Making Data Management Decisions

(Data Management and Visualization Week 3 Assignment)

Expected Activities

STEP 1: Make and implement data management decisions for the variables you selected.

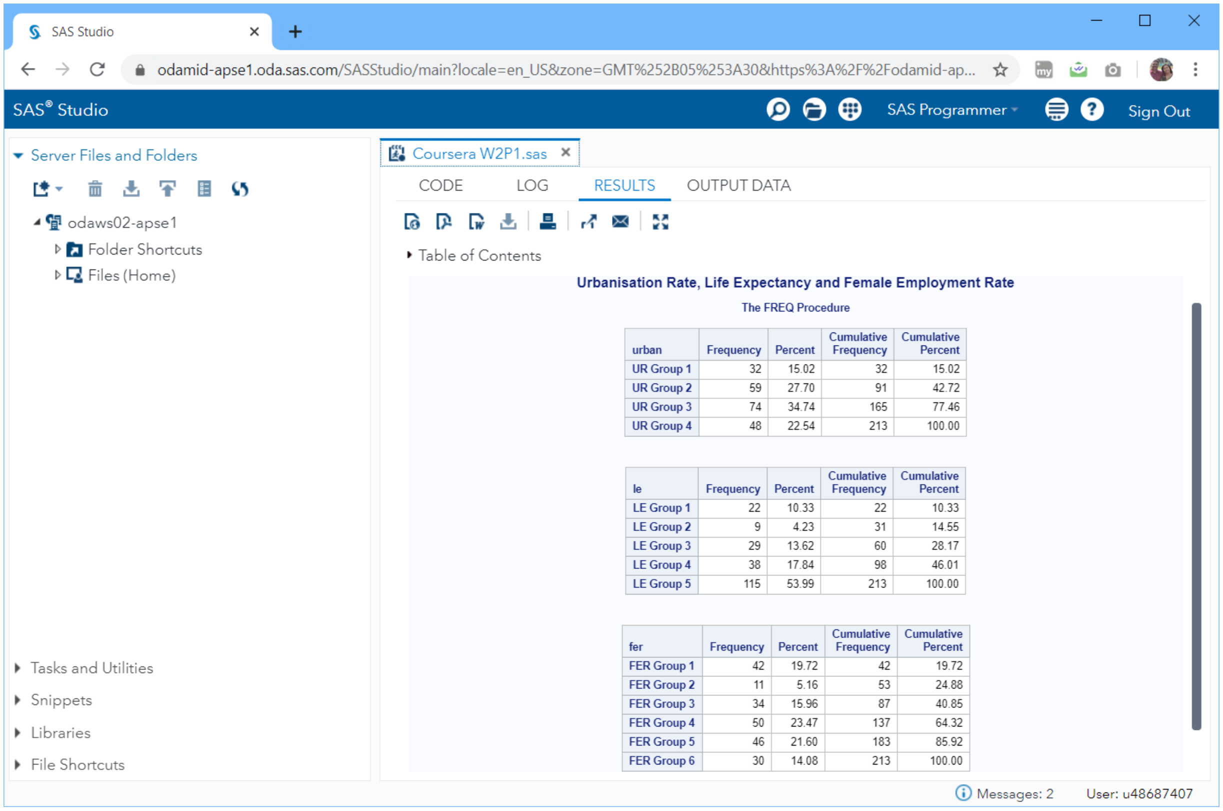
Data management includes such things as coding out missing data, coding in valid data, recoding variables, creating secondary variables and binning or grouping variables. Not everyone does all of these, but some is required.

STEP 2: Run frequency distributions for your chosen variables and select columns, and possibly rows.

SAS Program

```
LIBNAME mydata "/courses/d1406ae5ba27fe300 " access=readonly;
DATA new; set mydata.gapminder;
KEEP country lifeexpectancy urbanrate femaleemployrate urban le fer;

/* Data Preparation or Management for variable urbanrate */

if urbanrate < 25 then urban = "UR Group 1";
if urbanrate >= 25 and urbanrate < 50 then urban = "UR Group 2";
if urbanrate >= 50 and urbanrate < 75 then urban = "UR Group 3";
if urbanrate >= 75 then urban = "UR Group 4";

/* Data Preparation or Management for variable lifeexpectancy */

if lifeexpectancy <  40 then le = "LE Group 1";
if lifeexpectancy >= 40 and lifeexpectancy < 50 then le = "LE Group 2";
if lifeexpectancy >= 50 and lifeexpectancy < 60 then le = "LE Group 3";
if lifeexpectancy >= 60 and lifeexpectancy < 70 then le = "LE Group 4";
if lifeexpectancy >= 70 then le = "LE Group 5";

/* Data Preparation or Management for variable femaleemployrate */

if femaleemployrate <  20 then fer = "FER Group 1";
if femaleemployrate >= 20 and femaleemployrate < 30 then fer = "FER Group 2";
if femaleemployrate >= 30 and femaleemployrate < 40 then fer = "FER Group 3";
if femaleemployrate >= 40 and femaleemployrate < 50 then fer = "FER Group 4";
if femaleemployrate >= 50 and femaleemployrate < 60 then fer = "FER Group 5";
if femaleemployrate >= 60 then fer = "FER Group 6";

PROC FREQ; TABLES urban le fer;
Title 'Frequency Tables';
Title2 'Urbanisation Rate, Life Expectancy and Female Employment Rate';
RUN;
```

Output - Frequency Tables



Urbanisation Rate, Life Expectancy and Female Employment Rate

The FREQ Procedure

urban	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UR Group 1	32	15.02	32	15.02
UR Group 2	59	27.70	91	42.72
UR Group 3	74	34.74	165	77.46
UR Group 4	48	22.54	213	100.00

le	Frequency	Percent	Cumulative Frequency	Cumulative Percent
LE Group 1	22	10.33	22	10.33
LE Group 2	9	4.23	31	14.55
LE Group 3	29	13.62	60	28.17
LE Group 4	38	17.84	98	46.01
LE Group 5	115	53.99	213	100.00

fer	Frequency	Percent	Cumulative Frequency	Cumulative Percent
FER Group 1	42	19.72	42	19.72
FER Group 2	11	5.16	53	24.88
FER Group 3	34	15.96	87	40.85
FER Group 4	50	23.47	137	64.32
FER Group 5	46	21.60	183	85.92
FER Group 6	30	14.08	213	100.00

Frequency distributions are created for the following three variables from the Gapminder dataset.

- urbanrate
- lifeexpectancy
- femaleemployrate

Urbanization Rate is classified into four different groups

- UR Group 1 (urbanrate < 25)
- UR Group 2 (25 <= urbanrate < 50)
- UR Group 3 (50 <= urbanrate < 75)
- UR Group 4 (urbanrate >= 75)

Majority of records are falling under UR Group 3 (~ 35%) followed by UR Group 2 (~28%). The lowest frequency is observed in UR Group 1(~15%).

Life Expectancy is classified into five different groups

- LE Group 1 (lifeexpectancy < 40)
- LE Group 2 (40 <= lifeexpectancy < 50)
- LE Group 3 (50 <= lifeexpectancy < 60)
- LE Group 4 (60 <= lifeexpectancy < 70)
- LE Group 5 (lifeexpectancy >= 70)

Majority of records are falling under LE Group 5 (~ 54%) and the lowest frequency is observed in LE Group 2 (~4%).

Female Employment Rate is classified into six different groups

- FER Group 1 (femaleemployrate < 20)
- FER Group 2 (20 <= femaleemployrate < 30)
- FER Group 3 (30 <= femaleemployrate < 40)
- FER Group 4 (40 <= femaleemployrate < 50)
- FER Group 5 (50 <= femaleemployrate < 60)
- FER Group 6 (femaleemployrate >= 60)

Majority of the data is falling under FER Group 4 (~ 23%) followed by FER Group 5 (~22%). The lowest frequency is observed in FER Group 2 (~5%).