 | 241 | 9 | -57 |
| **2** | Buffalo City | 1900-02-01 | 203 | 1327 | 649 | -12 | -83 |
| **3** | Buffalo City | 1900-03-01 | 635 | 965 | 854 | -1 | -72 |
| **4** | Buffalo City | 1900-04-01 | 0 | 288 | 13 | 103 | 25 |
| **5** | Buffalo City | 1900-05-01 | 0 | 309 | 35 | 172 | 83 |
| **6** | Buffalo City | 1900-06-01 | 0 | 310 | 0 | 235 | 144 |
| **7** | Buffalo City | 1900-07-01 | 0 | 757 | 0 | 249 | 179 |
| **8** | Buffalo City | 1900-08-01 | 0 | 938 | 0 | 262 | 194 |
| **9** | Buffalo City | 1900-09-01 | 0 | 737 | 0 | 237 | 151 |
| **10** | Buffalo City | 1900-10-01 | 0 | 862 | 0 | 198 | 118 |
| **11** | Buffalo City | 1900-11-01 | 178 | 1351 | 454 | 83 | 25 |
| **12** | Buffalo City | 1900-12-01 | 76 | 323 | 183 | 26 | -33 |
| **13** | Buffalo City | 1901-01-01 | 203 | 843 | 463 | 3 | -64 |
| **14** | Buffalo City | 1901-02-01 | 330 | 829 | 829 | -50 | -107 |
| **15** | Buffalo City | 1901-03-01 | 102 | 771 | 268 | 44 | -37 |
| **16** | Buffalo City | 1901-04-01 | 152 | 796 | 265 | 119 | 34 |
| **17** | Buffalo City | 1901-05-01 | 0 | 834 | 0 | 160 | 88 |
| **18** | Buffalo City | 1901-06-01 | 0 | 354 | 0 | 228 | 150 |
| **19** | Buffalo City | 1901-07-01 | 0 | 776 | 0 | 268 | 197 |
| **20** | Buffalo City | 1901-08-01 | 0 | 525 | 0 | 259 | 180 |

| **Obs** | **MeanTemp** | **City** | **Site** | **MonthN** | **Month** | **Year** | **SnowSeasonLong** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | -24 | Buffalo | City | 1 | Jan | 1900 | 1899 |
| **2** | -47 | Buffalo | City | 2 | Feb | 1900 | 1899 |
| **3** | -37 | Buffalo | City | 3 | Mar | 1900 | 1899 |
| **4** | 64 | Buffalo | City | 4 | Apr | 1900 | 1899 |
| **5** | 128 | Buffalo | City | 5 | May | 1900 | . |
| **6** | 190 | Buffalo | City | 6 | Jun | 1900 | . |
| **7** | 214 | Buffalo | City | 7 | Jul | 1900 | . |
| **8** | 228 | Buffalo | City | 8 | Aug | 1900 | . |
| **9** | 194 | Buffalo | City | 9 | Sep | 1900 | . |
| **10** | 158 | Buffalo | City | 10 | Oct | 1900 | 1900 |
| **11** | 54 | Buffalo | City | 11 | Nov | 1900 | 1900 |
| **12** | -4 | Buffalo | City | 12 | Dec | 1900 | 1900 |
| **13** | -30 | Buffalo | City | 1 | Jan | 1901 | 1900 |
| **14** | -79 | Buffalo | City | 2 | Feb | 1901 | 1900 |
| **15** | 4 | Buffalo | City | 3 | Mar | 1901 | 1900 |
| **16** | 77 | Buffalo | City | 4 | Apr | 1901 | 1900 |
| **17** | 124 | Buffalo | City | 5 | May | 1901 | . |
| **18** | 189 | Buffalo | City | 6 | Jun | 1901 | . |
| **19** | 233 | Buffalo | City | 7 | Jul | 1901 | . |
| **20** | 219 | Buffalo | City | 8 | Aug | 1901 | . |

*Part F*

| **Obs** | **Station** | **Date** | **MaxSnow** | **Precip** | **Snowfall** | **MeanMaxTemp** | **MeanMinTemp** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | Buffalo City | 1900-01-01 | 4 | 3.8 | 9.5 | 33.6 | 21.7 |
| **2** | Buffalo City | 1900-02-01 | 8 | 5.2 | 25.6 | 29.8 | 17.1 |
| **3** | Buffalo City | 1900-03-01 | 25 | 3.8 | 33.6 | 31.8 | 19.0 |
| **4** | Buffalo City | 1900-04-01 | 0 | 1.1 | 0.5 | 50.5 | 36.5 |
| **5** | Buffalo City | 1900-05-01 | 0 | 1.2 | 1.4 | 63.0 | 46.9 |
| **6** | Buffalo City | 1900-06-01 | 0 | 1.2 | 0.0 | 74.3 | 57.9 |
| **7** | Buffalo City | 1900-07-01 | 0 | 3.0 | 0.0 | 76.8 | 64.2 |
| **8** | Buffalo City | 1900-08-01 | 0 | 3.7 | 0.0 | 79.2 | 66.9 |
| **9** | Buffalo City | 1900-09-01 | 0 | 2.9 | 0.0 | 74.7 | 59.2 |
| **10** | Buffalo City | 1900-10-01 | 0 | 3.4 | 0.0 | 67.6 | 53.2 |
| **11** | Buffalo City | 1900-11-01 | 7 | 5.3 | 17.9 | 46.9 | 36.5 |
| **12** | Buffalo City | 1900-12-01 | 3 | 1.3 | 7.2 | 36.7 | 26.1 |
| **13** | Buffalo City | 1901-01-01 | 8 | 3.3 | 18.2 | 32.5 | 20.5 |
| **14** | Buffalo City | 1901-02-01 | 13 | 3.3 | 32.6 | 23.0 | 12.7 |
| **15** | Buffalo City | 1901-03-01 | 4 | 3.0 | 10.6 | 39.9 | 25.3 |
| **16** | Buffalo City | 1901-04-01 | 6 | 3.1 | 10.4 | 53.4 | 38.1 |
| **17** | Buffalo City | 1901-05-01 | 0 | 3.3 | 0.0 | 60.8 | 47.8 |
| **18** | Buffalo City | 1901-06-01 | 0 | 1.4 | 0.0 | 73.0 | 59.0 |
| **19** | Buffalo City | 1901-07-01 | 0 | 3.1 | 0.0 | 80.2 | 67.5 |
| **20** | Buffalo City | 1901-08-01 | 0 | 2.1 | 0.0 | 78.6 | 64.4 |

| **Obs** | **MeanTemp** | **City** | **Site** | **MonthN** | **Month** | **Year** | **SnowSeasonLong** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 27.7 | Buffalo | City | 1 | Jan | 1900 | 1899 |
| **2** | 23.5 | Buffalo | City | 2 | Feb | 1900 | 1899 |
| **3** | 25.3 | Buffalo | City | 3 | Mar | 1900 | 1899 |
| **4** | 43.5 | Buffalo | City | 4 | Apr | 1900 | 1899 |
| **5** | 55.0 | Buffalo | City | 5 | May | 1900 | . |
| **6** | 66.2 | Buffalo | City | 6 | Jun | 1900 | . |
| **7** | 70.5 | Buffalo | City | 7 | Jul | 1900 | . |
| **8** | 73.0 | Buffalo | City | 8 | Aug | 1900 | . |
| **9** | 66.9 | Buffalo | City | 9 | Sep | 1900 | . |
| **10** | 60.4 | Buffalo | City | 10 | Oct | 1900 | 1900 |
| **11** | 41.7 | Buffalo | City | 11 | Nov | 1900 | 1900 |
| **12** | 31.3 | Buffalo | City | 12 | Dec | 1900 | 1900 |
| **13** | 26.6 | Buffalo | City | 1 | Jan | 1901 | 1900 |
| **14** | 17.8 | Buffalo | City | 2 | Feb | 1901 | 1900 |
| **15** | 32.7 | Buffalo | City | 3 | Mar | 1901 | 1900 |
| **16** | 45.9 | Buffalo | City | 4 | Apr | 1901 | 1900 |
| **17** | 54.3 | Buffalo | City | 5 | May | 1901 | . |
| **18** | 66.0 | Buffalo | City | 6 | Jun | 1901 | . |
| **19** | 73.9 | Buffalo | City | 7 | Jul | 1901 | . |
| **20** | 71.4 | Buffalo | City | 8 | Aug | 1901 | . |

**Question 4**

*Part A*

| **Obs** | **Date** | **Snowfall\_Air** | **Precip\_Air** | **Snowfall\_City** | **Precip\_City** |
| --- | --- | --- | --- | --- | --- |
| **1** | 1938-05-01 | . | 2.9 | 0.0 | 2.1 |
| **2** | 1938-06-01 | . | 2.8 | 0.0 | 2.3 |
| **3** | 1938-07-01 | . | 1.9 | 0.0 | 2.1 |
| **4** | 1938-08-01 | . | 3.6 | 0.0 | 3.3 |
| **5** | 1938-09-01 | . | 5.7 | 0.0 | 3.6 |
| **6** | 1938-10-01 | . | 0.4 | 0.0 | 0.4 |
| **7** | 1938-11-01 | . | 4.3 | 11.2 | 3.8 |
| **8** | 1938-12-01 | . | 2.0 | 14.3 | 2.3 |
| **9** | 1939-01-01 | . | 2.4 | 26.7 | 2.9 |
| **10** | 1939-02-01 | 11.7 | 3.3 | 15.3 | 3.5 |
| **11** | 1939-03-01 | 6.0 | 3.3 | 10.3 | 2.9 |
| **12** | 1939-04-01 | 1.7 | 3.0 | 3.4 | 2.5 |
| **13** | 1939-05-01 | . | 1.8 | 0.0 | 2.0 |
| **14** | 1939-06-01 | . | 2.3 | 0.0 | 1.8 |
| **15** | 1939-07-01 | . | 1.5 | 0.0 | 1.5 |
| **16** | 1939-08-01 | . | 4.3 | 0.0 | 3.8 |
| **17** | 1939-09-01 | . | 3.4 | 0.0 | 3.1 |
| **18** | 1939-10-01 | . | 2.0 | 0.0 | 1.8 |
| **19** | 1939-11-01 | . | 0.6 | 0.5 | 0.5 |
| **20** | 1939-12-01 | . | 2.7 | 8.7 | 3.0 |
| **21** | 1940-01-01 | . | 1.4 | 27.6 | 2.5 |
| **22** | 1940-02-01 | . | 3.4 | 20.3 | 3.7 |
| **23** | 1940-03-01 | . | 2.3 | 15.8 | 2.4 |
| **24** | 1940-04-01 | . | 2.5 | 5.1 | 2.3 |
| **25** | 1940-05-01 | . | 3.7 | 0.0 | 3.5 |
| **26** | 1940-06-01 | . | 4.6 | 0.0 | 4.4 |
| **27** | 1940-07-01 | . | 1.3 | 0.0 | 1.4 |
| **28** | 1940-08-01 | . | 3.3 | 0.0 | 3.1 |
| **29** | 1940-09-01 | . | 3.1 | 0.0 | 3.7 |
| **30** | 1940-10-01 | . | 1.3 | 0.0 | 1.1 |
| **31** | 1940-11-01 | . | 6.1 | 17.5 | 4.4 |
| **32** | 1940-12-01 | . | 3.2 | 12.1 | 3.4 |
| **33** | 1941-01-01 | . | 2.2 | 17.4 | 2.4 |
| **34** | 1941-02-01 | . | 1.4 | 23.1 | 2.1 |
| **35** | 1941-03-01 | . | 2.0 | 9.3 | 2.0 |
| **36** | 1941-04-01 | . | 2.5 | 0.0 | 1.7 |
| **37** | 1941-05-01 | . | 1.3 | 0.0 | 1.1 |
| **38** | 1941-06-01 | . | 0.9 | 0.0 | 0.8 |
| **39** | 1941-07-01 | . | 3.9 | 0.0 | 3.4 |
| **40** | 1941-08-01 | . | 1.7 | 0.0 | 1.1 |
| **41** | 1941-09-01 | . | 1.4 | 0.0 | 0.9 |
| **42** | 1941-10-01 | . | 4.1 | 0.0 | 2.4 |
| **43** | 1941-11-01 | . | 3.2 | 5.0 | 3.1 |
| **44** | 1941-12-01 | . | 2.0 | 7.9 | 1.4 |
| **45** | 1942-01-01 | . | 2.6 | 31.0 | 3.3 |
| **46** | 1942-02-01 | . | 3.7 | 16.3 | 4.3 |
| **47** | 1942-03-01 | . | 3.9 | 13.7 | 3.8 |
| **48** | 1942-04-01 | . | 2.4 | 4.1 | 2.2 |
| **49** | 1942-05-01 | . | 4.2 | 0.0 | 3.8 |
| **50** | 1942-06-01 | . | 1.1 | 0.0 | 0.8 |
| **51** | 1942-07-01 | . | 4.1 | 0.0 | 2.4 |
| **52** | 1942-08-01 | . | 3.1 | 0.0 | 2.4 |
| **53** | 1942-09-01 | . | 4.9 | 0.0 | 3.4 |
| **54** | 1942-10-01 | . | 4.5 | 0.0 | 3.1 |
| **55** | 1942-11-01 | . | 4.8 | 8.7 | 4.3 |
| **56** | 1942-12-01 | . | 4.3 | 26.7 | 5.0 |
| **57** | 1943-01-01 | . | 1.8 | 16.9 | 2.0 |
| **58** | 1943-02-01 | . | 1.6 | 17.7 | 2.3 |
| **59** | 1943-03-01 | . | 3.5 | 10.5 | 2.4 |
| **60** | 1943-04-01 | . | 3.8 | 5.1 | 3.7 |
| **61** | 1943-05-01 | . | 4.3 | 0.0 | 3.5 |
| **62** | 1943-06-01 | . | 3.8 | 0.0 | 2.8 |
| **63** | 1943-07-01 | 0.0 | 1.7 | . | 1.1 |
| **64** | 1943-08-01 | 0.0 | 2.6 | . | 2.4 |
| **65** | 1943-09-01 | 0.0 | 3.5 | . | 2.3 |
| **66** | 1943-10-01 | 1.5 | 4.0 | . | 2.6 |
| **67** | 1943-11-01 | 13.6 | 2.6 | . | 2.3 |
| **68** | 1943-12-01 | 1.8 | 0.7 | . | 0.1 |
| **69** | 1944-01-01 | 3.4 | 1.3 | . | 0.9 |
| **70** | 1944-02-01 | 24.7 | 2.9 | . | 2.0 |
| **71** | 1944-03-01 | 10.2 | 2.6 | . | 2.2 |
| **72** | 1944-04-01 | 2.7 | 4.6 | . | 2.3 |
| **73** | 1944-05-01 | 0.0 | 2.9 | . | 2.6 |

*Part B*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.WBUFF | **Observations** | 1365 |
| **Member Type** | DATA | **Variables** | 14 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:50:59 | **Observation Length** | 216 |
| **Last Modified** | 10/21/2018 18:50:59 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 5 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 303 |
| **Obs in First Data Page** | 286 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/wbuff.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410662 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 384KB |
| **File Size (bytes)** | 393216 |

| **Alphabetic List of Variables and Attributes** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** | **Format** | **Informat** |
| **9** | City | Char | 43 |  |  |
| **2** | Date | Num | 8 | YYMMDD10. | YYMMDD8. |
| **3** | MaxSnow | Num | 8 |  |  |
| **6** | MeanMaxTemp | Num | 8 |  |  |
| **7** | MeanMinTemp | Num | 8 |  |  |
| **8** | MeanTemp | Num | 8 |  |  |
| **12** | Month | Char | 3 |  |  |
| **11** | MonthN | Num | 8 |  |  |
| **4** | Precip | Num | 8 |  |  |
| **10** | Site | Char | 43 |  |  |
| **14** | SnowSeasonLong | Num | 8 |  |  |
| **5** | Snowfall | Num | 8 |  |  |
| **1** | Station | Char | 43 |  |  |
| **13** | Year | Num | 8 |  |  |

**Question 5**

*Part A*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.WALL | **Observations** | 1126 |
| **Member Type** | DATA | **Variables** | 9 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:53:39 | **Observation Length** | 72 |
| **Last Modified** | 10/21/2018 18:53:39 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 2 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 908 |
| **Obs in First Data Page** | 867 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/wall.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410676 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 192KB |
| **File Size (bytes)** | 196608 |

| **Alphabetic List of Variables and Attributes** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** | **Format** | **Informat** |
| **1** | Date | Num | 8 | YYMMDD10. | YYMMDD8. |
| **4** | Month | Char | 8 |  |  |
| **3** | MonthN | Num | 8 |  |  |
| **6** | SnowSeasonLong | Num | 8 |  |  |
| **2** | Snowfall\_A | Num | 8 |  |  |
| **7** | Snowfall\_B | Num | 8 |  |  |
| **8** | Snowfall\_R | Num | 8 |  |  |
| **9** | Snowfall\_S | Num | 8 |  |  |
| **5** | Year | Num | 8 |  |  |

| **Obs** | **Date** | **SnowSeasonLong** | **Year** | **Month** | **MonthN** | **Snowfall\_B** | **Snowfall\_R** | **Snowfall\_S** | **Snowfall\_A** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 1926-01-01 | 1925 | 1926 | Jan | 1 | 0.0 | 14.7 | 23.4 | 11.9 |
| **2** | 1926-02-01 | 1925 | 1926 | Feb | 2 | 1.5 | 16.0 | 25.8 | 32.4 |
| **3** | 1926-03-01 | 1925 | 1926 | Mar | 3 | 0.1 | 8.5 | 8.8 | 1.7 |
| **4** | 1926-04-01 | 1925 | 1926 | Apr | 4 | 0.0 | 1.5 | 5.1 | 0.6 |
| **5** | 1926-05-01 | . | 1926 | May | 5 | 0.0 | 0.0 | 0.0 | 0.0 |
| **6** | 1926-06-01 | . | 1926 | Jun | 6 | 0.0 | 0.0 | 0.0 | 0.0 |
| **7** | 1926-07-01 | . | 1926 | Jul | 7 | 0.0 | 0.0 | 0.0 | 0.0 |
| **8** | 1926-08-01 | . | 1926 | Aug | 8 | 0.0 | 0.0 | 0.0 | 0.0 |
| **9** | 1926-09-01 | . | 1926 | Sep | 9 | 0.0 | 0.0 | 0.0 | 0.0 |
| **10** | 1926-10-01 | 1926 | 1926 | Oct | 10 | 0.0 | 0.0 | 0.6 | 0.2 |
| **11** | 1926-11-01 | 1926 | 1926 | Nov | 11 | 0.0 | 3.4 | 4.4 | 0.0 |
| **12** | 1926-12-01 | 1926 | 1926 | Dec | 12 | 0.0 | 27.7 | 25.7 | 19.2 |
| **13** | 1927-01-01 | 1926 | 1927 | Jan | 1 | 12.9 | 21.7 | 0.0 | 15.7 |
| **14** | 1927-02-01 | 1926 | 1927 | Feb | 2 | 17.8 | 21.9 | 0.1 | 14.1 |
| **15** | 1927-03-01 | 1926 | 1927 | Mar | 3 | 3.5 | 4.7 | 0.0 | 2.7 |
| **16** | 1927-04-01 | 1926 | 1927 | Apr | 4 | 4.1 | 0.5 | 0.0 | 0.2 |
| **17** | 1927-05-01 | . | 1927 | May | 5 | 0.0 | 0.0 | 0.0 | 0.0 |
| **18** | 1927-06-01 | . | 1927 | Jun | 6 | 0.0 | 0.0 | 0.0 | 0.0 |
| **19** | 1927-07-01 | . | 1927 | Jul | 7 | 0.0 | 0.0 | 0.0 | 0.0 |
| **20** | 1927-08-01 | . | 1927 | Aug | 8 | 0.0 | 0.0 | 0.0 | 0.0 |

*Part B*

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.WALLYEARSUMSSL | **Observations** | 87 |
| **Member Type** | DATA | **Variables** | 5 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 18:57:58 | **Observation Length** | 40 |
| **Last Modified** | 10/21/2018 18:57:58 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 1 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 1632 |
| **Obs in First Data Page** | 87 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/wallyearsumssl.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410417 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 128KB |
| **File Size (bytes)** | 131072 |

| **Alphabetic List of Variables and Attributes** | | | |
| --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** |
| **1** | SnowSeasonLong | Num | 8 |
| **2** | Snowfall\_A | Num | 8 |
| **3** | Snowfall\_B | Num | 8 |
| **4** | Snowfall\_R | Num | 8 |
| **5** | Snowfall\_S | Num | 8 |

| **Obs** | **SnowSeasonLong** | **Snowfall\_B** | **Snowfall\_R** | **Snowfall\_S** | **Snowfall\_A** |
| --- | --- | --- | --- | --- | --- |
| **1** | 1926 | 38.3 | 79.9 | 30.8 | 52.1 |
| **2** | 1927 | 80.9 | 68.4 | 58.4 | 36.8 |
| **3** | 1928 | 61.4 | 55.4 | 79.3 | 46.3 |
| **4** | 1929 | 74.4 | 59.9 | 43.5 | 25.3 |
| **5** | 1930 | 74.5 | 77.5 | 20.2 | 31.1 |
| **6** | 1931 | 50.0 | 76.0 | 0.9 | 35.2 |
| **7** | 1932 | 54.9 | 29.5 | 29.1 | 42.7 |
| **8** | 1933 | 160.5 | 77.3 | 78.6 | 58.7 |
| **9** | 1934 | 12.7 | 49.6 | 66.8 | 4.0 |
| **10** | 1935 | 0.8 | 90.2 | 83.3 | 1.3 |
| **11** | 1936 | 36.3 | 66.1 | 73.0 | 20.7 |
| **12** | 1937 | 82.7 | 54.8 | 58.0 | 32.6 |
| **13** | 1938 | 100.6 | 158.6 | 161.0 | 122.8 |
| **14** | 1939 | 78.0 | 109.4 | 226.2 | 108.2 |
| **15** | 1940 | 79.4 | 122.4 | 177.0 | 102.6 |
| **16** | 1941 | 78.0 | 133.0 | 169.6 | 90.4 |
| **17** | 1942 | 85.6 | 141.4 | 187.6 | 90.2 |
| **18** | 1943 | 57.9 | 92.8 | 132.6 | 101.4 |
| **19** | 1944 | 118.8 | 92.9 | 126.9 | 52.8 |
| **20** | 1945 | 70.8 | 49.6 | 93.0 | 77.5 |

|  | **Snowfall\_A** | **Snowfall\_B** | **Snowfall\_R** | **Snowfall\_S** |
| --- | --- | --- | --- | --- |
| **Mean** | 62 | 88 | 93 | 111 |
| **StdDev** | 26 | 35 | 30 | 43 |
| **CV** | 43 | 40 | 32 | 38 |

**Question 6**

*Part A*

1 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

72

73

74 \*Question 6 A\*\*\*\*\*;

75

76 \*Editted subsection of original file must first be loaded with the code above.;

77 %macro varchange (datain=, dataout=,seqEnd=,prefix=,grpPrefs=);

78 data &dataout;

79 set &datain;

80 \*First I had to calculate the number of groups that the variables were going to be split into.;

81 %let g=%sysfunc(countw(&grpPrefs));

82 \*The put statements here help keep track of the macro outputs and ensure that they are outputting the

83 correct values;

84 %put &grpPrefs &g;

85 %let divgrp=%sysevalf(&seqEnd/&g);

86 %put &divgrp;

87 %put %sysevalf(%sysevalf(&seqEnd/&g)-%eval(&seqEnd/&g));

88 %if %sysevalf(%sysevalf(&seqEnd/&g)-%eval(&seqEnd/&g))=0 %then

89 %do;

90 %do j=1 %to &divgrp;

91 %do i=1 %to &g;

92 %let index=%eval((&j-1)\*&g+&i);

93 %put &index;

94 %scan(&grpPrefs,&i)&j=&prefix&index;

95 %end;

96 %end;

97 drop x1--x50;

98 run;

99 \*The following transpose and sort proc steps are used to organize the variables in the order specified in

100 the problem.;

101 proc transpose data=&dataout out=transfile1 name=variable;

102 var \_ALL\_;

103 run;

104 proc sort data=transfile1 out=sortedfile sortseq=linguistic (NUMERIC\_COLLATION=ON);

105 by variable;

106 run;

107 proc transpose data=sortedfile out=transfile2 (drop=\_name\_);

108 id variable;

109 run;

110 proc print data=transfile2 (obs=5);

111 Title "Reorganized varaibles into &g groups of &divgrp each";

112 run;

113 proc contents data=transfile2 order=varnum;

114 run;

115 %end;

116 %else %put "Error in dividing &g by &seqEnd so macro will now stop.";

117 run;

118 %mend varchange;

| **Obs** | **a1** | **a2** | **a3** | **a4** | **a5** | **a6** | **a7** | **a8** | **a9** | **a10** | **b1** | **b2** | **b3** | **b4** | **b5** | **b6** | **b7** | **b8** | **b9** | **b10** | **c1** | **c2** | **c3** | **c4** | **c5** | **c6** | **c7** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 47 | 53 | 44 | 56 | 62 | 40 | 51 | 49 | 56 | 42 | 64 | 29 | 50 | 65 | 45 | 55 | 51 | 60 | 47 | 47 | 40 | 49 | 61 | 45 | 43 | 35 | 68 |
| **2** | 56 | 48 | 59 | 38 | 66 | 39 | 60 | 53 | 52 | 65 | 48 | 60 | 43 | 63 | 35 | 49 | 48 | 58 | 48 | 49 | 41 | 40 | 41 | 40 | 61 | 45 | 48 |
| **3** | 44 | 46 | 45 | 55 | 57 | 58 | 73 | 57 | 42 | 50 | 70 | 42 | 60 | 37 | 39 | 50 | 39 | 50 | 35 | 47 | 59 | 43 | 59 | 62 | 48 | 46 | 49 |
| **4** | 21 | 36 | 53 | 54 | 69 | 31 | 65 | 48 | 60 | 29 | 51 | 46 | 29 | 36 | 36 | 43 | 51 | 37 | 75 | 50 | 64 | 54 | 54 | 46 | 58 | 53 | 60 |
| **5** | 58 | 54 | 50 | 46 | 55 | 28 | 53 | 66 | 63 | 38 | 66 | 70 | 56 | 44 | 65 | 40 | 39 | 43 | 31 | 49 | 74 | 55 | 56 | 41 | 35 | 51 | 59 |

| **Obs** | **c8** | **c9** | **c10** | **d1** | **d2** | **d3** | **d4** | **d5** | **d6** | **d7** | **d8** | **d9** | **d10** | **e1** | **e2** | **e3** | **e4** | **e5** | **e6** | **e7** | **e8** | **e9** | **e10** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 47 | 55 | 50 | 47 | 26 | 53 | 53 | 48 | 65 | 58 | 52 | 56 | 56 | 52 | 66 | 35 | 76 | 45 | 46 | 63 | 40 | 50 | 60 |
| **2** | 44 | 39 | 46 | 52 | 46 | 51 | 57 | 39 | 74 | 66 | 49 | 54 | 50 | 66 | 62 | 56 | 63 | 38 | 48 | 40 | 54 | 51 | 50 |
| **3** | 51 | 49 | 54 | 60 | 53 | 63 | 53 | 51 | 29 | 56 | 43 | 49 | 37 | 52 | 54 | 57 | 41 | 48 | 81 | 56 | 35 | 52 | 49 |
| **4** | 54 | 57 | 47 | 61 | 46 | 43 | 38 | 38 | 41 | 34 | 59 | 52 | 47 | 52 | 46 | 54 | 56 | 62 | 57 | 47 | 55 | 44 | 44 |
| **5** | 64 | 66 | 72 | 50 | 47 | 64 | 42 | 45 | 45 | 64 | 43 | 54 | 43 | 43 | 52 | 49 | 64 | 69 | 64 | 66 | 67 | 45 | 34 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.TRANSFILE2 | **Observations** | 10 |
| **Member Type** | DATA | **Variables** | 50 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 19:02:59 | **Observation Length** | 400 |
| **Last Modified** | 10/21/2018 19:02:59 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 1 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 163 |
| **Obs in First Data Page** | 10 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/transfile2.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410340 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 128KB |
| **File Size (bytes)** | 131072 |

| **Variables in Creation Order** | | | |
| --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** |
| **1** | a1 | Num | 8 |
| **2** | a2 | Num | 8 |
| **3** | a3 | Num | 8 |
| **4** | a4 | Num | 8 |
| **5** | a5 | Num | 8 |
| **6** | a6 | Num | 8 |
| **7** | a7 | Num | 8 |
| **8** | a8 | Num | 8 |
| **9** | a9 | Num | 8 |
| **10** | a10 | Num | 8 |
| **11** | b1 | Num | 8 |
| **12** | b2 | Num | 8 |
| **13** | b3 | Num | 8 |
| **14** | b4 | Num | 8 |
| **15** | b5 | Num | 8 |
| **16** | b6 | Num | 8 |
| **17** | b7 | Num | 8 |
| **18** | b8 | Num | 8 |
| **19** | b9 | Num | 8 |
| **20** | b10 | Num | 8 |
| **21** | c1 | Num | 8 |
| **22** | c2 | Num | 8 |
| **23** | c3 | Num | 8 |
| **24** | c4 | Num | 8 |
| **25** | c5 | Num | 8 |
| **26** | c6 | Num | 8 |
| **27** | c7 | Num | 8 |
| **28** | c8 | Num | 8 |
| **29** | c9 | Num | 8 |
| **30** | c10 | Num | 8 |
| **31** | d1 | Num | 8 |
| **32** | d2 | Num | 8 |
| **33** | d3 | Num | 8 |
| **34** | d4 | Num | 8 |
| **35** | d5 | Num | 8 |
| **36** | d6 | Num | 8 |
| **37** | d7 | Num | 8 |
| **38** | d8 | Num | 8 |
| **39** | d9 | Num | 8 |
| **40** | d10 | Num | 8 |
| **41** | e1 | Num | 8 |
| **42** | e2 | Num | 8 |
| **43** | e3 | Num | 8 |
| **44** | e4 | Num | 8 |
| **45** | e5 | Num | 8 |
| **46** | e6 | Num | 8 |
| **47** | e7 | Num | 8 |
| **48** | e8 | Num | 8 |
| **49** | e9 | Num | 8 |
| **50** | e10 | Num | 8 |

| **Obs** | **post1** | **post2** | **post3** | **post4** | **post5** | **post6** | **post7** | **post8** | **post9** | **post10** | **post11** | **post12** | **post13** | **post14** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 64 | 47 | 53 | 49 | 66 | 50 | 53 | 56 | 45 | 76 | 45 | 48 | 40 | 35 |
| **2** | 48 | 52 | 48 | 40 | 62 | 43 | 51 | 38 | 40 | 63 | 35 | 39 | 39 | 45 |
| **3** | 70 | 60 | 46 | 43 | 54 | 60 | 63 | 55 | 62 | 41 | 39 | 51 | 58 | 46 |
| **4** | 51 | 61 | 36 | 54 | 46 | 29 | 43 | 54 | 46 | 56 | 36 | 38 | 31 | 53 |
| **5** | 66 | 50 | 54 | 55 | 52 | 56 | 64 | 46 | 41 | 64 | 65 | 45 | 28 | 51 |

| **Obs** | **post15** | **post16** | **post17** | **post18** | **post19** | **post20** | **post21** | **post22** | **post23** | **post24** | **post25** | **pre1** | **pre2** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 46 | 51 | 58 | 49 | 47 | 40 | 47 | 56 | 42 | 50 | 60 | 47 | 40 |
| **2** | 48 | 48 | 66 | 53 | 44 | 54 | 48 | 54 | 65 | 46 | 50 | 56 | 41 |
| **3** | 81 | 39 | 56 | 57 | 51 | 35 | 35 | 49 | 50 | 54 | 49 | 44 | 59 |
| **4** | 57 | 51 | 34 | 48 | 54 | 55 | 75 | 52 | 29 | 47 | 44 | 21 | 64 |
| **5** | 64 | 39 | 64 | 66 | 64 | 67 | 31 | 54 | 38 | 72 | 34 | 58 | 74 |

| **Obs** | **pre3** | **pre4** | **pre5** | **pre6** | **pre7** | **pre8** | **pre9** | **pre10** | **pre11** | **pre12** | **pre13** | **pre14** | **pre15** | **pre16** | **pre17** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 52 | 29 | 26 | 44 | 61 | 35 | 65 | 53 | 62 | 43 | 45 | 55 | 65 | 51 | 68 |
| **2** | 66 | 60 | 46 | 59 | 41 | 56 | 63 | 57 | 66 | 61 | 38 | 49 | 74 | 60 | 48 |
| **3** | 52 | 42 | 53 | 45 | 59 | 57 | 37 | 53 | 57 | 48 | 48 | 50 | 29 | 73 | 49 |
| **4** | 52 | 46 | 46 | 53 | 54 | 54 | 36 | 38 | 69 | 58 | 62 | 43 | 41 | 65 | 60 |
| **5** | 43 | 70 | 47 | 50 | 56 | 49 | 44 | 42 | 55 | 35 | 69 | 40 | 45 | 53 | 59 |

| **Obs** | **pre18** | **pre19** | **pre20** | **pre21** | **pre22** | **pre23** | **pre24** | **pre25** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 63 | 60 | 52 | 56 | 55 | 50 | 47 | 56 |
| **2** | 40 | 58 | 49 | 52 | 39 | 51 | 49 | 50 |
| **3** | 56 | 50 | 43 | 42 | 49 | 52 | 47 | 37 |
| **4** | 47 | 37 | 59 | 60 | 57 | 44 | 50 | 47 |
| **5** | 66 | 43 | 43 | 63 | 66 | 45 | 49 | 43 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Set Name** | WORK.TRANSFILE2 | **Observations** | 10 |
| **Member Type** | DATA | **Variables** | 50 |
| **Engine** | V9 | **Indexes** | 0 |
| **Created** | 10/21/2018 19:03:00 | **Observation Length** | 400 |
| **Last Modified** | 10/21/2018 19:03:00 | **Deleted Observations** | 0 |
| **Protection** |  | **Compressed** | NO |
| **Data Set Type** |  | **Sorted** | NO |
| **Label** |  |  |  |
| **Data Representation** | SOLARIS\_X86\_64, LINUX\_X86\_64, ALPHA\_TRU64, LINUX\_IA64 |  |  |
| **Encoding** | utf-8 Unicode (UTF-8) |  |  |

| **Engine/Host Dependent Information** | |
| --- | --- |
| **Data Set Page Size** | 65536 |
| **Number of Data Set Pages** | 1 |
| **First Data Page** | 1 |
| **Max Obs per Page** | 163 |
| **Obs in First Data Page** | 10 |
| **Number of Data Set Repairs** | 0 |
| **Filename** | /tmp/SAS\_workF85E00002B8C\_localhost.localdomain/SAS\_workDACE00002B8C\_localhost.localdomain/transfile2.sas7bdat |
| **Release Created** | 9.0401M5 |
| **Host Created** | Linux |
| **Inode Number** | 410707 |
| **Access Permission** | rw-rw-r-- |
| **Owner Name** | sasdemo |
| **File Size** | 128KB |
| **File Size (bytes)** | 131072 |

| **Variables in Creation Order** | | | |
| --- | --- | --- | --- |
| **#** | **Variable** | **Type** | **Len** |
| **1** | post1 | Num | 8 |
| **2** | post2 | Num | 8 |
| **3** | post3 | Num | 8 |
| **4** | post4 | Num | 8 |
| **5** | post5 | Num | 8 |
| **6** | post6 | Num | 8 |
| **7** | post7 | Num | 8 |
| **8** | post8 | Num | 8 |
| **9** | post9 | Num | 8 |
| **10** | post10 | Num | 8 |
| **11** | post11 | Num | 8 |
| **12** | post12 | Num | 8 |
| **13** | post13 | Num | 8 |
| **14** | post14 | Num | 8 |
| **15** | post15 | Num | 8 |
| **16** | post16 | Num | 8 |
| **17** | post17 | Num | 8 |
| **18** | post18 | Num | 8 |
| **19** | post19 | Num | 8 |
| **20** | post20 | Num | 8 |
| **21** | post21 | Num | 8 |
| **22** | post22 | Num | 8 |
| **23** | post23 | Num | 8 |
| **24** | post24 | Num | 8 |
| **25** | post25 | Num | 8 |
| **26** | pre1 | Num | 8 |
| **27** | pre2 | Num | 8 |
| **28** | pre3 | Num | 8 |
| **29** | pre4 | Num | 8 |
| **30** | pre5 | Num | 8 |
| **31** | pre6 | Num | 8 |
| **32** | pre7 | Num | 8 |
| **33** | pre8 | Num | 8 |
| **34** | pre9 | Num | 8 |
| **35** | pre10 | Num | 8 |
| **36** | pre11 | Num | 8 |
| **37** | pre12 | Num | 8 |
| **38** | pre13 | Num | 8 |
| **39** | pre14 | Num | 8 |
| **40** | pre15 | Num | 8 |
| **41** | pre16 | Num | 8 |
| **42** | pre17 | Num | 8 |
| **43** | pre18 | Num | 8 |
| **44** | pre19 | Num | 8 |
| **45** | pre20 | Num | 8 |
| **46** | pre21 | Num | 8 |
| **47** | pre22 | Num | 8 |
| **48** | pre23 | Num | 8 |
| **49** | pre24 | Num | 8 |
| **50** | pre25 | Num | 8 |

*Part B*

1 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

72

73 %varchange (datain=x1x50,dataout=spacefile1,seqEnd=50,prefix=x,grpPrefs=a b c d e f g h i j k);

a b c d e f g h i j k 11

4.54545454545454

0.54545454545453

"Error in dividing 11 by 50 so macro will now stop."

NOTE: There were 10 observations read from the data set WORK.X1X50.

NOTE: The data set WORK.SPACEFILE1 has 10 observations and 50 variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

74

75

76 OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

89