

Course: 12-752 - Assignment 1

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Task #1 : Loading CSV dataset into memory

```
In [1]: # This function ensures that all graphs are printed in the notebook instead of a separate window
        %matplotlib inline

        # Importing required functions
        import numpy as np
        import matplotlib.pyplot as py

        #Using genfromtxt to load RECS public 2009 database into variable mydat
        mydat = np.genfromtxt('recs2009_public.csv', delimiter=',', dtype=float, skip_header=1)
```

Task #2 : Displaying first line of dataset

```
In [2]: print (mydat[0])
```

http://localhost:8888/nbconvert/html/Documents/GitHub/courses_12-752/assignments/1/12-752_Assignment%201_Varun%20Deshpande.ipynb?download=false

http://localhost:8888/nbconvert/html/Documents/GitHub/courses_12-752/assignments/1/12-752_Assignment%201_Varun%20Deshpande.ipynb?download=false

http://localhost:8888/nbconvert/html/Documents/GitHub/courses_12-752/assignments/1/12-752_Assignment%201_Varun%20Deshpande.ipynb?download=false

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0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
1.00000000e+00	1.00000000e+00	5.00000000e+00	0.00000000e+00
3.00000000e+00	3.00000000e+00	0.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
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7.80000000e+01	7.30000000e+01	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	3.00000000e+00	3.00000000e+00	0.00000000e+00
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0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	-2.00000000e+00	0.00000000e+00	-2.00000000e+00
-2.00000000e+00	0.00000000e+00	-2.00000000e+00	3.00000000e+00
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0.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
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0.00000000e+00	1.00000000e+00	0.00000000e+00	1.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
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1.00000000e+00	1.00000000e+00	1.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
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0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	-2.00000000e+00	1.00000000e+00
1.00000000e+00	1.00000000e+00	1.00000000e+00	1.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
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0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	1.00000000e+00	1.00000000e+00	1.00000000e+00
0.00000000e+00	1.00000000e+00	5.00000000e+00	4.00000000e+00
3.50000000e+01	8.00000000e+00	1.00000000e+00	1.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	-2.00000000e+00	-2.00000000e+00
-2.00000000e+00	-2.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	-2.00000000e+00	0.00000000e+00	1.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	2.30000000e+01	0.00000000e+00	0.00000000e+00
-2.00000000e+00	-2.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00
0.00000000e+00	0.00000000e+00	0.00000000e+00	0.00000000e+00

Task #3 : Checking the size of the dataset


```
In [3]: # The shape function allows the user to see the dimensional size (no. of rows, no of columns)
print(mydat.shape)

(12083, 931)
```

Task #4 : Displaying the data type of the variable containing the data

```
In [4]: # Checking the data type of the variable containing the dataset
type(mydat)

Out[4]: numpy.ndarray
```

Task #5 : Using scatter plots to find two positively correlated variables

```
In [5]: # Finding the correlation matrix of the dataset
mydat_corr = np.corrcoef(mydat,rowvar=0)

# Saving the correlation matrix in CSV format in the working directory for viewing correlations between variables
np.savetxt("correlation_matrix.csv", mydat_corr, delimiter=",")

C:\Anaconda3\lib\site-packages\numpy\lib\function_base.py:2151: RuntimeWarning: invalid value encountered in true_divide
  return c / sqrt(multiply.outer(d, d))
```

Now that we have found the correlation matrix we look into it for variables which give high degree of correlation. By direct observation, I found column 871 & 879 show a 0.97 degree of correlation. Looking into the public_layout.csv, we find that these two variables are:

- 1) *LPG/Propane usage for space heating, in gallons, 2009*
- 2) *Cost of LPG/Propane for space heating, in whole dollars, 2009*

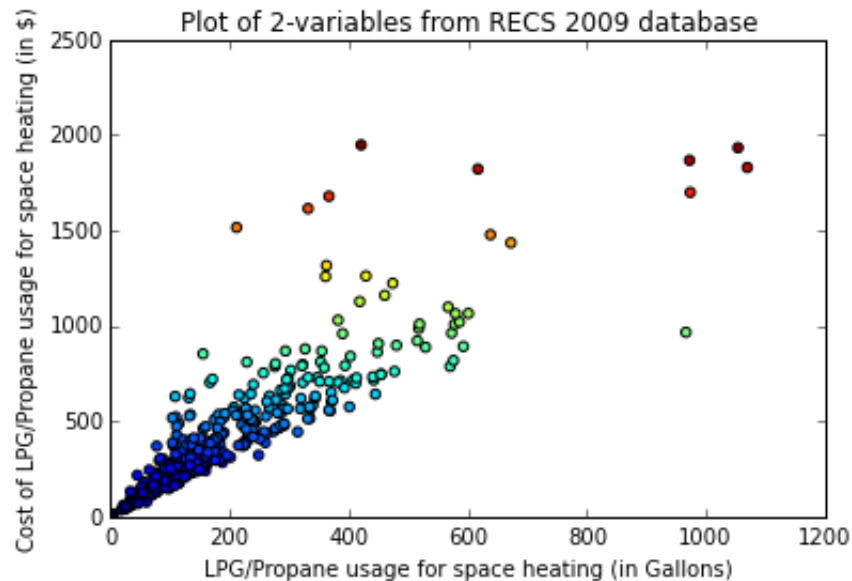
We now plot a scatter plot of these variables:

In [6]: *# Plotting a scatter plot with two selected variables (labels and title have been given; Axis has been defined)*

```
py.scatter(mydat[:,871],mydat[:,879],c= mydat[:,879], marker='o')  
py.axis([0,1200,0,2500])  
py.title('Plot of 2-variables from RECS 2009 database')  
py.xlabel('LPG/Propane usage for space heating (in Gallons)')  
py.ylabel('Cost of LPG/Propane usage for space heating (in $)')
```

Out[6]: <matplotlib.text.Text at 0xfde91285f8>

C:\Anaconda3\lib\site-packages\matplotlib\collections.py:590: FutureWarning: elementwise comparison failed; returning scalar instead, but in the future will perform elementwise comparison
if self._edgecolors == str('face'):



Conclusions from Scatter plot

In this case we see a high degree of correlation & its sensible that these two variables should be correlated as the total cost of LPG/Propane usage is directly proportional to the amount of LPG/Propane used by factor of the price (\$/Gallon). The variation in the scatter plot represents the different prices of LPG/Propane.

Task #6: Plotting a histogram of building with more than one window versus buildings with no windows

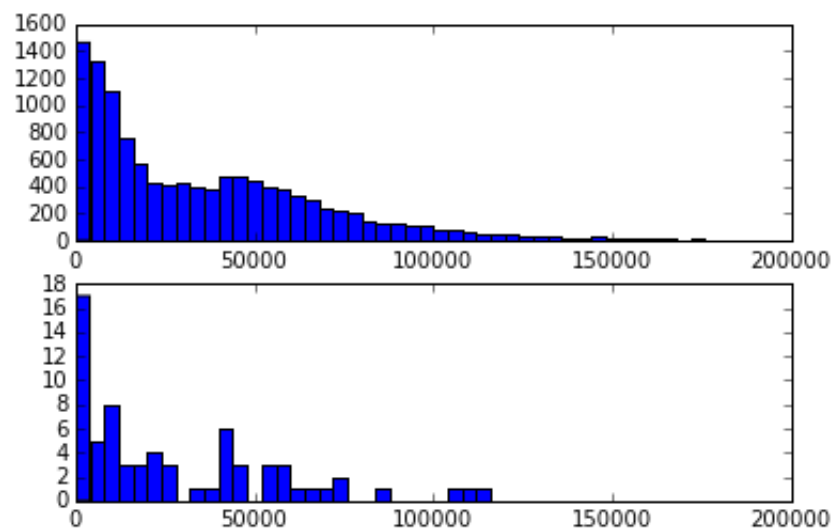
```
In [7]: # Using subplot function to plot both histograms one below the other
        py.subplot(211)

        # Plotting histogram of cases in the database where the number of windows in the heated space was greater than or equal to 1
        py.hist(mydat[mydat[:,610]>=1,908],bins=50, range=(0,200000))

        py.subplot(212)

        # Plotting histogram of cases in the database where the number of windows in the heated space was less than 1
        py.hist(mydat[mydat[:,610]<1,908],bins=50, range=(0,200000))
```

```
Out[7]: (array([ 17.,  5.,  8.,  3.,  3.,  4.,  3.,  0.,  1.,  1.,  6.,
                  3.,  0.,  3.,  3.,  1.,  1.,  1.,  2.,  0.,  0.,  1.,
                  0.,  0.,  0.,  0.,  1.,  1.,  1.,  0.,  0.,  0.,  0.,
                  0.,  0.,  0.,  0.,  0.,  0.,  0.,  0.,  0.,  0.,  0.,
                  0.,  0.,  0.,  0.,  0.,  0.]),
         array([ 0.,  4000.,  8000., 12000., 16000., 20000.,
                24000., 28000., 32000., 36000., 40000., 44000.,
                48000., 52000., 56000., 60000., 64000., 68000.,
                72000., 76000., 80000., 84000., 88000., 92000.,
                96000., 100000., 104000., 108000., 112000., 116000.,
                120000., 124000., 128000., 132000., 136000., 140000.,
                144000., 148000., 152000., 156000., 160000., 164000.,
                168000., 172000., 176000., 180000., 184000., 188000.,
                192000., 196000., 200000.]),
        <a list of 50 Patch objects>)
```



Conclusions from Histograms

Above we have plotted two histograms; the first which shows distribution of homes having more than one window in heated space and the second shows, distribution of homes having no windows in heated space. Below are some observations:

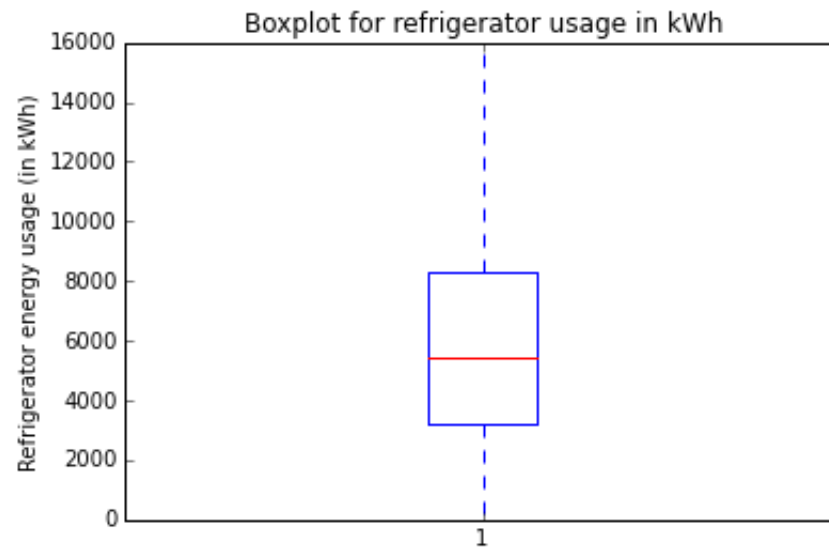
- There are significantly fewer cases of homes with no windows in heated spaces than there are of homes with windows in heated spaces.
- In each case there is a concentration of the distribution towards the lower energy consumption value i.e there are many cases of homes with or without windows where total consumption is low.
- In both cases there seems to be a second peak of frequency around the 35,000-45,000 kWh consumption.

Task #7: Draw a box-plot for kWh usage of refrigerators

```
In [8]: # Drawing box plot for refrigerator usage. Boxplot gives values of median, range and quartile values
py.boxplot(mydat[:,844], sym="")

# Defined title and label for boxplot
py.title('Boxplot for refrigerator usage in kWh')
py.ylabel('Refrigerator energy usage (in kWh)')
```

Out[8]: <matplotlib.text.Text at 0xfdea6bbc18>



Conclusions from Box plot

Based on the data given in the survey for this particular home one can see that there are aspects of refrigerators in homes that lead to higher energy consumption. Some related observations:

- Many refrigerators per home (some in the database had greater than 5)
- Many refrigerators are old
- Refrigerators used are of large sizes
- Many refrigerators are not replaced in a long time
- Refrigerators are used all around the year
- Refrigerators have low energy star rating
- Some configurations of defrost mechanisms, ice/water dispensing, number of doors, freezer units lead to higher energy use

These are some of the reasons why we see cases where homes have greater than 10,000 kWh energy consumed by refrigerators

Task #8 : All graphs have been properly labelled & titled

Task #9: Finding mean, median and standard deviation for all variables in the dataset

```
In [9]: # Creating individual arrays for mean, median and standard deviation
Dat_mean = np.mean(mydat, axis=0, dtype=float)
Dat_median = np.median(mydat, axis=0)
Dat_Stddev = np.std(mydat, axis=0, dtype=float)

# Using the vertical stack function to club the one dimensional array into a "931 x 3" matrix
Stats = np.vstack((Dat_mean,Dat_median,Dat_Stddev)).T

# Sorting the matrix by the standard deviation values in descending order using the argsort function
SortedS = Stats[Stats[:,2].argsort()[::-1]]

# Saving the sorted matrix in CSV format
np.savetxt("Sorted_StatisticsMat.csv", SortedS, delimiter=",")

# Using a single for loop with tuple function to print mean, median and standard deviation as tuples
for x in SortedS:
    print(tuple(x))
```

```
(nan, nan, nan)
(nan, nan, nan)
(nan, nan, nan)
(nan, nan, nan)
(89995.695605396017, 80673.0, 54466.506441334277)
(41544.304808408509, 28598.0, 48811.246147101207)
(36863.469006041545, 27291.0, 35581.648686550587)
(25531.960274517885, 4234.8860000000004, 34175.499333268453)
(38515.200860713398, 32834.0, 26070.660116089228)
(5972.3759000248283, 0.0, 24400.482425277867)
(5163.8399430604995, 0.0, 21297.842096923672)
(4507.5726226930401, 0.0, 20387.133066282146)
(26874.77546966813, 23014.0, 19866.265693776699)
(3752.3365885955473, 0.0, 17742.16202656618)
(11280.264277000762, 5852.8180000000002, 15268.434684308571)
(21493.957406769812, 18524.7220000000002, 14707.112156847152)
(2579.6545690639746, 0.0, 14023.661923422826)
(16265.617313581064, 12754.0, 13552.231228341852)
(4732.080170404688, 0.0, 11075.78459781387)
(5750.137899031708, 2562.8649999999998, 8458.4808976092118)
(5750.1358106430525, 2563.0, 8458.4785252835864)
(11288.15939750062, 9623.0, 7640.8746427063634)
(3620.758630886352, 0.0, 5467.3729154691355)
(3408.6500423735974, 722.79600000000005, 5390.8307646435833)
(9402.9817926271444, 7970.6319450000001, 5191.8866150994299)
(734.08240304560104, 0.0, 4677.9678029049073)
(6299.5186327071215, 5429.25, 4310.4088525591324)
(551.30691889431455, 0.0, 4301.9632965191186)
(621.37722510965818, 0.0, 4279.8176859097048)
(6042.0, 6042.0, 3488.0616393636165)
(211.47744765372838, 0.0, 2897.8223043873418)
(4241.7015641810813, 3570.0, 2656.2969712721324)
(4241.696431432576, 3569.7220000000002, 2656.2952151355712)
(179.36818703964246, 0.0, 2620.0286348507711)
(1685.2691235620321, 751.125, 2479.0392421731608)
(4141.3752379375983, 4483.0, 2317.6634626780533)
(4135.1469833650581, 4502.0, 2260.4501412540708)
(74.453927087643805, 0.0, 2032.3702173132394)
(1061.1834904411189, 0.0, 1602.3951392250274)
(999.01814094182009, 211.839, 1579.9621126659451)
```

(2172.3528924935858, 1863.0, 1453.6821214681431)
(2021.6742530828437, 1696.0, 1350.8106711621331)
(1254.2392617727385, 1025.0, 1227.8988523487185)
(1675.9562194819168, 1400.0, 1200.7696434543891)
(2036.554415294215, 1829.0, 1174.7546483139211)
(1415.4061077546967, 1045.0, 1134.6125215093625)
(918.13059670611608, 533.0, 1064.5067967580935)
(1443.5031035338907, 1179.0, 1021.7064404889433)
(22.976177853182158, 0.0, 934.57406908792791)
(1351.7839112803113, 1151.0, 904.99380533851877)
(1243.170013572791, 1046.1969999999999, 778.51567843283669)
(496.41330795332283, 400.0, 677.37442982265929)
(9.1330795332285035, 0.0, 622.17148063929801)
(840.0806918811553, 713.0, 608.08008225692856)
(490.59869237772074, 347.0, 576.33378082391505)
(767.10219688818859, 649.2540000000002, 551.75672918837063)
(559.18000496565423, 429.0, 500.39011855891528)
(405.30878093188778, 279.0, 476.20654839136256)
(104.46801291070099, 0.0, 428.93850360293857)
(300.42602110403101, 67.081999999999994, 402.041464005536)
(85.504758751965568, 0.0, 377.25465792265288)
(90.378103864934175, 0.0, 374.45136487494739)
(249.09150881403662, 41.313000000000002, 333.4188508227254)
(202.53885624431018, 90.0, 309.97651643918226)
(202.53794984689247, 89.757999999999996, 309.97374338611678)
(56.399004965654235, 0.0, 286.88029938828817)
(41.084002317305305, 0.0, 194.26203298816543)
(280.61541008027808, 240.0, 193.71435413554079)
(119.61270694364005, 0.0, 180.62151642071427)
(133.25442762558933, 68.043000000000006, 180.06278025086931)
(43.063808656790535, 0.0, 175.93727105744512)
(108.389538773483, 25.550000000000001, 161.76871725680232)
(37.233499296532344, 0.0, 153.56527908141052)
(28.244347181991216, 0.0, 153.54756339079094)
(110.05089472813003, 57.100000000000001, 148.96000109494324)
(56.918141438384552, 0.0, 129.20968031511549)
(46.1663785483738, 0.0, 108.05620629793034)
(14.357283125051728, 0.0, 107.86018945917006)
(154.14392121161964, 127.0, 106.27708936390034)
(154.14204891169442, 126.994, 106.27511145808067)

(14.749310436149967, 0.0, 99.870002038404564)
(12.830161797566822, 0.0, 81.844295176133912)
(4.1990399735165109, 0.0, 55.805149469794706)
(3.5888005462219645, 0.0, 50.808470773943405)
(6.0362128610444428, 0.0, 47.101276489666745)
(6.8032761731358136, 0.0, 46.861843812755318)
(32.050815194901929, -2.0, 38.451084154677993)
(31.204750475875198, -2.0, 37.459012826289118)
(31.10651328312505, -2.0, 37.360017545268555)
(1.2596107754696679, 0.0, 33.894099541734938)
(5.2935090623189573, 0.0, 33.730894824444512)
(4.4867168749482742, -2.0, 29.661346331497125)
(1971.0624017214268, 1975.0, 24.816884533172303)
(1.566663907969875, 0.0, 21.469885316906979)
(1.3287263096913018, 0.0, 19.41247500891728)
(0.44271877844906066, 0.0, 17.63403919404854)
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(13.647852354547712, 5.0, 17.136020121765551)
(49.741372175784157, 49.0, 16.721367678994991)
(11.763138293470165, 3.0, 16.5849032842853)
(8.4596540594223288, 2.0, 16.294487118820594)
(9.2395100554498057, 3.0, 15.978868716543225)
(8.9787304477364884, 3.0, 15.659661181135139)
(0.53688305884300258, 0.0, 14.654202472241618)
(63.847140610775469, 68.0, 14.27825148629595)
(65.115285938922455, 68.0, 14.22978101629924)
(67.029545642638411, 70.0, 14.169842810372266)
(6.0177935943060499, 2.0, 14.151341385031559)
(3.0321112306546389, -2.0, 12.410619085941894)
(2.3896383348506167, -2.0, 11.899839876462957)
(0.16750806918811553, 0.0, 11.41142212003677)
(36.316063891417691, 41.0, 11.192646762680502)
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(2.1780187039642471, -2.0, 8.6900906911329141)
(4.0998096499213768, 2.0, 8.4930592688744113)
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C:\Anaconda3\lib\site-packages\numpy\lib\function_base.py:3151: RuntimeWarning: Invalid value encountered in median for 4 results
  RuntimeWarning)
```

Task #10: Loading layout dataset and printing sorted mean, median and standard deviation along with variable name

In [45]: **import pandas as pd**

```
#Loading public layout file from the working directory into variable dat
dat = pd.read_csv('public_layout.csv', quotechar='"', skipinitialspace=True)

#Selecting variable label column from dat
Dat_names = np.array(dat.ix[:,1])

# Using vertical stack function to create a matrix of variable names, mean, median and standard deviation
Stats = np.vstack((Dat_names,Dat_mean,Dat_median,Dat_Stddev)).T

# Sorting the matrix by the standard deviation values in descending order using the argsort function
SortedS = Stats[Stats[:,3].argsort()[::-1]]

#Using one for loop with print command to display sorted mean, median and standard deviation against variable names
for x in SortedS:
    print(x[0] + ": " + "(" + str(x[1]) + " " + str(x[2]) + " " + str(x[3]) + ")")
```

Total usage, in thousand BTU, 2009: (89995.69560539602 80673.0 54466.50644133428)
Total Natural Gas usage, in thousand BTU, 2009: (41544.30480840851 28598.0 48811.24614710121)
Total usage for space heating, in thousand BTU, 2009: (36863.469006041545 27291.0 35581.64868655059)
Natural Gas usage for space heating, in thousand BTU, 2009: (25531.960274517885 4234.886 34175.49933326845)
Total Site Electricity usage, in thousand BTU, 2009: (38515.2008607134 32834.0 26070.660116089228)
Total Fuel Oil usage, in thousand BTU, 2009: (5972.375900024828 0.0 24400.482425277867)
Fuel Oil usage for space heating, in thousand BTU, 2009: (5163.8399430604995 0.0 21297.842096923672)
Total Wood usage, in thousand BTU, 2009 (Wood consumption is not included in TOTALBTU or TOTALDOL): (4507.57262269304 0.0 20387.133066282146)
Total usage for appliances, electronics, lighting, and miscellaneous uses, in thousand BTU, 2009: (26874.77546966813 23014.0 19866.2656937767)
Total LPG/LPG/Propane usage, in thousand BTU, 2009: (3752.3365885955473 0.0 17742.16202656618)
Natural Gas usage for water heating, in thousand BTU, 2009: (11280.264277000762 5852.818 15268.434684308571)
Electricity usage for other purposes (all end-uses except SPH, COL, WTH, and RFG), in thousand BTU, 2009: (21493.957406769812 18524.722 14707.112156847152)
LPG/Propane usage for space heating, in thousand BTU, 2009: (2579.6545690639746 0.0 14023.661923422826)
Total usage for water heating, in thousand BTU, 2009: (16265.617313581064 12754.0 13552.231228341852)
Natural Gas usage for other purposes (all end-uses except SPH and WTH), in thousand BTU, 2009: (4732.080170404688 0.0 11075.78459781387)
Electricity usage for air-conditioning, central and window/wall (room), in thousand BTU, 2009: (5750.137899031708 2562.865 8458.480897609212)
Total usage for air conditioning, in thousand BTU, 2009: (5750.1358106430525 2563.0 8458.478525283586)
Total Site Electricity usage, in kilowatt-hours, 2009: (11288.15939750062 9623.0 7640.874642706363)
Electricity usage for water heating, in thousand BTU, 2009: (3620.758630886352 0.0 5467.3729154691355)
Electricity usage for space heating, in thousand BTU, 2009: (3408.6500423735974 722.796 5390.830764643583)
Final sample weight: (9402.981792627144 7970.631945 5191.88661509943)
Fuel Oil usage for water heating, in thousand BTU, 2009: (734.082403045601 0.0 4677.967802904907)
Electricity usage for other purposes (all end-uses except SPH, COL, WTH, and RFG), in kilowatt-hours, 2009: (6299.5186327071215 5429.25 4310.408852559132)
LPG/Propane usage for other purposes (all end-uses except SPH and WTH), in thousand BTU, 2009: (551.3069188943145 0.0 4301.963296519119)
LPG/Propane usage for water heating, in thousand BTU, 2009: (621.3772251096582 0.0 4279.817685909705)

Unique identifier for each respondent: (6042.0 6042.0 3488.0616393636165)
Total Kerosene usage, in thousand BTU, 2009: (211.47744765372838 0.0 2897.822304387342)
Total usage for refrigerators, in thousand BTU, 2009: (4241.701564181081 3570.0 2656.2969712721324)
Electricity usage for refrigerators, in thousand BTU, 2009: (4241.696431432576 3569.722 2656.295215135571)
Kerosene usage for space heating, in thousand BTU, 2009: (179.36818703964246 0.0 2620.028634850771)
Electricity usage for air-conditioning, central and window/wall (room), in kilowatt-hours, 2009: (1685.269123562032 751.125 2479.039242173161)
Heating degree days in 2009, base temperature 65F: (4141.375237937598 4483.0 2317.6634626780533)
Heating degree days, 30-year average 1981-2010, base 65F: (4135.146983365058 4502.0 2260.450141254071)
Fuel Oil usage for other purposes (all end-uses except SPH and WTH), in thousand BTU, 2009: (74.4539270876438 0.0 2032.3702173132394)
Electricity usage for water heating, in kilowatt-hours, 2009: (1061.183490441119 0.0 1602.3951392250274)
Electricity usage for space heating, in kilowatt-hours, 2009: (999.0181409418201 211.839 1579.9621126659451)
Total square footage (includes all attached garages, all basements, and finished/heated/cooled attics): (2172.352892493586 1863.0 1453.6821214681431)
Total square footage (includes heated/cooled garages, all basements, and finished/heated/cooled attics). Used for EIA data tables.: (2021.6742530828437 1696.0 1350.810671162133)
Total cooled square footage: (1254.2392617727385 1025.0 1227.8988523487185)
Total heated square footage: (1675.9562194819168 1400.0 1200.769643454389)
Total cost, in whole dollars, 2009: (2036.554415294215 1829.0 1174.754648313921)
Cooling degree days in 2009, base temperature 65F: (1415.4061077546967 1045.0 1134.6125215093625)
Total uncooled square footage: (918.1305967061161 533.0 1064.5067967580935)
Cooling degree days, 30-year average 1981-2010, base 65F: (1443.5031035338907 1179.0 1021.7064404889433)
Kerosene usage for other purposes (all end-uses except SPH and WTH), in thousand BTU, 2009: (22.976177853182158 0.0 934.5740690879279)
Total Electricity cost, in whole dollars, 2009: (1351.7839112803113 1151.0 904.9938053385188)
Electricity usage for refrigerators, in kilowatt-hours, 2009: (1243.170013572791 1046.197 778.5156784328367)
Total unheated square footage: (496.4133079533228 400.0 677.3744298226593)
Kerosene usage for water heating, in thousand BTU, 2009: (9.133079533228504 0.0 622.171480639298)
Total cost for appliances, electronics, lighting, and miscellaneous uses, in whole dollars, 2009: (840.0806918811553 713.0 608.0800822569286)
Total Natural Gas cost, in whole dollars, 2009: (490.59869237772074 347.0 576.333780823915)
Electricity cost for other purposes (all end-uses except SPH, COL, WTH, and RFG), in whole dollars, 2009: (767.1021968881886 649.254 551.7567291883706)

Total cost for space heating, in whole dollars, 2009: (559.1800049656542 429.0 500.3901185589153)
Total Natural Gas usage, in hundred cubic feet, 2009: (405.3087809318878 279.0 476.20654839136256)
Total cost of Fuel Oil, in whole dollars, 2009: (104.46801291070099 0.0 428.93850360293857)
Natural Gas cost for space heating, in whole dollars, 2009: (300.426021104031 67.082 402.041464005536)
Total cost of LPG/Propane, in whole dollars, 2009: (85.50475875196557 0.0 377.2546579226529)
Cost of Fuel Oil for space heating, in whole dollars, 2009: (90.37810386493418 0.0 374.4513648749474)
Natural Gas usage for space heating, in hundred cubic feet, 2009: (249.09150881403662 41.313 333.4188508227254)
Total cost for air conditioning, in whole dollars, 2009: (202.53885624431018 90.0 309.97651643918226)
Electricity cost for air-conditioning, central and window/wall (room), in whole dollars, 2009: (202.53794984689247 89.758 309.9737433861168)
Cost of LPG/Propane for space heating, in whole dollars, 2009: (56.399004965654235 0.0 286.88029938828817)
Total LPG/Propane usage, in gallons, 2009: (41.084002317305305 0.0 194.26203298816543)
Total cost for water heating, in whole dollars, 2009: (280.6154100802781 240.0 193.7143541355408)
Electricity cost for water heating, in whole dollars, 2009: (119.61270694364005 0.0 180.62151642071427)
Natural Gas cost for water heating, in whole dollars, 2009: (133.25442762558933 68.043 180.0627802508693)
Total Fuel Oil usage, in gallons, 2009: (43.063808656790535 0.0 175.93727105744512)
Electricity cost for space heating, in whole dollars, 2009: (108.389538773483 25.55 161.76871725680232)
Fuel Oil usage for space heating, in gallons, 2009: (37.233499296532344 0.0 153.56527908141052)
LPG/Propane usage for space heating, in gallons, 2009: (28.244347181991216 0.0 153.54756339079094)
Natural Gas usage for water heating, in hundred cubic feet, 2009: (110.05089472813003 57.1 148.96000109494324)
Natural Gas cost for other purposes (all end-uses except SPH and WTH), in whole dollars, 2009: (56.91814143838455 0.0 129.2096803151155)
Natural Gas usage for other purposes (all end-uses except SPH and WTH), in hundred cubic feet, 2009: (46.1663785483738 0.0 108.05620629793034)
Cost of LPG/Propane for other purposes (all end-uses except SPH and WTH), in whole dollars, 2009: (14.357283125051728 0.0 107.86018945917006)
Total cost for refrigerators, in whole dollars, 2009: (154.14392121161964 127.0 106.27708936390034)
Electricity cost for refrigerators, in whole dollars, 2009: (154.14204891169442 126.994 106.27511145808067)
Cost of LPG/Propane for water heating, in whole dollars, 2009: (14.749310436149967 0.0 99.87000203840456)

Cost of Fuel Oil for water heating, in whole dollars, 2009: (12.830161797566822 0.0 81.8442951761339 1)

Total cost of Kerosene, in whole dollars, 2009: (4.199039973516511 0.0 55.805149469794706)

Cost of Kerosene for space heating, in whole dollars, 2009: (3.5888005462219645 0.0 50.8084707739434 05)

LPG/Propane usage for other purposes (all end-uses except SPH and WTH), in gallons, 2009: (6.0362128 61044443 0.0 47.101276489666745)

LPG/Propane usage for water heating, in gallons, 2009: (6.803276173135814 0.0 46.86184381275532)

Temperature when no one is home during the day (summer): (32.05081519490193 -2.0 38.45108415467799)

Temperature when someone is home during the day (summer): (31.204750475875198 -2.0 37.4590128262891 2)

Temperature at night (summer): (31.10651328312505 -2.0 37.360017545268555)

Cost of Fuel Oil for other purposes (all end-uses except SPH and WTH), in whole dollars, 2009: (1.25 9610775469668 0.0 33.89409954173494)

Fuel Oil usage for water heating, in gallons, 2009: (5.293509062318957 0.0 33.73089482444451)

Number of apartment units in a 5+ unit apartment building: (4.486716874948274 -2.0 29.66134633149712 5)

Year housing unit was built: (1971.0624017214268 1975.0 24.816884533172303)

Total Kerosene usage, in gallons, 2009: (1.566663907969875 0.0 21.46988531690698)

Kerosene usage for space heating, in gallons, 2009: (1.3287263096913018 0.0 19.41247500891728)

Cost of Kerosene for other purposes (all end-uses except SPH and WTH), in whole dollars, 2009: (0.44 271877844906066 0.0 17.63403919404854)

Main water heater age: (13.226020028138707 3.0 17.258753766884187)

Age of main space heating equipment: (13.647852354547712 5.0 17.13602012176555)

Age of householder: (49.74137217578416 49.0 16.72136767899499)

Age of most-used refrigerator: (11.763138293470165 3.0 16.5849032842853)

Age of central air conditioner: (8.459654059422329 2.0 16.294487118820594)

Age of clothes dryer: (9.239510055449806 3.0 15.978868716543225)

Age of clothes washer: (8.978730447736488 3.0 15.659661181135139)

Fuel Oil usage for other purposes (all end-uses except SPH and WTH), in gallons, 2009: (0.5368830588 430026 0.0 14.654202472241618)

Temperature when no one is home during the day (winter): (63.84714061077547 68.0 14.27825148629595)

Temperature at night (winter): (65.11528593892245 68.0 14.22978101629924)

Temperature when someone is home during the day (winter): (67.02954564263841 70.0 14.16984281037226 6)

Age of dishwasher: (6.01779359430605 2.0 14.151341385031559)

Age of most-used freezer: (3.032111230654639 -2.0 12.410619085941894)

Age of second most-used refrigerator: (2.3896383348506167 -2.0 11.899839876462957)

Cost of Kerosene for water heating, in whole dollars, 2009: (0.16750806918811553 0.0 11.411422120036 77)

Number of windows in heated areas: (36.31606389141769 41.0 11.192646762680502)
Frequency dishwasher used: (9.493172225440702 12.0 10.628577647454383)
Year of added insulation: (0.985516841843913 -2.0 9.502080622797848)
Number of stories in a single-family home: (10.507738144500538 10.0 8.778646732704937)
Door arrangement of second most-used refrigerator: (2.178018703964247 -2.0 8.690090691132914)
Fuel used by outdoor grill: (4.099809649921377 2.0 8.493059268874411)
Reportable states and groups of states: (14.783662997599933 15.0 8.195485134202343)
Age of most-used window/wall air conditioning unit: (0.3708516096995779 -2.0 8.089927477169168)
Year of caulking or weather stripping: (0.6810394769510884 -2.0 7.804460418795879)
Kerosene usage for other purposes (all end-uses except SPH and WTH), in gallons, 2009: (0.1702391790 118348 0.0 6.922436035538527)
2009 gross household income: (13.027393859140942 12.0 6.8037962821816835)
Door arrangement of most-used refrigerator: (19.824381362244477 22.0 5.885914585112937)
Age category of second household member: (6.924687577588347 8.0 5.876712505419528)
Number of months second most-used refrigerator used in 2009: (1.1087478275262765 -2.0 5.699872484018 95)
Kerosene usage for water heating, in gallons, 2009: (0.06769841926673839 0.0 4.609726202220393)
Number of telecommuting days per month: (-0.913514855582223 -2.0 4.409786343367249)
Year of home energy audit: (-1.4270462633451957 -2.0 4.273451600955983)
Number of rooms cooled: (2.9299015145245386 4.0 4.230114610391799)
Secondary water heater age: (-1.5391872879251842 -2.0 3.925190060233321)
Age category of third household member: (0.768269469502607 -2.0 3.6898633883156156)
Age of third most-used refrigerator: (-1.6528180087726558 -2.0 3.468573176355736)
Age of second most-used freezer: (-1.6451212447239925 -2.0 3.467853815883291)
Census Division: (5.373086154100803 5.0 2.859247830438144)
Fuel used by clothes dryer: (2.9814615575602086 5.0 2.841474197968177)
Major roofing material: (3.676156583629893 5.0 2.7719734584594438)
Number of floors in a 5+ unit apartment building: (-1.0667052884217496 -2.0 2.766211693296642)
Energy Star most-used refrigerator: (-0.9294049491020442 0.0 2.707617242118348)
Fuel used by fireplace for secondary space heating: (-1.194322602002814 -2.0 2.628754008974846)
Number of rooms heated: (5.351568319126045 5.0 2.624450030158737)
Fuel used by most-used stove: (2.9529090457667797 5.0 2.5330098322905723)
Number of lights turned on 1 to 4 hours during a typical summer day: (2.396341968054291 2.0 2.532498 662528489)
Age category of fourth household member: (-0.6505834643714309 -2.0 2.467411757318201)
Energy Star clothes washer: (-0.9280807746420591 0.0 2.394276158057607)
Number of energy-efficient bulbs for lights turned on 1 to 4 hours during a typical summer day: (0.8 155259455433254 0.0 2.3597603061592736)
Most-used TV weekday usage spent playing video games: (-0.6850947612347927 -2.0 2.326505559714365)
Type of main space heating equipment used: (3.4461640321112306 3.0 2.324956622699236)

Number of energy-efficient bulbs for lights turned on 4 to 12 hours during a typical summer day: (0.11462385169246048 0.0 2.3035088320402966)

Most-used TV weekend usage spent playing video games: (-0.7072746834395431 -2.0 2.2961566929680566)

Number of days covered by Energy Supplier Survey natural gas billing data and used to calculate annual consumption and expenditures: (0.4098319953653894 1.0 2.277389445468878)

Main space heating fuel: (2.61152031780187 1.0 2.2653282373250865)

Daily usage of most-used computer: (1.6426384176115203 2.0 2.2282431807448373)

Energy Star dishwasher: (-1.3394024662749318 -2.0 2.2218865437820527)

Daily usage of second most-used computer: (-0.4116527352478689 -2.0 2.2117193161507154)

Number of lights turned on 4 to 12 hours during a typical summer day: (1.7124886203757346 1.0 2.1851178845606176)

Total number of rooms in the housing unit: (5.9952826284863034 6.0 2.1788129672730268)

Frequency central air conditioner used in summer 2009: (0.6051477282131921 1.0 2.1678540415625873)

Fuel used by separate oven: (-1.2136058925763469 -2.0 2.148768158918534)

Size of second most-used refrigerator: (-0.846395762641728 -2.0 2.1252066713924416)

Year range when housing unit was built: (4.0277249027559385 4.0 2.1194900408826025)

Door arrangements of third most-used refrigerator: (-1.755193246710254 -2.0 2.0979069114793503)

Most-used cooking fuel: (3.4564263841761154 5.0 2.065624676520676)

Third most-used TV usage on weekends: (-0.23264090043863278 -2.0 2.048712541116725)

Number of ceiling fans used: (2.1159480261524455 2.0 2.0202680049517303)

Frequency most-used ceiling fan used in summer 2009: (0.9991723909625093 1.0 2.009947778095349)

Second most-used TV usage on weekends: (1.337333443681205 2.0 2.0053934741858566)

Charging patterns for rechargeable tools and appliances: (0.5468840519738476 2.0 1.9881339247900771)

Housing unit classified as urban or rural by Census: (nan nan nan)

Fuel used by main water heater: (2.7112472068194986 1.0 2.0008593185086587)

Third most-used TV usage on weekdays: (-0.2859389224530332 -2.0 1.9732356534921336)

Location of attached garage: (-0.38781759496813706 -2.0 1.9520166097286107)

Housing unit in Census Metropolitan Statistical Area or Micropolitan Statistical Area: (nan nan nan)

Size of attached garage: (-0.41041132169163286 -2.0 1.9462225024246504)

Number of months third most-used refrigerator used in 2009: (-1.7177853182156748 -2.0 1.9242384718441068)

Second most-used TV usage on weekdays: (1.2384341637010676 2.0 1.9237313904231783)

Continuous or manual cleaning cycle for most-used oven: (0.450136555491186 2.0 1.901808494652873)

Size of most-used freezer: (-0.8144500537945875 -2.0 1.883602850163852)

Frequency clothes washer used: (1.7743937763800381 2.0 1.876272994647508)

Fuel used by most-used separate cooktop: (-1.3516510800297938 -2.0 1.8650763666917756)

Size of third most-used TV size: (-0.3485061656873293 -2.0 1.8528468656628128)

Water temperature used for clothes washer rinse cycle: (1.977157990565257 3.0 1.8425056525866668)

Natural gas end uses included in Energy Supplier Survey billing data: (0.1315898369610196 1.0 1.7874004339030953)

Second most-used computer - desktop or laptop: (-0.6605975337250682 -2.0 1.7671052043557305)
Display type of third most-used TV: (-0.4546056442936357 -2.0 1.746583693107355)
Water temperature used for clothes washer wash cycle: (1.6514938343126706 2.0 1.739404155892706)
Portion of space heating provided by main space heating equipment (for homes with main and secondary heating only): (-0.7244061905156004 -2.0 1.693131638673017)
Highest education completed by householder: (3.391459074733096 3.0 1.6836743930361202)
Size of second most-used TV: (0.9695439874203426 2.0 1.6572775609291261)
Number of window/wall air conditioning units used: (-1.1618803277331788 -2.0 1.6489311498207844)
Frequency of oven use: (3.749565505255317 4.0 1.6441265058187624)
Size of detached garage or carport: (-1.2817181163618308 -2.0 1.6425362434128339)
Type of most-used freezer: (-0.9559711992054953 -2.0 1.6296763874151277)
Defrosting type of second most-used refrigerator: (-1.097326822808905 -2.0 1.6238504080862566)
Second most-used TV weekend usage spent playing video games: (-1.4096664735578912 -2.0 1.6227442585736471)
Second most-used TV weekday usage spent playing video games: (-1.4147976495903336 -2.0 1.6154573367033265)
Whether annualized natural gas consumption from Energy Supplier Survey billing data was scaled down: (-0.36572043366713564 0.0 1.6003724170265736)
Defrosting type for most-used freezer: (-0.979640817677729 -2.0 1.5934305991574378)
Age category of fifth household member: (-1.4565919059836134 -2.0 1.5933524504452845)
Number of finished rooms in the basement: (-1.330050484151287 -2.0 1.5890296412052445)
Assistance for replacing or maintaining main space heating equipment: (-1.1330795332285029 -2.0 1.5797382577144676)
Who pays for natural gas for water heating: (-0.35247868906728463 1.0 1.5763761563313439)
Who pays for natural gas for space heating: (-0.43838450715881816 1.0 1.5675070378769753)
Frequency most-used window/wall air conditioning unit used in summer 2009: (-1.1947364065215593 -2.0 1.5650740219404962)
Display type of second most-used TV: (0.7196060580981545 1.0 1.551510793501534)
Number of outdoor lights left on all night: (-0.15120417114954895 0.0 1.551263390393019)
Who pays for electricity used for space heating: (-0.4423570305387735 1.0 1.5419484549760765)
Year range when household moved in: (6.691963916245966 7.0 1.5352486136046561)
Most-used refrigerator replaced by this household in the last 4 years: (-1.189687991392866 -2.0 1.5340013804912298)
Main space heating equipment replaced by this household in the last 4 years: (-1.5888438301746255 -2.0 1.5279507401194936)
Number of days covered by Energy Supplier Survey LPG/propane billing data and used to calculate annual consumption and expenditures: (-1.5576429694612266 -2.0 1.5244049496003542)
Number of household members: (2.6656459488537614 2.0 1.5156009478099923)
Major outside wall material: (2.7388893486716874 3.0 1.512758395123918)
Who pays for electricity used for water heating: (-0.7813456922949599 -2.0 1.5082963297520842)

Cable box or satellite box connected to the third most-used TV: (-0.6968468095671605 -2.0 1.50396177 0344439)

Number of months dehumidifier used in 2009: (-1.444177770421253 -2.0 1.5032062592544464)

Who pays for natural gas for cooking: (-0.919639162459654 -2.0 1.4932596947594925)

Who pays for electricity used for air conditioning: (-0.1278655962923115 1.0 1.4917757838013601)

Daily usage of third most-used computer: (-1.417859803029049 -2.0 1.4916031869802684)

Fuel used by heating stove for secondary space heating: (-1.7710005793263262 -2.0 1.490552293430659 9)

Fuel used for heating hot tub: (-1.6539766614251428 -2.0 1.4885220159796615)

Who pays for electricity used for cooking: (-0.052056608458164365 1.0 1.4871308245485992)

Number of energy-efficient bulbs for outdoor lights left on all night: (-1.3579409087147232 -2.0 1.4 86703615822137)

Most-used computer - desktop or laptop: (0.699991723909625 1.0 1.4852712839706121)

Thermostat for central air conditioner: (-0.16577009020938507 1.0 1.4540597323747277)

Clothes washer replaced by this household in the last 4 years: (-1.1807498137879666 -2.0 1.447335930 8015206)

No air conditioning equipment, or unused air conditioning equipment: (-1.3343540511462386 -2.0 1.445 0459203569628)

Cords of wood used in 2009: (-1.4984689232806423 -2.0 1.4427392195997346)

Energy-efficient bulbs installed by this household: (-0.23057187784490607 1.0 1.4345965508761451)

Number of energy-efficient bulbs for lights turned on 12 or more hours during a typical summer day: (-1.3451957295373667 -2.0 1.4235225105365261)

Number of separate freezers used: (-1.0842506000165522 -2.0 1.4195357546048943)

Monitor type of most-used computer: (-0.7835802366961847 -2.0 1.4122535809911272)

Portion of basement exclusively used by housing unit in apartment building with 2-4 units: (-1.02449 72275097244 -2.0 1.4076659868854884)

Number of months humidifier used in 2009: (-1.433501613837623 -2.0 1.3981259417032346)

Number of rooms other than bedroom(s) and bathroom(s): (3.1866258379541503 3.0 1.3978548117032632)

Sleep or standby mode for most-used computer when not in use: (-1.0482496068857072 -2.0 1.3745921119 499782)

Number of televisions used: (2.588181742944633 2.0 1.3672246881613677)

Cable box or satellite box connected to the second most-used TV: (0.3146569560539601 1.0 1.362400304 6737607)

Number of thermostats: (0.7921046097823389 1.0 1.3607011564473526)

Building America Climate Region (collapsed for public file): (2.6010096830257385 3.0 1.3495156141268 387)

Energy Star most-used window/wall air conditioning unit: (-1.7102540759745097 -2.0 1.348568765691336 8)

Turn off second most-used computer when not in use: (-0.9958619548125466 -2.0 1.3352221781951084)

Number of printers used: (0.3045601257965737 1.0 1.333529767846796)

Number of days covered by Energy Supplier Survey fuel oil billing data and used to calculate annual consumption and expenditures: (-1.6512455516014235 -2.0 1.3320745623326122)

Frequency clothes dryer used: (0.5760158900935198 1.0 1.3318440627730872)

Type of air conditioning equipment used: (0.7004882893321195 1.0 1.3283016456600074)

Number of floors in an apartment (Number of levels in housing unit that is an apartment): (-1.2696350244144665 -2.0 1.323634904144095)

Assistance for window replacement: (-1.3390714226599354 -2.0 1.3152390945396883)

Programmable thermostat lowers temperature at night: (-0.9813787966564594 -2.0 1.313065955009722)

Portion of attic exclusively used by housing unit in apartment building with 2-4 units: (-1.2430687743110154 -2.0 1.3039676467445398)

Who pays for propane: (-1.2863527269717785 -2.0 1.2897401194905616)

Number of days covered by Energy Supplier Survey electricity billing data and used to calculate annual consumption and expenditures: (1.5119589505917406 1.0 1.289091929018316)

Chargers for rechargeable tools and appliances left plugged into wall: (-0.6638252089712819 0.0 1.2855378759334337)

Programmable thermostat for central air conditioner: (-0.4902755938094844 0.0 1.284093358326604)

Third most-used computer - desktop or laptop: (-1.4776131755358768 -2.0 1.2821289078929479)

AIA Climate Zone, based on average temperatures from 1981 - 2010: (3.2650004138045188 3.0 1.2785988110903814)

Year of assistance for main space heating equipment: (-1.854754613920384 -2.0 1.2781658923181198)

Programmable thermostat lowers temperature during the day: (-1.015641810808574 -2.0 1.2733637511401)

All or partial basement heating: (-1.4186874120665398 -2.0 1.271569196568861)

Microwave usage: (2.1890259041628735 2.0 1.2671161946352614)

Top or front loading clothes washer used in home: (0.6516593561201688 1.0 1.2514936612578371)

Most-used TV usage on weekends: (3.2068194984689233 3.0 1.25127289566114)

Charging patterns for rechargeable electronic devices: (1.7211785152693868 2.0 1.251123815528673)

Assistance for maintaining or replacing central air conditioner: (-1.4062732765041794 -2.0 1.2421267227897128)

Routine service or maintenance performed on central air conditioner: (-0.5123727551104859 0.0 1.237998757285954)

Dishwasher replaced by this household in the last 4 years: (-1.4695853678722173 -2.0 1.2349423323198552)

Wireless internet in home: (-0.03566994951584871 0.0 1.2332004847350142)

Chargers for rechargeable electronic devices left plugged into wall: (0.23545477116610114 0.0 1.229756419155285)

Internet access at home: (0.3077050401390383 1.0 1.2292455665214541)

Number of lights turned on 12 or more hours during a typical summer day: (0.44177770421253 0.0 1.2287687329596149)

Who pays for natural gas for other uses: (-1.5252006951915915 -2.0 1.2278687656108287)

Detached garage or carport: (-1.1169411569974343 -2.0 1.2252604249410233)

Programmable thermostat adjusts temperature at night: (-1.212364479020111 -2.0 1.2248993610337267)
Unused space heating equipment type: (-1.8264503848382023 -2.0 1.224561274527196)
Heating used in basement: (-1.171480592568071 -2.0 1.2244134508481628)
Programmable thermostat adjusts temperature during the day: (-1.2134403707688488 -2.0 1.2233939061030952)
Number of bedrooms: (2.773069601920053 3.0 1.2176036737461327)
Finished basement: (-1.183729206322933 -2.0 1.207514649900594)
Cathedral ceilings: (-1.2615244558470577 -2.0 1.202413595227119)
Third most-used TV weekday usage spent playing video games: (-1.689067284614748 -2.0 1.2018367756125268)
Most-used TV usage on weekdays: (3.0172142679798064 3.0 1.1960243195653584)
Energy Star second most-used refrigerator: (-1.8305056691219068 -2.0 1.1937544584445592)
Assistance for energy-efficient light bulbs: (-0.8497889596954399 0.0 1.193598159863994)
Type of housing unit: (2.6596044028800794 2.0 1.1925779780114503)
Number of computers used: (1.3867417032193992 1.0 1.191703367621128)
Third most-used TV weekend usage spent playing video games: (-1.692543242572209 -2.0 1.1872867252485715)
Assistance for purchasing the water heater blanket: (-1.8953074567574277 -2.0 1.1771980478927497)
Year of assistance for window replacement: (-1.8440784573367541 -2.0 1.1670191130954921)
Attached garage: (-0.06306380865679054 0.0 1.1608936368450002)
DVD player connected to the third most-used TV: (-0.9701233137465861 -2.0 1.1594051717375813)
Frequency hot meals are cooked: (2.97955805677398 3.0 1.1586817130227147)
Cable internet access: (-0.18298435818919143 0.0 1.1581269778541878)
Turn off most-used computer when not in use: (0.023752379375982787 0.0 1.1494390885340904)
Central air conditioner replaced by this household in the last 4 years: (-1.6889017628072498 -2.0 1.1489853436418163)
DSL or Fiber Optic internet access: (-0.21029545642638417 0.0 1.1415805249499065)
Householder's Race: (1.4421915087312753 1.0 1.1414257890825878)
DVR built into the cable box or satellite box connected to the second most-used TV: (-0.7686832740213523 0.0 1.1272753847978574)
Portion of the basement which is heated: (-1.7413721757841596 -2.0 1.1202169621631561)
Assistance for caulking or weather stripping: (-1.4925101382107093 -2.0 1.1185639523633624)
Central air conditioner is a heat pump: (-0.6587767938425888 0.0 1.1021687077681555)
Cooling used in basement: (-1.2552346271621286 -2.0 1.1009936755316208)
Propane delivered: (-1.507738144500538 -2.0 1.1008873086283324)
Video game console connected to the third most-used TV: (-1.0153107671935777 -2.0 1.0996891327554592)
Year of assistance for energy-efficient light bulbs: (-1.8181742944632955 -2.0 1.0966505672652442)
Housing unit over a concrete slab: (-0.028221468178432508 0.0 1.0929406578500056)
Assistance for replacing most-used refrigerator: (-1.474054456674667 -2.0 1.0892709960501576)

Outlet within 20 feet of vehicle parking: (0.22734420259869237 0.0 1.0788067514190736)
Digital converter box connected to the third most-used TV: (-1.0339319705371182 -2.0 1.0735621172701677)
VCR connected to the third most-used TV: (-1.039394190184557 -2.0 1.0657149886809776)
Basement in housing unit: (-0.08168501200033104 0.0 1.0654481441349601)
Combo VCR/DVD connected to the third most-used TV: (-1.0416287345857818 -2.0 1.0624800019636695)
Whether annualized LPG/propane consumption from Energy Supplier Survey billing data was scaled down: (-1.69866754944964 -2.0 1.06177045378366)
DVR built into the cable box or satellite box connected to the most-used TV: (-0.08797484068526028 0.0 1.052832719984574)
Fuel used by secondary water heater: (-1.8304229082181578 -2.0 1.0464482414105223)
Assistance for replacing clothes washer: (-1.4492261855499462 -2.0 1.0440754482983174)
Separate DVR connected to the most-used TV: (-0.5564843168087396 0.0 1.042988890570137)
Census Region: (2.6283207812629312 3.0 1.042099364605582)
DVD player connected to the second most-used TV: (-0.1867913597616486 0.0 1.0290577499682645)
Evaporative cooler used: (-1.154928411818257 -2.0 1.0252935427082226)
Home theater system connected to the third most-used TV: (-1.06844326740048 -2.0 1.0224816021911651)
Attic in housing unit: (-0.15542497724075147 0.0 1.0217413078832571)
Heating used in attached garage: (-1.1611354795994373 -2.0 1.0195989373197243)
Total Wood usage, in cords, 2009 (Wood consumption is not included in TOTALBTU or TOTALDOL): (0.22537863113465198 0.0 1.019356653314134)
Housing unit in public housing authority: (-1.3063808656790532 -2.0 1.0144115078276141)
Age category of sixth household member: (-1.7908631962261028 -2.0 1.011090994173548)
Separate DVR connected to the third most-used TV: (-1.150045518497062 -2.0 1.0097991895872411)
Cooling used in attached garage: (-1.171728875279318 -2.0 1.002135540795262)
Other set-top box connected to the third most-used TV: (-1.081602251096582 -2.0 1.002006601375177)
Housing unit over a crawl space: (-0.18861209964412812 0.0 0.999675235889134)
Central air conditioner cools other homes, business, or farm: (-0.7528759414052801 0.0 0.9939021047263497)
Programmable main thermostat: (0.08615410080278077 0.0 0.992953472532777)
Cords of wood used in 2009 (if more than 5): (-1.9156459488537614 -2.0 0.9913799053874339)
DVR built into the cable box or satellite box connected to the third most-used TV: (-1.3727551104858065 -2.0 0.9896890829305088)
Monitor type of second most-used computer: (-1.5957129851857983 -2.0 0.9879710994628239)
Frequency gas fireplace used: (-1.7629727716626666 -2.0 0.9847447668813897)
Turn off third most-used computer when not in use: (-1.6020028138707274 -2.0 0.9806128442303358)
Swimming pool: (-0.48688239675577255 0.0 0.9794998301325452)
Separate DVR connected to the second most-used TV: (-0.607465033518166 0.0 0.9760521840175989)
Year of assistance for central air conditioner: (-1.8996110237523793 -2.0 0.9660815676140028)
Well water pump used: (-0.3561201688322436 0.0 0.9652839712775836)

Main water heater size (if storage tank): (2.0813539683853346 2.0 0.9647013873661238)
Whether annualized electricity consumption from Energy Supplier Survey billing data was scaled down: (0.35636845154349084 0.0 0.9639482249529595)
Display type of most-used TV: (1.729951171066788 2.0 0.9597472817997046)
All or partial basement cooling: (-1.6990813539683853 -2.0 0.9521298949404368)
Video game console connected to the second most-used TV: (-0.29860134072664074 0.0 0.944922284213145)
Most-used window/wall air conditioning unit replaced by this household in the last 4 years: (-1.771993710171315 -2.0 0.9428265198443551)
Year of assistance for most-used refrigerator: (-1.8789207978151121 -2.0 0.9402342690039863)
Automotive block or engine heater or battery blanket used: (-1.3941074236530664 -2.0 0.9365918928726853)
Wood logs used: (-1.6591905983613342 -2.0 0.935853163744721)
Year of assistance for the clothes washer: (-1.8659273359265083 -2.0 0.9327641813318275)
Lower rent due to Federal, State, or Local housing program: (-1.4152114541090788 -2.0 0.9326347137484104)
Digital converter box connected to the second most-used TV: (-0.3138293470164694 0.0 0.9318390518473849)
Whether annualized fuel oil consumption from Energy Supplier Survey billing data was scaled down: (-1.7608209881651908 -2.0 0.9309866431653085)
Dial-up internet access: (-0.4709095423322023 0.0 0.9300862277086858)
Combo VCR/DVD connected to the second most-used TV: (-0.3250848299263428 0.0 0.9218878717275903)
Finished attic: (-1.4734751303484235 -2.0 0.9169903877840148)
Sleep or standby mode for second most-used computer when not in use: (-1.6792187370686087 -2.0 0.9149304487959969)
Fuel for unused space heating equipment: (-1.8663411404452537 -2.0 0.9144096866552422)
VCR connected to the second most-used TV: (-0.3343540511462385 0.0 0.9135072752578512)
Satellite internet access: (-0.49573781345692297 0.0 0.9034555535371384)
Is home too drafty in the winter? (respondent reported): (3.307705040139038 4.0 0.9032458531985135)
Studio apartment: (-1.5106347761317553 -2.0 0.8902993363600262)
Heating used in attic: (-1.4857237441032856 -2.0 0.8901554209778871)
Cooling used in attic: (-1.4877927666970123 -2.0 0.885525481315482)
Assistance for added insulation: (-1.7801042787387238 -2.0 0.8659531098338)
Converted 2-4 unit apartment building: (-1.752793180501531 -2.0 0.8658506582679735)
Thermostat(s) for heating equipment: (0.673508234709923 1.0 0.8635726228346408)
Assistance for replacing dishwasher: (-1.6788876934536126 -2.0 0.8603606777320606)
Home theater system connected to the second most-used TV: (-0.39104527021435076 0.0 0.8583009676341758)
Who pays for fuel oil: (-1.7589174873789621 -2.0 0.8575010241105474)
Number of outdoor lights left on all night that use natural gas: (-1.5276007614003144 -2.0 0.8528954

800163344)

Other set-top box connected to the second most-used TV: (-0.41852189025904163 0.0 0.8288303576293449)

Number of rechargeable tools and appliances used: (0.8628651824877928 1.0 0.8241858194299061)

Fuel used by built-in indoor grill: (-1.9171563353471819 -2.0 0.8159257270091957)

Fuel used for heating swimming pool: (-1.8987834147148888 -2.0 0.8157805967135426)

Windows replaced by this household: (2.5180004965654224 3.0 0.8098558499658635)

Size of most-used TV: (2.264090043863279 2.0 0.8040846166171628)

Number of sliding glass doors in heated areas: (0.48795828850451045 0.0 0.8015439629675991)

Housing unit part of condominium or cooperative: (-1.8014565919059835 -2.0 0.7845173971741408)

Portion of the basement which is cooled: (-1.8824795166763222 -2.0 0.7702745782528801)

Most-used freezer replaced by this household in the last 4 years: (-1.8108913349333775 -2.0 0.763571339253022)

Flue on gas fireplace: (-1.8145328146983366 -2.0 0.7606654568506022)

Level of insulation (respondent reported): (1.8551684184391293 2.0 0.7562558610952238)

Number of rechargeable electronic devices used: (1.4023835140279732 1.0 0.7546710375870885)

Size of most-used refrigerator: (3.5312422411652737 4.0 0.7516681800374789)

Number of full bathrooms: (1.6721012993461888 2.0 0.7406827168445723)

Type of unused air conditioning equipment: (-1.8434991310105107 -2.0 0.7394633165919894)

Cable box or satellite box connected to the most-used TV: (1.0197798559960274 1.0 0.7370652169410157)

Year of assistance for dishwasher: (-1.9282462964495573 -2.0 0.7325892729707556)

Fuel used by warm-air furnace for secondary space heating: (-1.9009351982123646 -2.0 0.6999851875485262)

Wood pellets used: (-1.753869072250269 -2.0 0.6767565214290112)

Microwave used for defrosting: (0.34494744682611933 0.0 0.6766496568085839)

Wood scraps used: (-1.7542001158652651 -2.0 0.6756530335727353)

Secondary water heater size (if storage tank): (-1.889514193494993 -2.0 0.6730467491449205)

Type of wood used other than logs, pellets, or scraps: (-1.7569312256889846 -2.0 0.666473275272933)

Routine service or maintenance performed on main space heating equipment: (0.3136638252089713 0.0 0.6608683744867444)

Year of assistance for added insulation: (-1.9222875113796243 -2.0 0.6599168058276113)

Secondary space heating equipment used: (0.30290490772159234 0.0 0.657739844491925)

High ceilings: (0.1939915583878176 0.0 0.6519207982812202)

Electricity end uses included in Energy Supplier Survey billing data: (1.2470412976909708 1.0 0.6473535354684132)

Employment status of householder: (0.7303649755855334 1.0 0.6468385860908631)

Monitor type of third most-used computer: (-1.8431680873955143 -2.0 0.6433923998270309)

No space heating equipment, or unused space heating equipment: (-1.8769345361251344 -2.0 0.6351195020311465)

Age category of seventh household member: (-1.920797815112141 -2.0 0.6214997830980058)
Fuel used by other secondary space heating equipment: (-1.9583712654142182 -2.0 0.6179513227865714)
Size of third most-used refrigerator: (-1.9107009848547547 -2.0 0.6150372539050011)
Size of second most-used freezer: (-1.9101216585285112 -2.0 0.6102921588653716)
Assistance for home energy audit: (-1.9272531656045684 -2.0 0.6077553038497363)
Heated swimming pool: (-1.831912604485641 -2.0 0.6056107834769229)
Number of days covered by Energy Supplier Survey kerosene billing data and used to calculate annual consumption and expenditures: (-1.9359430604982206 -2.0 0.589882694313194)
Type of glass in most windows: (1.5721261276173135 2.0 0.585338543021352)
Assistance for most-used window/wall air conditioning unit: (-1.8406024993792933 -2.0 0.5777324286093888)
Portable electric heaters used for secondary space heating: (0.12422411652735248 0.0 0.5746830986141886)
DVD player connected to the most-used TV: (0.48878589754200114 1.0 0.5686527292075831)
Type of secondary water heater: (-1.8976247620624018 -2.0 0.5637657455271469)
Type of second most-used freezer: (-1.9169908135396838 -2.0 0.5540952832171141)
Year of assistance for caulking or weather stripping: (-1.9462054125631052 -2.0 0.552846083045711)
Sleep or standby mode for third most-used computer when not in use: (-1.8926591078374575 -2.0 0.5506520224491874)
Defrosting type of third most-used refrigerator: (-1.9178184225771746 -2.0 0.5503223866585842)
Ducts for space heating and air conditioning: (-1.8922453033187123 -2.0 0.5492920051639504)
Year of assistance for home energy audit: (-1.949598609616817 -2.0 0.5487344127197237)
Year of the assistance for purchasing the water heater blanket: (-1.9864272117851527 -2.0 0.5446066289205067)
Self-cleaning oven: (0.6128444922618554 1.0 0.5305284565112185)
Number of refrigerators used: (1.2654969792270132 1.0 0.5152869329242522)
Fireplace used for secondary space heating: (0.04593230158073326 0.0 0.5150637860349916)
Number of half bathrooms: (0.3077878010427874 0.0 0.507686279700851)
Video game console connected to the most-used TV: (0.2414135562360341 0.0 0.5065814185603793)
Assistance for replacing most-used freezer: (-1.8838864520400562 -2.0 0.5042312640132375)
Combo VCR/DVD connected to the most-used TV: (0.23619961929984276 0.0 0.5038859411331218)
Defrosting type for second most-used freezer: (-1.9251841430108416 -2.0 0.5009604666689025)
Natural gas used for space heating: (0.5038483820243317 1.0 0.49998518973645356)
Electricity used for space heating: (0.5093106016717702 1.0 0.49991330518053034)
Natural gas used for water heating: (0.5286766531490524 1.0 0.49917697218939716)
Sex of householder: (1.4702474551022098 1.0 0.4991140010779906)
Answering machine used: (0.46859223702722835 0.0 0.4990125774217132)
Housing unit is owned, rented, or occupied without payment of rent: (1.3380782918149465 1.0 0.4972780480607664)
Housing unit shaded from sun by large trees: (0.4474054456674667 0.0 0.49722611843562403)

Propane is used in home: (0.43209467847388894 0.0 0.4953674063848831)
Stereo equipment used: (0.4313498303401473 0.0 0.4952647314373063)
Household member at home on typical week days: (0.5694777786973434 1.0 0.49514930906471555)
Householder lives with spouse or partner: (0.594223288918315 1.0 0.4910417210638942)
Electricity used for water heating: (0.3983282297442688 0.0 0.489553726503097)
Propane used, other than for space heating, water heating, or cooking: (0.39493503269055696 0.0 0.4888367341396098)
Outdoor grill used: (0.6106099478606306 1.0 0.48761197630316333)
Dishwasher used: (0.6109409914756269 1.0 0.4875367641629018)
Natural gas is used in home: (0.6202102126955227 1.0 0.48533442569397905)
Fuel used by cooking stove for secondary space heating: (-1.961681701564181 -2.0 0.4847469546228019)
Through-the-door ice and water on most-used refrigerator: (0.34213357609865097 0.0 0.4842653562170312)
Digital converter box connected to the most-used TV: (0.20127451791773565 0.0 0.48399872818422596)
Blanket around the main water heater (if storage tank): (0.07373996524042042 0.0 0.48389589157166113)
Toaster used: (0.36994123975833815 0.0 0.4827884825515119)
Number of finished rooms in the attic: (-1.9294049491020442 -2.0 0.48213833247811616)
Cordless telephone used: (0.63378300091037 1.0 0.48176976728247395)
Coffee maker used: (0.6347761317553587 1.0 0.48149288084984415)
Electricity used for cooking: (0.6369279152528345 1.0 0.48088537722049574)
Sliding glass doors in heated areas: (0.36274104113216915 0.0 0.4807909922310543)
Caulking or weather stripping by this household: (0.3592650831747083 0.0 0.4797850385184431)
Natural gas used for cooking: (0.3477613175535877 0.0 0.4762597857965482)
Addition to a mobile home: (-1.8996937846561284 -2.0 0.4720464450806498)
Main space heating equipment heats other homes, business, or farm: (-0.0008276090374906894 0.0 0.46972319982980987)
Follow up for 'other' payment of electricity: (-1.9511710667880493 -2.0 0.466824657726467)
Home theater system connected to the most-used TV: (0.16552180749813789 0.0 0.4600174140941683)
Separate freezer used: (0.2968633617479103 0.0 0.45687581047770187)
Household members received retirement income in 2009: (0.2952081436729289 0.0 0.4561362686545764)
VCR connected to the most-used TV: (0.15178349747579242 0.0 0.4497076271301234)
Number of separate ovens: (0.15674915170073658 0.0 0.4431718813859376)
Fuel used by hot water system for secondary space heating: (-1.975916577009021 -2.0 0.42824931730378024)
Electricity used for secondary space heating: (0.23537201026235208 0.0 0.4242311009902929)
Household members received employment income in 2009: (0.7667797732351237 1.0 0.42288125117174125)
Household income at or below 150% of poverty line: (0.23115120417114954 0.0 0.4215688852149807)
Household members received investment income in 2009: (0.22800628982868493 0.0 0.4195466858733016)
Insulation added by this household: (0.22469585367872216 0.0 0.417381871933049)

Whether annualized kerosene consumption from Energy Supplier Survey billing data was scaled down: (-1.9553918728792519 -2.0 0.4157931031373256)

Heating stove used for secondary space heating: (-0.04940825953819416 0.0 0.4118479607618448)

Computer used at home: (0.7836629975999337 1.0 0.41174665000774363)

Central warm-air furnace used for secondary space heating: (-0.05139452122817181 0.0 0.4091848731222799)

Built-in electric units used for secondary space heating: (-0.05321526111065133 0.0 0.40671987080390193)

Other fuel is used in home: (0.20450219316394935 0.0 0.4033373850204038)

Follow up for 'other' payment of natural gas: (-1.965074898617893 -2.0 0.4006183261149514)

Clothes dryer used in home: (0.8047670280559464 1.0 0.39637994223973844)

Energy Star third most-used refrigerator: (-1.9787304477364893 -2.0 0.395657731579324)

Natural gas used, other than for space heating, water heating, or cooking: (0.19382603658031947 0.0 0.3952941994563879)

Heat pump used for secondary space heating: (-0.06256724323429612 0.0 0.3936829628930238)

Built-in room heaters used for secondary space hearing: (-0.06331209136803774 0.0 0.39261643642497746)

Cooking stove used for secondary space heating: (-0.06670528842174957 0.0 0.3877025851182247)

Other equipment used for secondary space heating: (-0.06728461474799305 0.0 0.38685442262267056)

Converted 2-4 unit apartment building more like single family house or apartment building: (-1.955640155590499 -2.0 0.38684645516307553)

Portable kerosene heaters used for secondary space heating: (-0.06778118017048747 0.0 0.38612525153985916)

Age category of eighth household member: (-1.967640486634114 -2.0 0.3853593322722626)

Hot water system used for secondary space heating: (-0.06893983282297443 0.0 0.38441597919430137)

Air conditioning equipment used: (0.8226433832657453 1.0 0.3819702177327609)

Electricity used for air conditioning: (0.8226433832657453 1.0 0.3819702177327609)

Pipeless furnace used for secondary space heating: (-0.07183646445419184 0.0 0.380093720486135)

Clothes washer used in home: (0.8303401473144086 1.0 0.37533370095466356)

Fuel used by built-in electric units for secondary space heating: (-1.9626748324091698 -2.0 0.36865589807306515)

Converted 2-4 unit apartment building was originally a single-family house: (-1.9521641976330382 -2.0 0.36484047821666865)

Humidifier used: (0.15252834560953404 0.0 0.3595322647484791)

Household members received other regular income in 2009: (0.15128693205329802 0.0 0.35832833580838563)

Imputation flag for YEARMAD: (0.14913514855582222 0.0 0.3562216389006378)

Household income at or below 100% of poverty line: (0.13862451377969048 0.0 0.34555427643000153)

Householder is Hispanic or Latino: (0.1385417528759414 0.0 0.345467705561641)

Dehumidifier used: (0.13415542497724076 0.0 0.34081922910306145)

Main water heater is used by more than one housing unit: (0.10494082595381941 0.0 0.332883573290636 3)
Number of separate cooktops: (0.12331374658611272 0.0 0.3323022295952839)
Imputation flag for MONEYPY: (0.1249689646610941 0.0 0.3306837197876672)
Number of stoves (one appliance with cooktop and an oven): (0.911197550277249 1.0 0.3297335868631942 6)
Imputation flag for WHEATAGE: (0.12405859471985434 0.0 0.3296483881289278)
Wood is used in home: (0.11867913597616486 0.0 0.32341057289475816)
Imputation flag for WHEATBKT: (0.11478937349995862 0.0 0.31876758497600394)
All or partial attic heating: (-1.9692129438053463 -2.0 0.31834672010985904)
Household receives food stamps or WIC assistance: (0.1065960440288008 0.0 0.30859897508936)
Kerosene purchased 'cash and carry': (-1.9644955722916495 -2.0 0.3063196272209837)
Wood used for space heating: (0.10452702143507407 0.0 0.3059430064979182)
Defrosting type of most-used refrigerator: (1.925432425722089 2.0 0.3019721400211431)
Imputation flag for TOTCSQFT: (0.09749234461640321 0.0 0.2966270172415288)
Imputation flag for TOTUCSQFT: (0.09749234461640321 0.0 0.2966270172415288)
Imputation flag for TOTUSQFT: (0.09749234461640321 0.0 0.2966270172415288)
Imputation flag for TOTHSQFT: (0.09749234461640321 0.0 0.2966270172415288)
Imputation flag for TOTSQFT: (0.09749234461640321 0.0 0.2966270172415288)
Imputation flag for TOTSQFT_EN: (0.09749234461640321 0.0 0.2966270172415288)
Separate fax machine used: (0.09203012496896466 0.0 0.2890684712436939)
Who pays for electricity used for lighting and other appliances: (1.0656293966730117 1.0 0.288106813 0878372)
All or partial attic cooling: (-1.9757510552015227 -2.0 0.284193520442518)
Year of assistance for most-used freezer: (-1.9887445170901266 -2.0 0.2822318644635428)
Household member(s) telecommutes or teleworks: (0.08689894893652239 0.0 0.2816869212623109)
Separate copy machine used: (0.08640238351402797 0.0 0.2809573128379807)
Other set-top box connected to the most-used TV: (0.005048415128693205 0.0 0.2802045880469688)
Home-based business or service: (0.08516096995779195 0.0 0.2791210833198497)
Year of assistance for most-used window/wall air conditioning unit: (-1.9935446495075726 -2.0 0.2755 591371950216)
Wood used for secondary space heating: (0.08110568567408756 0.0 0.2729973505831811)
Kerosene delivered to home: (-1.9687163783828519 -2.0 0.27020285522212206)
Household members received Supplemental Security income in 2009: (0.0775469668128776 0.0 0.267457351 2749106)
Fuel oil is used in home: (0.07481585698915832 0.0 0.26309398421885133)
Imputation flag for Householder_Race: (0.07440205247041298 0.0 0.26242405960314147)
Imputation flag for WHEATSIZ: (0.07340892162542415 0.0 0.2608065410437324)
Imputation flag for EQUIPAGE: (0.0719192253579409 0.0 0.25835411818247184)
Fuel oil used for space heating: (0.07109161632045022 0.0 0.256977816959776)

Age category of ninth household member: (-1.9855168418439129 -2.0 0.25218821328596897)
Imputation flag for FUELH20: (0.06753289745924025 0.0 0.25094263332482725)
Natural gas used for secondary space heating: (0.06711909294049491 0.0 0.25022813651415643)
Number of storage water heaters: (0.9990068691550111 1.0 0.24000125562271624)
Portion of the attic which is heated: (-1.9883307125713814 -2.0 0.23885479317258337)
Propane used for space heating: (0.05900852437308615 0.0 0.23564065528767514)
Hot tub used: (0.057436067201853847 0.0 0.23267394651365605)
Type of main water heater: (1.0182073988247953 1.0 0.22724950645151767)
Portion of the attic which is cooled: (-1.9899031697426135 -2.0 0.2237211695184374)
Follow up for 'other' payment of propane: (-1.9895721261276174 -2.0 0.2225933550130128)
Home energy audit: (0.04874617230820161 0.0 0.21533690578601966)
Imputation flag for CENACHP: (0.046346106099478604 0.0 0.2102335476295121)
Imputation flag for PGASHTWA: (0.04154597368203261 0.0 0.19954925645778232)
Propane used for cooking: (0.04121493006703633 0.0 0.19878697041456977)
Follow up for 'other' payment of fuel oil: (-1.9916411487213441 -2.0 0.19767659719506786)
Age category of tenth household member: (-1.99288256227758 -2.0 0.19751579341873354)
Fuel used by pipeless furnace for secondary space heating: (-1.9919721923363403 -2.0 0.1955859216302178)
Microwave oven used: (0.9613506579491848 1.0 0.19275780246168916)
Fuel oil used for water heating: (0.038401059339567986 0.0 0.19216247807825326)
Large heated aquarium used: (0.038152776628320784 0.0 0.1915649818308846)
Imputation flag for AGECEAC: (0.03715964578333195 0.0 0.18915286545171245)
Space heating equipment used: (0.9630886369279152 1.0 0.18854419733382227)
Renewable on-site system connected to the grid: (-1.9859306463626583 -2.0 0.1867958149365995)
Imputation flag for TEMPGONE: (0.03542166680460151 0.0 0.18484310191452444)
Number of tankless water heaters: (0.03269055698088223 0.0 0.18467460999723018)
Propane used for water heating: (0.033600926922121986 0.0 0.18019962439497575)
Imputation flag for AGERFRI1: (0.027973185467185302 0.0 0.16489598649453746)
Imputation flag for TEMPNITE: (0.027973185467185302 0.0 0.16489598649453724)
Imputation flag for ROOFTYPE: (0.02648348919970206 0.0 0.16056809770160393)
Imputation flag for YEARMADERANGE: (0.025324836547215096 0.0 0.15710979982506074)
Household members received welfare payments or cash assistance in 2009: (0.025159314739716956 0.0 0.15660882357499728)
Imputation flag for TEMPHOME: (0.02499379293221882 0.0 0.15610606409451533)
Imputation flag for MAINTHT: (0.023586857568484648 0.0 0.1517580894665253)
Imputation flag for PELHOTWA: (0.023255813953488372 0.0 0.15071489996298112)
Imputation flag for TYPECLN: (0.02267648762724489 0.0 0.1488699584742725)
Imputation flag for WHEATOTH: (0.02259372672349582 0.0 0.14860434124289632)
Propane used for secondary space heating: (0.022345444012248614 0.0 0.1478043475143394)
Any activities that use an unusual amount of energy: (0.019448812381031202 0.0 0.13809618415438366)

Imputation flag for NUMH2OHTRS: (0.0181246379210461 0.0 0.13340215673398031)
Age category of eleventh household member: (-1.9961929984275428 -2.0 0.1298796793337491)
Imputation flag for INVESTMT: (0.016717702557311927 0.0 0.12821162575412406)
Imputation flag for HHAGE: (0.016717702557311927 0.0 0.1282116257541239)
Imputation flag for NUMH2ONOTNK: (0.01630389803856658 0.0 0.12664154510788142)
Imputation flag for AGEDW: (0.015393528097326822 0.0 0.123112011558737)
Wood used, other than for space heating or water heating: (0.015228006289828684 0.0 0.12245862204949907)
Imputation flag for OVENCLN: (0.014979723578581478 0.0 0.1214715253057048)
Imputation flag for CONCRETE: (0.014400397252337995 0.0 0.11913448623851457)
Imputation flag for FUELHEAT: (0.014400397252337995 0.0 0.11913448623851393)
Imputation flag for RGLRPAY: (0.013986592733592651 0.0 0.11743495202578338)
Imputation flag for AGEHHMEMCAT2: (0.013738310022345443 0.0 0.11640261534896391)
Kerosene is used in home: (0.013738310022345443 0.0 0.11640261534896254)
Built-in indoor grill used: (0.013572788214847305 0.0 0.1157089781949762)
Imputation flag for TEMPGONEAC: (0.01324174459985103 0.0 0.1143083583986857)
Imputation flag for AGECDRYER: (0.013076222792352892 0.0 0.11360121121641191)
Imputation flag for DUCTS: (0.012662418273607548 0.0 0.11181270695707346)
Imputation flag for AGECWASH: (0.012662418273607548 0.0 0.1118127069570725)
Solar is used in home: (0.012165852851113134 0.0 0.10962593158335272)
Imputation flag for SSINCOME: (0.012000331043614997 0.0 0.10888674436522248)
Imputation flag for TEMPNITEAC: (0.012000331043614997 0.0 0.1088867443652224)
Imputation flag for CASHBEN: (0.011503765621120583 0.0 0.10663690260718854)
Imputation flag for USECFAN: (0.011503765621120583 0.0 0.10663690260718853)
Household fuel bills include fuel used for non-household purposes: (0.011338243813622445 0.0 0.10587581423934606)
Imputation flag for RETIREPY: (0.011338243813622445 0.0 0.10587581423934606)
Imputation flag for EDUCATION: (0.010841678391128031 0.0 0.10355740630582735)
Imputation flag for USECENAC: (0.010676156583629894 0.0 0.1027724489551139)
Gallons per kerosene 'cash and carry' purchase: (nan nan nan)
Kerosene used for space heating: (0.010510634776131756 0.0 0.10198118126760408)
Solar used, other than for space heating or water heating: (0.010427873872382686 0.0 0.10158313501209544)
Imputation flag for TYPEGLASS: (0.009600264834891997 0.0 0.09750948543598315)
Imputation flag for WORKPAY: (0.00935198212364479 0.0 0.09625238986126229)
Imputation flag for FOODASST: (0.00935198212364479 0.0 0.0962523898612621)
Imputation flag for PGASHEAT: (0.009103699412397583 0.0 0.09497800834617098)
Imputation flag for MAINTAC: (0.009020938508648515 0.0 0.0945492526521143)
Number of kerosene 'cash and carry' purchases: (nan nan nan)
Imputation flag for WWACAGE: (0.010345112968633618 0.0 0.10118345520045177)

Imputation flag for TEMPHOMEAC: (0.01009683025738641 0.0 0.09997441810852915)
Imputation flag for ACROOMS: (0.009931308449888272 0.0 0.09915985862414149)
Other fuel used for space heating: (0.008938177604899445 0.0 0.09411847101395117)
Imputation flag for COMBODVR1: (0.008441612182405031 0.0 0.09148962436347345)
Imputation flag for RNSETEMP: (0.008276090374906894 0.0 0.09059578744628848)
Imputation flag for REFRIGT1: (0.00786228585616155 0.0 0.08832027127040742)
Imputation flag for EQUIPM: (0.007696764048663411 0.0 0.08739292804250558)
Imputation flag for INDSL: (0.007531242241165273 0.0 0.0864553215913747)
Imputation flag for INSTLINS: (0.007448481337416204 0.0 0.0859825648790658)
Age category of twelfth household member: (-1.9980964992137713 -2.0 0.08580266381893006)
Imputation flag for DVR1: (0.007365720433667135 0.0 0.08550711430143396)
Kerosene used for secondary space heating: (0.006289828684929239 0.0 0.07905862849837925)
Imputation flag for LGT1: (0.00620706778118017 0.0 0.07854005405358266)
Imputation flag for NUMAPTS: (0.006124306877431101 0.0 0.07801794500435329)
Imputation flag for ADQINSUL: (0.005876024166183894 0.0 0.0764296834101898)
Renewable on-site system used: (0.005876024166183894 0.0 0.07642968341018763)
Imputation flag for WOODAMT: (0.005876024166183894 0.0 0.07642968341018598)
Imputation flag for TVTYPE1: (0.005876024166183894 0.0 0.076429683410185)
Imputation flag for ATHOME: (0.0057932632624348255 0.0 0.07589269637592486)
Imputation flag for HUPROJ: (0.0057932632624348255 0.0 0.07589269637592397)
Imputation flag for AGEHHMEMCAT3: (0.0057105023586857566 0.0 0.07535179176037204)
Imputation flag for INCABLE: (0.005627741454936688 0.0 0.07480688458325874)
Imputation flag for CONVERSION: (0.005544980551187619 0.0 0.07425788673182034)
Other fuel used for secondary space heating: (0.005379458743689481 0.0 0.07314724989577956)
Imputation flag for AGEFRZR: (0.005379458743689481 0.0 0.0731472498957781)
Imputation flag for FOPAY: (0.005213936936191343 0.0 0.07201910717174607)
Imputation flag for INSATEL: (0.005213936936191343 0.0 0.07201910717174442)
Imputation flag for WASHTEMP: (0.005048415128693205 0.0 0.07087262259420764)
Imputation flag for INSTLWS: (0.004965654224944136 0.0 0.07029222220887243)
Imputation flag for AGERFRI2: (0.004882893321195067 0.0 0.06970689115151896)
Imputation flag for DIGITSTB1: (0.004882893321195067 0.0 0.06970689115151767)
Imputation flag for CRAWL: (0.004800132417445998 0.0 0.06911650415220297)
Imputation flag for LGT4: (0.004717371513696929 0.0 0.06852093052270877)
Imputation flag for INWIRELESS: (0.0045518497061987915 0.0 0.06731367149734495)
Imputation flag for EMPLOYHH: (0.0045518497061987915 0.0 0.06731367149734145)
Fuel oil used for secondary space heating: (0.004386327898700654 0.0 0.06608394681211836)
Imputation flag for USEWWAC: (0.004138045187453447 0.0 0.06419440606065717)
Imputation flag for AGEHHMEMCAT4: (0.003972523379955309 0.0 0.06290264253552305)
Imputation flag for INDIALUP: (0.00388976247620624 0.0 0.06224654387261409)
Imputation flag for ATTIC: (0.00388976247620624 0.0 0.06224654387261264)

Imputation flag for NHSLDMEM: (0.00388976247620624 0.0 0.062246543872611935)
Imputation flag for LPGPAY: (0.003807001572457171 0.0 0.061583344432436085)
Imputation flag for SPOUSE: (0.003807001572457171 0.0 0.061583344432433636)
Imputation flag for LGT12: (0.003807001572457171 0.0 0.06158334443243334)
Imputation flag for AGEWS: (0.003724240668708102 0.0 0.060912812282386014)
Imputation flag for PELHEAT: (0.003641479764959033 0.0 0.06023470253998133)
Age category of thirteenth household member: (-1.998924108251262 -2.0 0.05964529585939293)
Imputation flag for PROTHERMAC: (0.0035587188612099642 0.0 0.05954875633693993)
Imputation flag for SDESCENT: (0.0035587188612099642 0.0 0.05954875633693968)
Imputation flag for TELLWORK: (0.0033104361499627574 0.0 0.057441075568440664)
Imputation flag for TYPEHUQ4: (0.0033104361499627574 0.0 0.05744107556844027)
Imputation flag for DRYRFUEL: (0.0032276752462136885 0.0 0.05672087233742584)
Imputation flag for PROTHERM: (0.0032276752462136885 0.0 0.05672087233742575)
Kerosene used, other than for space heating or water heating: (0.0031449143424646196 0.0 0.055991283752412115)
Imputation flag for ATTICFIN: (0.0031449143424646196 0.0 0.05599128375240825)
Imputation flag for HEATOTH: (0.0030621534387155506 0.0 0.05525193802061436)
Imputation flag for SIZRFRI1: (0.0030621534387155506 0.0 0.05525193802061417)
Age category of fourteenth household member: (-1.9990068691550111 -2.0 0.05457477646396192)
Imputation flag for HBUSINESS: (0.0029793925349664817 0.0 0.054502438065549136)
Imputation flag for DVR2: (0.0028966316312174127 0.0 0.053742359051410005)
Imputation flag for WHEATAGE2: (0.0028966316312174127 0.0 0.053742359051409345)
Imputation flag for COMBODVR2: (0.002813870727468344 0.0 0.052971245586607964)
Imputation flag for WELLPUMP: (0.002731109823719275 0.0 0.052188608554455417)
Imputation flag for NOUTLGTNT: (0.002731109823719275 0.0 0.052188608554455125)
Imputation flag for ACOTHERS: (0.002731109823719275 0.0 0.052188608554454646)
Imputation flag for REFRIGT2: (0.002731109823719275 0.0 0.052188608554451496)
Imputation flag for WALLTYPE: (0.002648348919970206 0.0 0.051393921507975004)
Imputation flag for DIGITSTB2: (0.002648348919970206 0.0 0.051393921507973554)
Imputation flag for AUTOCOOLNITE: (0.002648348919970206 0.0 0.05139392150797348)
Imputation flag for AUDIT: (0.002648348919970206 0.0 0.05139392150797202)
Imputation flag for OTHWORK: (0.002565588016221137 0.0 0.05058661655371677)
Imputation flag for AUTOCOOLDAY: (0.002565588016221137 0.0 0.050586616553715984)
Imputation flag for RENTHELP: (0.002482827112472068 0.0 0.04976607963263114)
Imputation flag for ORIG1FAM: (0.002482827112472068 0.0 0.04976607963263058)
Imputation flag for AUTOHEATDAY: (0.002400066208722999 0.0 0.048931645086960913)
Imputation flag for FREEZER: (0.0022345444012248613 0.0 0.047218123771960496)
Imputation flag for AGEINS: (0.0022345444012248613 0.0 0.04721812377195899)
Imputation flag for AUTOHEATNITE: (0.0022345444012248613 0.0 0.04721812377195848)
Imputation flag for TVTYPE2: (0.0021517834974757923 0.0 0.0463373858267423)

Imputation flag for LOOKLIKE: (0.0021517834974757923 0.0 0.04633738582674184)
Imputation flag for WHEATSI22: (0.0021517834974757923 0.0 0.04633738582674118)
Imputation flag for THERMAINAC: (0.0020690225937267234 0.0 0.04543942934537852)
Imputation flag for TIMEON1: (0.0019862616899776545 0.0 0.044523212535454305)
Imputation flag for PCONOFF1: (0.0019862616899776545 0.0 0.04452321253545425)
Imputation flag for AIRCOND: (0.0019862616899776545 0.0 0.04452321253545104)
Imputation flag for COOLTYPE: (0.0019035007862285855 0.0 0.043587583908558825)
Imputation flag for EQMAMT: (0.0019035007862285855 0.0 0.04358758390855794)
Imputation flag for NEWGLASS: (0.0019035007862285855 0.0 0.04358758390855626)
Imputation flag for AGEHHMEMCAT5: (0.0019035007862285855 0.0 0.04358758390855595)
Imputation flag for DVR3: (0.0018207398824795166 0.0 0.04263126539009076)
Imputation flag for BASECOOL: (0.0018207398824795166 0.0 0.042631265390090656)
Imputation flag for PELAC: (0.0018207398824795166 0.0 0.04263126539009042)
Solar used for water heating: (0.0018207398824795166 0.0 0.04263126539008941)
Imputation flag for PCONOFF2: (0.0017379789787304476 0.0 0.04165283193013334)
Fuel oil used, other than for space heating or water heating: (0.0017379789787304476 0.0 0.041652831930132174)
Imputation flag for SWIMPOOL: (0.0017379789787304476 0.0 0.041652831930132125)
Imputation flag for PCSLEEP1: (0.0016552180749813787 0.0 0.04065068668676459)
Other fuel used for cooking: (0.0015724571712323098 0.0 0.039623030546345674)
Imputation flag for TVTYPE3: (0.0014896962674832408 0.0 0.0385678243165732)
Imputation flag for HHSEX: (0.001406935363734172 0.0 0.03748274131672735)
Imputation flag for TIMEON2: (0.001406935363734172 0.0 0.037482741316727027)
Imputation flag for ATTCCOOL: (0.001406935363734172 0.0 0.03748274131672668)
Imputation flag for ATTCEAT: (0.001406935363734172 0.0 0.03748274131672668)
Imputation flag for BASEFIN: (0.001324174459985103 0.0 0.036365107204364436)
Imputation flag for COMBODVR3: (0.001324174459985103 0.0 0.03636510720436271)
Imputation flag for NGFPFLUE: (0.001324174459985103 0.0 0.036365107204362625)
Imputation flag for NGASLIGHT: (0.001324174459985103 0.0 0.03636510720436241)
Imputation flag for FUELH2O2: (0.001241413556236034 0.0 0.035211822568830646)
Imputation flag for FUELFOOD: (0.001241413556236034 0.0 0.035211822568829536)
Imputation flag for FINBASERMS: (0.001241413556236034 0.0 0.035211822568829515)
Imputation flag for BATTOOLS: (0.001241413556236034 0.0 0.035211822568828384)
Imputation flag for FURNFUEL: (0.001158652652486965 0.0 0.03401926184557361)
Imputation flag for PRKGPLC1: (0.001158652652486965 0.0 0.034019261845573516)
Imputation flag for DIGITSTB3: (0.001158652652486965 0.0 0.03401926184557348)
Imputation flag for CONDCOOP: (0.001158652652486965 0.0 0.03401926184557271)
Imputation flag for BASEHEAT: (0.001158652652486965 0.0 0.034019261845572385)
Imputation flag for NOTMOIST: (0.001158652652486965 0.0 0.034019261845571)
Imputation flag for PELCOOK: (0.0010758917487378962 0.0 0.032783139045598625)

Imputation flag for PUGOTH: (0.0010758917487378962 0.0 0.03278313904559843)
Imputation flag for COMBOVCRDVD3: (0.0010758917487378962 0.0 0.03278313904559803)
Imputation flag for WINDOWS: (0.0009931308449888272 0.0 0.031498325925571356)
Other fuel used for water heating: (0.0009931308449888272 0.0 0.031498325925570655)
Imputation flag for CHRGPLGT: (0.0009931308449888272 0.0 0.03149832592557062)
Imputation flag for TVONWE2: (0.0009931308449888272 0.0 0.031498325925570614)
Imputation flag for MONITOR1: (0.0009931308449888272 0.0 0.03149832592557035)
Imputation flag for TVONWD2: (0.0009931308449888272 0.0 0.031498325925569934)
Imputation flag for TVONWE3: (0.0009931308449888272 0.0 0.03149832592556932)
Imputation flag for TVONWD3: (0.0009931308449888272 0.0 0.03149832592556932)
Imputation flag for GARGHEAT: (0.0009931308449888272 0.0 0.03149832592556854)
Wood used for water heating: (0.0009931308449888272 0.0 0.03149832592556824)
Imputation flag for INTERNET: (0.0009103699412397583 0.0 0.03015860022962266)
Imputation flag for SIZRFRI2: (0.0009103699412397583 0.0 0.030158600229621815)
Imputation flag for HEATROOM: (0.0009103699412397583 0.0 0.030158600229621278)
Imputation flag for OTHROOMS: (0.0009103699412397583 0.0 0.030158600229621035)
Imputation flag for FINATTRMS: (0.0009103699412397583 0.0 0.030158600229620813)
Imputation flag for NUMCORDS: (0.0009103699412397583 0.0 0.03015860022962081)
Imputation flag for GARGCOOL: (0.0009103699412397583 0.0 0.030158600229620507)
Imputation flag for PRKGPLC2: (0.0009103699412397583 0.0 0.030158600229619616)
Imputation flag for USENOTMOIST: (0.0008276090374906894 0.0 0.02875628802143494)
Imputation flag for PCPRINT: (0.0008276090374906894 0.0 0.028756288021434824)
Imputation flag for COMBOVCRDVD1: (0.0008276090374906894 0.0 0.028756288021434817)
Imputation flag for CELLAR: (0.0008276090374906894 0.0 0.028756288021434807)
Imputation flag for OTHERWAYNG: (0.0007448481337416204 0.0 0.027281739955494856)
Imputation flag for GARGLOC: (0.0007448481337416204 0.0 0.027281739955493697)
Imputation flag for SIZFREEZ: (0.0007448481337416204 0.0 0.027281739955493406)
Imputation flag for SIZEOFGARAGE: (0.0007448481337416204 0.0 0.02728173995549325)
Imputation flag for AGEHHMEMCAT6: (0.0007448481337416204 0.0 0.02728173995549319)
Imputation flag for TVSIZE3: (0.0007448481337416204 0.0 0.02728173995549279)
Imputation flag for COPIER: (0.0007448481337416204 0.0 0.027281739955492715)
Imputation flag for VCR3: (0.0007448481337416204 0.0 0.02728173995549255)
Imputation flag for DVD3: (0.0007448481337416204 0.0 0.02728173995549255)
Imputation flag for TVONWE1: (0.0007448481337416204 0.0 0.02728173995549255)
Imputation flag for FUELNOHEAT: (0.0007448481337416204 0.0 0.02728173995549237)
Imputation flag for KOWNRENT: (0.0007448481337416204 0.0 0.027281739955492188)
Imputation flag for MOISTURE: (0.0007448481337416204 0.0 0.027281739955492056)
Imputation flag for OVENUSE: (0.0006620872299925515 0.0 0.025722536237556142)
Imputation flag for H2OTYPE1: (0.0006620872299925515 0.0 0.025722536237555705)
Imputation flag for COMBOVCRDVD2: (0.0006620872299925515 0.0 0.025722536237555674)

Imputation flag for FUELTUB: (0.0006620872299925515 0.0 0.025722536237555483)
Imputation flag for CATHCEIL: (0.0006620872299925515 0.0 0.025722536237555396)
Imputation flag for USENGFP: (0.0006620872299925515 0.0 0.025722536237555233)
Imputation flag for PCONOFF3: (0.0006620872299925515 0.0 0.025722536237555094)
Imputation flag for NUMCFAN: (0.0006620872299925515 0.0 0.025722536237555074)
Imputation flag for USEMOISTURE: (0.0006620872299925515 0.0 0.025722536237554095)
Imputation flag for DRAFTY: (0.0006620872299925515 0.0 0.025722536237553835)
Imputation flag for OTHERSTB3: (0.0006620872299925515 0.0 0.025722536237553627)
Imputation flag for STOVENFUEL: (0.0006620872299925515 0.0 0.025722536237553044)
Imputation flag for OTHERSTB1: (0.0006620872299925515 0.0 0.02572253623755303)
Imputation flag for TVONWEWATCH2: (0.0006620872299925515 0.0 0.025722536237552603)
Imputation flag for CABLESAT3: (0.0006620872299925515 0.0 0.025722536237552517)
Imputation flag for TVAUDIOSYS2: (0.0005793263262434825 0.0 0.02406222573352633)
Imputation flag for PLAYSTA2: (0.0005793263262434825 0.0 0.02406222573352633)
Imputation flag for DEFROST: (0.0005793263262434825 0.0 0.024062225733526257)
Imputation flag for DOOR1SUM: (0.0005793263262434825 0.0 0.024062225733526246)
Imputation flag for NUMFLRS: (0.0005793263262434825 0.0 0.024062225733525542)
Imputation flag for ELECDEV: (0.0005793263262434825 0.0 0.024062225733525518)
Imputation flag for BASEHT2: (0.0005793263262434825 0.0 0.02406222573352538)
Imputation flag for TVSIZE1: (0.0005793263262434825 0.0 0.024062225733525112)
Imputation flag for PUGCOOK: (0.0005793263262434825 0.0 0.024062225733525074)
Imputation flag for WASHLOAD: (0.0005793263262434825 0.0 0.02406222573352502)
Imputation flag for NUMTHERM: (0.0005793263262434825 0.0 0.024062225733524945)
Imputation flag for PELLIGHT: (0.0005793263262434825 0.0 0.02406222573352494)
Imputation flag for CABLESAT1: (0.0005793263262434825 0.0 0.02406222573352492)
Imputation flag for CABLESAT2: (0.0005793263262434825 0.0 0.024062225733524907)
Imputation flag for BATCHRG: (0.0005793263262434825 0.0 0.024062225733524865)
Imputation flag for DVD1: (0.0005793263262434825 0.0 0.024062225733524817)
Imputation flag for TVONWDWATCH2: (0.0005793263262434825 0.0 0.02406222573352469)
Imputation flag for TVONWEWATCH3: (0.0004965654224944136 0.0 0.022278214589048603)
Imputation flag for DNTAC: (0.0004965654224944136 0.0 0.0222782145890482)
Imputation flag for PLAYSTA3: (0.0004965654224944136 0.0 0.022278214589048193)
Imputation flag for EQUIPNOHEAT: (0.0004965654224944136 0.0 0.022278214589047968)
Imputation flag for VCR2: (0.0004965654224944136 0.0 0.022278214589047923)
Imputation flag for PLAYSTA1: (0.0004965654224944136 0.0 0.02227821458904755)
Imputation flag for DVD2: (0.0004965654224944136 0.0 0.022278214589047027)
Imputation flag for ONSITE: (0.0004965654224944136 0.0 0.022278214589046653)
Imputation flag for PCSLEEP3: (0.0004965654224944136 0.0 0.022278214589046552)
Imputation flag for THERMAIN: (0.0004965654224944136 0.0 0.022278214589046157)
Imputation flag for TVSIZE2: (0.0004965654224944136 0.0 0.022278214589045504)

Imputation flag for TVONWD1: (0.0004965654224944136 0.0 0.022278214589045445)
Imputation flag for AGERFRI3: (0.0004965654224944136 0.0 0.02227821458904454)
Imputation flag for RADFUEL: (0.0004138045187453447 0.0 0.020337976412750706)
Imputation flag for FAX: (0.0004138045187453447 0.0 0.0203379764127507)
Imputation flag for BASECL2: (0.0004138045187453447 0.0 0.020337976412750668)
Imputation flag for TIMEON3: (0.0004138045187453447 0.0 0.020337976412750668)
Imputation flag for TVAUDIOSYS3: (0.0004138045187453447 0.0 0.020337976412750664)
Imputation flag for TELLDAYS: (0.0004138045187453447 0.0 0.020337976412750664)
Imputation flag for AGEAUD: (0.0004138045187453447 0.0 0.020337976412750654)
Imputation flag for BASEUSE: (0.0004138045187453447 0.0 0.02033797641275065)
Imputation flag for TVONWDWATCH3: (0.0004138045187453447 0.0 0.02033797641275065)
Imputation flag for REFRIGT3: (0.0004138045187453447 0.0 0.02033797641275064)
Imputation flag for VCR1: (0.0004138045187453447 0.0 0.02033797641275064)
Imputation flag for ONSITEGRID: (0.0004138045187453447 0.0 0.020337976412750636)
Imputation flag for CHRGPLGE: (0.0004138045187453447 0.0 0.020337976412750633)
Imputation flag for ELECCHRG: (0.0004138045187453447 0.0 0.020337976412750633)
Imputation flag for PCTYPE1: (0.0004138045187453447 0.0 0.020337976412750633)
Imputation flag for WDOTHER: (0.00033104361499627574 0.0 0.018191592154652665)
Imputation flag for WDPELLET: (0.00033104361499627574 0.0 0.018191592154652665)
Imputation flag for WDSCRAP: (0.00033104361499627574 0.0 0.018191592154652665)
Imputation flag for WOODLOGS: (0.00033104361499627574 0.0 0.018191592154652665)
Solar used for space heating: (0.00033104361499627574 0.0 0.018191592154652474)
Imputation flag for FUELPOOL: (0.00033104361499627574 0.0 0.018191592154652325)
Imputation flag for NCOMBATH: (0.00033104361499627574 0.0 0.018191592154652287)
Imputation flag for TREESHAD: (0.00033104361499627574 0.0 0.018191592154652266)
Imputation flag for OTHERSTB2: (0.00033104361499627574 0.0 0.018191592154652193)
Imputation flag for TVONWEWATCH1: (0.00033104361499627574 0.0 0.0181915921546521)
Imputation flag for MONRFRI2: (0.00033104361499627574 0.0 0.018191592154652048)
Imputation flag for TYPERFR2: (0.00033104361499627574 0.0 0.018191592154652)
Imputation flag for NUMBERAC: (0.00033104361499627574 0.0 0.01819159215465182)
Imputation flag for OUTGRILL: (0.00033104361499627574 0.0 0.018191592154651454)
Imputation flag for OTHERWAYEL: (0.00033104361499627574 0.0 0.018191592154651357)
Imputation flag for NUMPC: (0.0002482827112472068 0.0 0.015755033067009278)
Imputation flag for DIPSTICK: (0.0002482827112472068 0.0 0.015755033067009063)
Imputation flag for TVAUDIOSYS1: (0.0002482827112472068 0.0 0.015755033067008872)
Imputation flag for BEDROOMS: (0.0002482827112472068 0.0 0.0157550330670088)
Imputation flag for TVONWDWATCH1: (0.0002482827112472068 0.0 0.015755033067008786)
Imputation flag for PCTBSTHT: (0.0002482827112472068 0.0 0.01575503306700877)
Imputation flag for PCSLEEP2: (0.0002482827112472068 0.0 0.015755033067008737)
Imputation flag for NHAFBATH: (0.0002482827112472068 0.0 0.015755033067008557)

Kerosene used for water heating: (0.0002482827112472068 0.0 0.015755033067008505)
Imputation flag for COOLTYPENOAC: (0.0002482827112472068 0.0 0.015755033067008425)
Imputation flag for AGEHHMEMCAT8: (0.0002482827112472068 0.0 0.01575503306700842)
Imputation flag for AGEHHMEMCAT7: (0.0002482827112472068 0.0 0.01575503306700842)
Imputation flag for AGEHHMEMCAT9: (0.0002482827112472068 0.0 0.01575503306700842)
Solar used for secondary space heating: (0.0002482827112472068 0.0 0.01575503306700835)
Imputation flag for SIZEOFDETACH: (0.0002482827112472068 0.0 0.015755033067008345)
Imputation flag for AMTMICRO: (0.0002482827112472068 0.0 0.015755033067008272)
Imputation flag for TOASTER: (0.0002482827112472068 0.0 0.015755033067008026)
Imputation flag for OVENFUEL: (0.0002482827112472068 0.0 0.01575503306700802)
Imputation flag for FPFUEL: (0.0002482827112472068 0.0 0.015755033067007977)
Imputation flag for OCCUPYRANGE: (0.0002482827112472068 0.0 0.015755033067007963)
Imputation flag for ATTICUSE: (0.0002482827112472068 0.0 0.015755033067007956)
Imputation flag for MONITOR2: (0.0002482827112472068 0.0 0.01575503306700762)
Imputation flag for HIGHCEIL: (0.00016552180749813787 0.0 0.012864463068056107)
Imputation flag for ICE: (0.00016552180749813787 0.0 0.012864463068055847)
Imputation flag for MONITOR3: (0.00016552180749813787 0.0 0.012864463068055828)
Imputation flag for DRYRUSE: (0.00016552180749813787 0.0 0.012864463068055828)
Imputation flag for STEREO: (0.00016552180749813787 0.0 0.012864463068055778)
Imputation flag for ATTCHT2: (0.00016552180749813787 0.0 0.012864463068055719)
Imputation flag for MONRFRI3: (0.00016552180749813787 0.0 0.012864463068055691)
Imputation flag for PCTBSTCL: (0.00016552180749813787 0.0 0.012864463068055653)
Imputation flag for ANSMACH: (0.00016552180749813787 0.0 0.012864463068055623)
Imputation flag for SLDDRS: (0.00016552180749813787 0.0 0.012864463068055608)
Imputation flag for UPRTFRZR: (0.00016552180749813787 0.0 0.012864463068055554)
Imputation flag for ATTCL2: (0.00016552180749813787 0.0 0.012864463068055504)
Imputation flag for PCTYPE2: (0.00016552180749813787 0.0 0.012864463068055497)
Imputation flag for KEROCASH: (0.00016552180749813787 0.0 0.012864463068055476)
Imputation flag for KERODEL: (0.00016552180749813787 0.0 0.012864463068055476)
Imputation flag for COMPUTER: (0.00016552180749813787 0.0 0.012864463068055417)
Imputation flag for AGEHHMEMCAT10: (0.00016552180749813787 0.0 0.012864463068055403)
Imputation flag for AGEHHMEMCAT12: (0.00016552180749813787 0.0 0.012864463068055403)
Imputation flag for AGEHHMEMCAT11: (0.00016552180749813787 0.0 0.012864463068055403)
Imputation flag for SWAMPCOL: (8.276090374906894e-05 0.0 0.009096925545582939)
Imputation flag for RECBATH: (8.276090374906894e-05 0.0 0.009096925545582935)
Imputation flag for POOL: (8.276090374906894e-05 0.0 0.009096925545582935)
Imputation flag for NUMMEAL: (8.276090374906894e-05 0.0 0.009096925545582895)
Imputation flag for MICRO: (8.276090374906894e-05 0.0 0.009096925545582862)
Imputation flag for AQUARIUM: (8.276090374906894e-05 0.0 0.00909692554558286)
Imputation flag for NUMFRIG: (8.276090374906894e-05 0.0 0.009096925545582842)

Imputation flag for TYPERFR1: (8.276090374906894e-05 0.0 0.009096925545582842)
Imputation flag for AGEHMEMCAT14: (8.276090374906894e-05 0.0 0.009096925545582817)
Imputation flag for AGEHMEMCAT13: (8.276090374906894e-05 0.0 0.009096925545582817)
Imputation flag for NOCORD: (8.276090374906894e-05 0.0 0.009096925545582817)
Imputation flag for STORIES: (8.276090374906894e-05 0.0 0.009096925545582816)
Electricity used, other than for space heating, water heating, air conditioning, or cooking: (0.9999
17239096251 1.0 0.009096925545582805)
Imputation flag for STOVEFUEL: (8.276090374906894e-05 0.0 0.009096925545582803)
Imputation flag for PCTATHT: (8.276090374906894e-05 0.0 0.009096925545582796)
Imputation flag for TYPERFR3: (8.276090374906894e-05 0.0 0.009096925545582788)
Imputation flag for DIFFUEL: (8.276090374906894e-05 0.0 0.009096925545582769)
Imputation flag for TOPGRILL: (8.276090374906894e-05 0.0 0.009096925545582767)
Imputation flag for STOVEN: (8.276090374906894e-05 0.0 0.00909692554558276)
Imputation flag for OTHERWAYLPG: (8.276090374906894e-05 0.0 0.009096925545582751)
Imputation flag for PCTYPE3: (8.276090374906894e-05 0.0 0.009096925545582725)
Imputation flag for FREEZER2: (8.276090374906894e-05 0.0 0.009096925545582725)
Imputation flag for NOCRCASH: (0.0 0.0 0.0)
Imputation flag for OTHERWAYFO: (0.0 0.0 0.0)
Imputation flag for RMHTFUEL: (0.0 0.0 0.0)
Imputation flag for DNTHEAT: (0.0 0.0 0.0)
Imputation flag for HEATHOME: (0.0 0.0 0.0)
Imputation flag for NAPTFILRS: (0.0 0.0 0.0)
Imputation flag for NKRGA LNC: (0.0 0.0 0.0)
Imputation flag for TVCOLOR: (0.0 0.0 0.0)
Imputation flag for STUDIO: (0.0 0.0 0.0)
Imputation flag for PCTATTCL: (0.0 0.0 0.0)
Imputation flag for PIPEFUEL: (0.0 0.0 0.0)
Imputation flag for TOPFRONT: (0.0 0.0 0.0)
Electricity is used in home: (1.0 1.0 0.0)
Imputation flag for STGRILA: (0.0 0.0 0.0)
Imputation flag for CWASHER: (0.0 0.0 0.0)
Imputation flag for SIZRFRI3: (0.0 0.0 0.0)
Imputation flag for COFFEE: (0.0 0.0 0.0)
Imputation flag for SEPFREEZ: (0.0 0.0 0.0)
Imputation flag for NUMFREEZ: (0.0 0.0 0.0)
Imputation flag for UPRTFRZR2: (0.0 0.0 0.0)
Imputation flag for SIZFREEZ2: (0.0 0.0 0.0)
Imputation flag for AGEFRZR2: (0.0 0.0 0.0)
Imputation flag for HSFUEL: (0.0 0.0 0.0)
Imputation flag for DISHWASH: (0.0 0.0 0.0)

Imputation flag for DWASHUSE: (0.0 0.0 0.0)
Imputation flag for H2OYPE2: (0.0 0.0 0.0)
Imputation flag for OUTGRILL: (0.0 0.0 0.0)
Imputation flag for DRYER: (0.0 0.0 0.0)
Imputation flag for STOVE: (0.0 0.0 0.0)
Imputation flag for RNGFUEL: (0.0 0.0 0.0)
Imputation flag for OVEN: (0.0 0.0 0.0)

End of Assignment - 1