MY Sample SAS CODES

- T.Sathvik

```
Proc format;
value walkable
1="Least walkable"
2="Below average walkable"
3="Above average walkable"
4="Most walkable";

value redline
0="Good neighborhood"
1="Holc score 1-3"
2="Redlined neighborhood"
7="Not appraised";

run;



/*******************************************************/
/*******************************************************/
/*Combined warm and cold months by year using ACS demo*/
/*******************************************************/
/*******************************************************/

libname dg "P:\Total environmental raw data\Datasets";

libname d "G:\";


/*Bring in diab and demo as sum all*/
data python;
set d.census_diab_demo_pctl_sum_all;
keep patcnty FIPS year diab_p75 type1_p75 type2_p75;
run; /*7806, 6*/

/*proc contents data=python varnum; run;*/

proc sort data=python; by patcnty FIPS year; run;

/*bring in weather, pollutants, greenness*/
data wea;
set d.census_diab_wea_green_sumall_f;
keep patcnty FIPS year Tavg_p90 Tavg_p10 UFPavg_p50 PM2_5avg_p50
NDVIavg_ind EVIavg_ind  treeavg_ind RHavg O3avg SO2avg NH3avg;
run; /*7806 14*/

proc sort data=wea; by patcnty FIPS year ; run;

data python1;
merge python wea;
by patcnty FIPS year ;
run; /*7806, 17*/
```

```
/*add a new variable for outcome: admissions with extreme T*/
data python1;
set python1;
if Tavg_p90=1 or Tavg_p10=1 then diab_t=1;
else diab_t=0;
run;


proc sort data=python1; by FIPS year ; run;


/*bring in ACS housing*/
data house;
set dg.census_acs_housing_dg; /*should use census_acs_housing_dg_update with
addition of structure_moblhome_p75 structure_boat_p75*/
keep FIPS year
occupied_p75 vacant_p75 occupied_own_p75 occupied_rent_p75 vacant_rent_p75
vacant_rented_p75
vacant_sale_p75 vacant_sold_p75 vacant_season_p75 vacant_migrant_p75
vacant_other_p75
occupied_own_1lessprm_p75 occupied_own_1to2prm_p75 occupied_own_2moreprm_p75
occupied_rent_1lessprm_p75
occupied_rent_1to2prm_p75 occupied_rent_2moreprm_p75 house_3lessrm_p75
house_4to6rm_p75 house_7morerm_p75
structure_4lessu_p75 structure_5to19u_p75 structure_20moreu_p75
structure_other_p75 house_pre1979_p75
house_post1979_p75 structure_yr_median_p75 rent_median_p75
rent_income_30less_p75 rent_income_30more_p75
own_median_p75 own_mortgage_p75 own_nomortgage_p75 own_income_20less_p75
own_income_20to29_p75 own_income_30more_p75 structure_moblhome_p75
structure_boat_p75;
run; /*39837, 38+2*/ /*missing=765*/


proc sort data=house; by FIPS year; run;

data python2;
merge python1 (in=a) house;
by FIPS year;
if a;
run; /*7806, 54*/


/*bring in ACS economic1*/
data economic1;
set dg.census_acs_economic1_dg;
keep FIPS year
transport_age16_19_p75 transport_age20_44_p75 transport_age45_64_p75
transport_age_65over_p75
transport_drove_p75 transport_carpool_p75 transport_public_p75
transport_walk_p75 transport_other_p75
transport_home_p75 transport_meanmin_p75 poverty_below_p75 poverty_above_p75
poverty_below_age0_17_p75
poverty_below_age18_44_p75 poverty_below_age45_64_p75
poverty_below_age_65over_p75 income_less25k_p75
income_25_49k_p75 income_50kmore_p75 income_median_p75 income_earn_p75
income_noearn_p75 income_wage_p75
```

```
income_nowage_p75 income_selfemploy_p75 income_noselfemploy_p75
income_interest_p75 income_nointerest_p75
income_SS_p75 income_noSS_p75 income_SSI_p75 income_noSSI_p75
income_publicassist_p75 income_nopublicassist_p75
income_foodstamp_p75 income_nofoodstamp_p75 income_retirement_p75
income_noretirement_p75 income_other_p75
income_noother_p75 gini_index_p75 family_less25k_p75 family_25_49k_p75
family_50kmore_p75 family_income_median_p75
income_percapita_p75 foodstamp_p75 nofoodstamp_p75
foodstamp_poverty_below_p75 foodstamp_poverty_above_p75
nofoodstamp_poverty_below_p75 nofoodstamp_poverty_above_p75;
run; /*39837, 55*/ /*missing=765*/

proc sort data=economic1; by FIPS year; run;

data python3;
merge python2 (in=a) economic1;
by FIPS year;
if a;
run; /*7806, 107*/

/*bring in ACS economic2*/
data economic2;
set dg.census_acs_economic2_dg;
keep FIPS year
laborforce_p75 notlaborforce_p75 laborforce_civil_p75 laborforce_employ_p75
laborforce_unemploy_p75
laborforce_age16_19_p75 laborforce_age20_44_p75 laborforce_age45_64_p75
laborforce_age_65over_p75
notlaborforce_age16_19_p75 notlaborforce_age20_44_p75
notlaborforce_age45_64_p75 notlaborforce_age_65over_p75
civil_employ_age16_19_p75 civil_employ_age20_44_p75 civil_employ_age45_64_p75
civil_unemploy_age16_19_p75
civil_unemploy_age20_44_p75 civil_unemploy_age45_64_p75
unemploy_age_65over_p75 occup_manage_p75 occup_service_p75
occup_sales_p75 occup_natural_p75 occup_product_p75 industry_agriculture_p75
industry_construct_p75 industry_manufact_p75
industry_wholesale_p75 industry_retail_p75 industry_transport_p75
industry_inform_p75 industry_finance_p75
industry_profession_p75 industry_educat_p75 industry_art_p75
industry_other_p75 industry_public_p75
wkerclass_private_profit_p75 wkerclass_private_notprofit_p75
wkerclass_localgov_p75 wkerclass_stategov_p75
wkerclass_federalgov_p75 wkerclass_selfemploy_p75 insurance_p75
noinsurance_p75 insurance_private_p75
insurance_noprivate_p75 insurance_public_p75 insurance_nopublic_p75;
run; /*39837, 52*/ /*missing=765*/

proc sort data=economic2; by FIPS year; run;

data python3;
merge python3 (in=a) economic2;
by FIPS year;
if a;
run; /*7806, 157+2*/
```

```
/*bring in ACS social*/
data social;
set dg.census_acs_social_dg;
keep FIPS year
citizen_p75 noncitizen_p75 born_native_p75 born_foreign_p75
born_foreign_europe_p75 born_foreign_asia_p75
born_foreign_africa_p75 born_foreign_oceania_p75 born_foreign_americas_p75
mobility_age0_17_p75
mobility_age18_44_p75 mobility_age45_64_p75 mobility_age_65over_p75
family_married_child_p75 family_other_child_p75
pop_household_p75 pop_household_married_p75 pop_household_unmarried_p75
pop_household_cohabit_p75
pop_household_single_p75 pop_household_child_p75 pop_household_parent_p75
pop_household_relative_p75
pop_household_nonrelative_p75 pop_household_livealone_p75
pop_household_notlivealone_p75 household_grdprt_grdchild_p75
household_nogrdprt_grdchild_p75 household_family_p75 household_nonfamily_p75
family_married_p75 family_other_p75
family_withchild_p75 family_nochild_p75 household_married_p75
household_cohabit_p75 household_single_p75
household_withchild_p75 household_livealone_p75
household_livealone_65over_p75 marital_nevermarried_p75
marital_married_p75 marital_separated_p75 marital_widowed_p75
marital_divorced_p75 marital_other_p75
women_birth_p75 women_birth_age20_34_p75 women_birth_age35_50_p75
women_nobirth_p75
school_enroll_p75 school_notenroll_p75 educat_lesshighschool_p75
educat_highschool_p75 educat_somecollege_p75
educat_associate_p75 educat_bachelor_p75 educat_mastermore_p75
language_english_p75 language_spanish_p75
language_european_p75 language_asian_p75 language_other_p75 disable_p75
nodisable_p75 veteran_p75 nonveteran_p75
pop_group_p75 computer_p75 ;
run; /*39837, 71*/ /*missing=765*/

proc sort data=social; by FIPS year; run;

data python4;
merge python3 (in=a) social;
by FIPS year;
if a;
run; /*7806, 226*/



/*bring in ACS demo*/
data demo;
set dg.census_acs_demo_dg;
keep FIPS year male_p75 female_p75 white_p75 black_p75
hispanic_p75 otherrace_p75 age0_17_p75 age18_44_p75 age45_64_p75
age_65over_p75;
run; /*39837, 12*/


proc sort data=demo; by FIPS year; run;

data python5;
```

```
merge python4 (in=a) demo;
by FIPS year;
if a;
run; /*7806, 236*/



/*bring in food access data*/
data food;
set dg.census_foodaccess_dg;
keep FIPS year
lapophalfshare_p75 lalowihalfshare_p75 lakidshalfshare_p75
laseniorshalfshare_p75 lawhitehalfshare_p75
lablackhalfshare_p75 laotherracehalfshare_p75 lahisphalfshare_p75
lahunvhalfshare_p75 lasnaphalfshare_p75
lapop1share_p75 lalowi1share_p75 lakids1share_p75 laseniors1share_p75
lawhite1share_p75 lablack1share_p75
laotherrace1share_p75 lahisp1share_p75 lahunv1share_p75 lasnap1share_p75;
run; /*39291, 22*/

proc sort data=food; by FIPS year; run;

data python6;
merge python5 (in=a) food;
by FIPS year;
if a;
run; /*7806, 256*/

proc freq data=python6; tables poverty_below_age45_64_p75
civil_unemploy_age45_64_p75  vacant_season_p75/missing;
run; /*missing=206*/



/*bring in toxicant data*/
PROC IMPORT OUT=toxicant
DATAFILE= "P:\Total environmental raw
data\Datasets\census_toxicant_13_20.xlsx"
DBMS=Excel REPLACE;
GETNAMES=Yes;
RUN; /*38960, 232*/


/*proc contents data=toxicant varnum; run;*/

proc freq data=toxicant;
tables p_1_p75 p_2_p75 p_3_p75 p_6_p75 p_12_p75 p_14_p75 p_16_p75 p_19_p75
p_25_p75 p_26_p75
p_38_p75 p_39_p75 p_40_p75 p_44_p75 p_46_p75 p_49_p75 p_50_p75 p_54_p75
p_55_p75 p_56_p75 p_57_p75 p_62_p75
p_64_p75 p_65_p75 p_66_p75 p_69_p75 p_71_p75 p_73_p75 p_75_p75 p_76_p75
p_77_p75 p_81_p75 p_83_p75
p_88_p75 p_90_p75 p_91_p75 p_95_p75 p_97_p75 p_99_p75 p_100_p75 p_102_p75
p_105_p75 p_110_p75 p_111_p75 p_113_p75
p_116_p75 p_117_p75 p_118_p75 p_120_p75 p_121_p75 p_122_p75 p_123_p75
p_124_p75 p_127_p75 p_128_p75 p_132_p75
```

```
p_133_p75 p_134_p75 p_140_p75 p_141_p75 p_142_p75 p_143_p75 p_148_p75
p_150_p75 p_151_p75 p_152_p75 p_153_p75
p_156_p75 p_157_p75 p_161_p75 p_169_p75 p_170_p75 p_171_p75
/missing ;
run; /*no missing*/

data toxicant_1;
set toxicant (rename=(CensusTract=FIPS));
keep FIPS year
p_1_p75 p_2_p75 p_3_p75 p_6_p75 p_12_p75 p_14_p75 p_16_p75 p_19_p75 p_25_p75
p_26_p75 p_38_p75
p_39_p75 p_40_p75 p_44_p75 p_46_p75 p_49_p75 p_50_p75 p_54_p75 p_55_p75
p_56_p75 p_57_p75 p_62_p75
p_64_p75 p_65_p75 p_66_p75 p_69_p75 p_71_p75 p_73_p75 p_75_p75 p_76_p75
p_77_p75 p_81_p75 p_83_p75
p_88_p75 p_90_p75 p_91_p75 p_95_p75 p_97_p75 p_99_p75 p_100_p75 p_102_p75
p_105_p75 p_110_p75 p_111_p75
p_113_p75 p_116_p75 p_117_p75 p_118_p75 p_120_p75 p_121_p75 p_122_p75
p_123_p75 p_124_p75 p_127_p75
p_128_p75 p_132_p75 p_133_p75 p_134_p75 p_140_p75 p_141_p75 p_142_p75
p_143_p75 p_148_p75 p_150_p75
p_151_p75 p_152_p75 p_153_p75 p_156_p75 p_157_p75 p_161_p75 p_169_p75
p_170_p75 p_171_p75;
run; /*38960, 75*/

proc sort data=toxicant_1; by FIPS year; run;

data python7;
merge python6 (in=a) toxicant_1;
by FIPS year;
if a;
run; /*7806, 329*/

proc freq data=python7; tables p_156_p75/missing;
run; /*missing=73*/



Proc format;
value walkable
1="Least walkable"
2="Below average walkable"
3="Above average walkable"
4="Most walkable";
run;

/*proc contents data=dg.census_walkability varnum; run;*/

data walkability;
set dg.census_walkability;
keep FIPS walkable walk_p75;
format walkable walkable.;
run; /*4918, 3*/

proc sort data=walkability; by FIPS; run;

data python8;
```

```
merge python7 (in=a) walkability;
by FIPS ;
if a;
run; /*7806, 331*/

proc print data=python8 (obs=100); var FIPS year walkable walk_p75;
run; /*missing=0*/



/*bring in census CDC SVI data*/
proc contents data=dg.census_svi varnum; run;

data svi;
set dg.census_svi (rename=(FIPS=FIPS_));
FIPS=put(FIPS_,11.);
keep FIPS year RPL_THEME1_p75 RPL_THEME2_p75 RPL_THEME3_p75 RPL_THEME4_p75
RPL_THEMES_p75;
drop FIPS_;
run; /*47224, 7*/

proc sort data=svi; by FIPS year; run;

data python9;
merge python8 (in=a) svi;
by FIPS year;
if a;
run; /*7806, 336*/

proc freq data=python9; tables RPL_THEMES_p75/missing; run; /*missing=0*/



/*bring in census Wisconsin ADI data*/
proc contents data=dg.census_adi varnum; run;

data adi;
set dg.census_adi;
keep FIPS year adi_p75;
run; /*47320, 3*/

proc sort data=adi; by FIPS year; run;

data python10;
merge python9 (in=a) adi;
by FIPS year;
if a;
run; /*7806, 337*/

proc freq data=python10; tables adi_p75 /missing; /*missing=0*/
run;

proc print data=python10 (obs=100); var FIPS year adi_p75;
run;
```

```
/*bring in census redline data*/

Proc format;
value redline
0="Good neighborhood"
1="Holc score 1-3"
2="Redlined neighborhood"
7="Not appraised";
Run;

data redline;
set dg.census_redline;
run; /*5411, 5*/

/*proc contents data=redline varnum; run;*/

proc sort data=redline; by FIPS; run;

data python11;
merge python10 (in=a) redline;
by FIPS;
if a;
run; /*7806, 341*/

data python11_1;
set python11 (rename=(redline=redline_ holcscore_p75=holcscore_p75_
healthserv_p75=healthserv_p75_
househd_healthspend_p75=househd_healthspend_p75_));

if redline_=. then redline=7; else redline=redline_;
if holcscore_p75_=. then holcscore_p75=0; else holcscore_p75=holcscore_p75_;
if healthserv_p75_=. then healthserv_p75=0; else
healthserv_p75=healthserv_p75_;
if househd_healthspend_p75_=. then househd_healthspend_p75=0; else
househd_healthspend_p75=househd_healthspend_p75_;

drop redline_ holcscore_p75_ healthserv_p75_ househd_healthspend_p75_;
run;

proc freq data=python11; tables redline holcscore_p75 healthserv_p75
househd_healthspend_p75/missing;
run; /*missing=1598*/

proc print data=python10 (obs=100); var FIPS year month redline
healthserv_p75;
where healthserv_p75=.;
run;

proc freq data=python11_1; tables redline holcscore_p75 healthserv_p75
househd_healthspend_p75/missing;
run; /*missing=0*/



/*bring in county food environment data*/
PROC IMPORT OUT=foodenviron
```

```
DATAFILE= "P:\Total environmental raw
data\Datasets\county_foodenviron_13_20.xlsx"
DBMS=Excel REPLACE;
GETNAMES=Yes;
RUN; /*496, 69*/

/*proc contents data=foodenviron varnum; run;*/

proc freq data=foodenviron;
tables GROCPTH_p75 SUPERCPTH_p75 CONVSPTH_p75 SPECSPTH_p75 SNAPSPTH_p75
WICSPTH_p75 FFRPTH_p75 FSRPTH_p75
REDEMP_SNAPS_p75 PC_SNAPBEN_p75 PCT_FREE_LUNCH_p75 PCT_REDUCED_LUNCH_p75
REDEMP_WICS_p75 PC_WIC_REDEMP_p75
FMRKTPTH_p75 PCT_FMRKT_SNAP_p75 PCT_FMRKT_WIC_p75 PCT_FMRKT_SFMNP_p75
PCT_FMRKT_FRVEG_p75 PCT_FMRKT_ANMLPROD_p75
PCT_FMRKT_OTHER_p75 RECFACPTH_p75 ;
run;

data foodenviron1;
set foodenviron (rename=(county=patcnty));

array fd(*) REDEMP_SNAPS_p75  REDEMP_WICS_p75 PC_WIC_REDEMP_p75;
do i=1 to dim(fd);
if fd(i)=. then fd(i)=0;
end;

keep patcnty year GROCPTH_p75 SUPERCPTH_p75 CONVSPTH_p75 SPECSPTH_p75
SNAPSPTH_p75 WICSPTH_p75 FFRPTH_p75 FSRPTH_p75
REDEMP_SNAPS_p75 PC_SNAPBEN_p75 PCT_FREE_LUNCH_p75 PCT_REDUCED_LUNCH_p75
REDEMP_WICS_p75 PC_WIC_REDEMP_p75
FMRKTPTH_p75 PCT_FMRKT_SNAP_p75 PCT_FMRKT_WIC_p75 PCT_FMRKT_SFMNP_p75
PCT_FMRKT_FRVEG_p75 PCT_FMRKT_ANMLPROD_p75
PCT_FMRKT_OTHER_p75 RECFACPTH_p75;
run; /*496, 24*/

proc freq data=foodenviron1;
tables REDEMP_SNAPS_p75 REDEMP_WICS_p75 PC_WIC_REDEMP_p75 ;
run;


proc sort data=foodenviron1; by patcnty year; run;
proc sort data=python11_1; by patcnty year; run;

data python12;
merge python11_1 (in=a) foodenviron1;
by patcnty year;
if a;
run; /*7809, 363*/

proc freq data=python12; tables GROCPTH_p75 REDEMP_SNAPS_p75 REDEMP_WICS_p75
PC_WIC_REDEMP_p75/missing;
run; /*missing=0*/



/*bring in county crimes data*/
PROC IMPORT OUT=crimes
```

```
DATAFILE= "P:\Total environmental raw data\Datasets\county_crimes_13_20.xlsx"
DBMS=Excel REPLACE;
GETNAMES=Yes;
RUN; /*496, 43*/


/*proc contents data=crimes varnum; run;*/

proc freq data=crimes;
tables Index_Total_p75 Violent_Total_p75 Murder_p75 Rape_p75 Robbery_p75
Agg_Assault_p75
Property_Total_p75 Burglary_p75 Larceny_p75 MV_Theft_p75;
run;

data crimes1;
set crimes (rename=(county=patcnty));
keep patcnty year Index_Total_p75 Violent_Total_p75 Murder_p75 Rape_p75
Robbery_p75 Agg_Assault_p75
Property_Total_p75 Burglary_p75 Larceny_p75 MV_Theft_p75;
run; /*496, 12*/

proc freq data=crimes1;
tables Index_Total_p75 Violent_Total_p75  ;
run; /*missing=0*/


proc sort data=crimes1; by patcnty year; run;
proc sort data=python12; by patcnty year; run;

data python13;
merge python12 (in=a) crimes1;
by patcnty year;
if a;
run; /*7806, 373*/


data dg.python_sum_all_final;
set python13;
run; /*7806, 373*/

proc export data=python13 outfile="G:\python_sum_all_final.csv"
DBMS=CSV replace;
run;




/**********************/
/*regrouping variables*/

Libname dg "G:\Python";
libname python "E:\Python";


Proc format;
value walkable
```

```
1="Least walkable"
2="Below average walkable"
3="Above average walkable"
4="Most walkable";

value redline
0="Good neighborhood"
1="Holc score 1-3"
2="Redlined neighborhood"
7="Not appraised";

run;


data sum_all;
set dg.python_sum_all_final;
run; /*7806, 373*/



data sum_all_1;
set sum_all;

/*regrouping food access*/
if lapophalfshare_p75=1 or lalowihalfshare_p75=1 or lakidshalfshare_p75=1 or
laseniorshalfshare_p75=1 or lawhitehalfshare_p75=1 or
lablackhalfshare_p75=1 or laotherracehalfshare_p75=1 or lahisphalfshare_p75=1
or lahunvhalfshare_p75=1 or lasnaphalfshare_p75=1 then lapophalf_p75=1;
else lapophalf_p75=0;

if lapop1share_p75=1 or lalowi1share_p75=1 or lakids1share_p75=1 or
laseniors1share_p75=1 or lawhite1share_p75=1 or lablack1share_p75=1 or
laotherrace1share_p75=1 or lahisp1share_p75=1 or lahunv1share_p75=1 or
lasnap1share_p75=1 then lapop1_p75=1;
else lapop1_p75=0;

/*regrouping income*/
if income_less25k_p75=1 or family_less25k_p75=1 then
fmlyincome_less25k_p75=1;
else fmlyincome_less25k_p75=0;

if income_25_49k_p75=1 or family_25_49k_p75=1 then fmlyincome_25_49k_p75=1;
else fmlyincome_25_49k_p75=0;

if income_50kmore_p75=1 or family_50kmore_p75=1 then
fmlyincome_50kmore_p75=1;
else fmlyincome_50kmore_p75=0;

if income_median_p75=1 or family_income_median_p75=1 then
fmlyincome_median_p75=1;
else fmlyincome_median_p75=0;

/*regrouping public assist or food stamp*/
if income_publicassist_p75=1 or income_foodstamp_p75=1 or foodstamp_p75=1
then hd_publicassist_fs_p75=1;
else hd_publicassist_fs_p75=0;
```

```
/*regrouping family and household*/
if pop_household_cohabit_p75=1 or household_cohabit_p75=1 then
cohabit_household_p75=1;
else cohabit_household_p75=0;
if pop_household_single_p75=1 or household_single_p75=1 or family_other_p75=1
then single_household_p75=1;
else single_household_p75=0;
if pop_household_livealone_p75=1 or household_livealone_p75=1 then
livealone_p75=1;
else livealone_p75=0;
if family_withchild_p75=1 or household_withchild_p75=1 then
Family_ownchildren_p75=1;
else Family_ownchildren_p75=0;
run; /*7806, 373+11*/



proc freq data=sum_all_1;
tables redline lapophalf_p75 lapop1_p75
fmlyincome_less25k_p75 fmlyincome_25_49k_p75 fmlyincome_50kmore_p75
fmlyincome_median_p75
hd_publicassist_fs_p75
cohabit_household_p75 single_household_p75 livealone_p75
Family_ownchildren_p75;
run;


data dg.python_sum_all_final;
set sum_all_1;
run; /*7806, 384*/


proc export data= sum_all_1 outfile="G:\Python\python_sum_all_final.csv"
DBMS=CSV replace;
run;


/*new variable created 11:
lapophalf_p75 lapop1_p75
fmlyincome_less25k_p75 fmlyincome_25_49k_p75 fmlyincome_50kmore_p75
fmlyincome_median_p75
hd_publicassist_fs_p75
cohabit_household_p75 single_household_p75 livealone_p75
Family_ownchildren_p75
*/
```