# Running the First Program

# **Examining Frequency Distribution**

(Data Management and Visualization Week 2 Assignment)

## **Expected Activities**

STEP 1: Run your first program

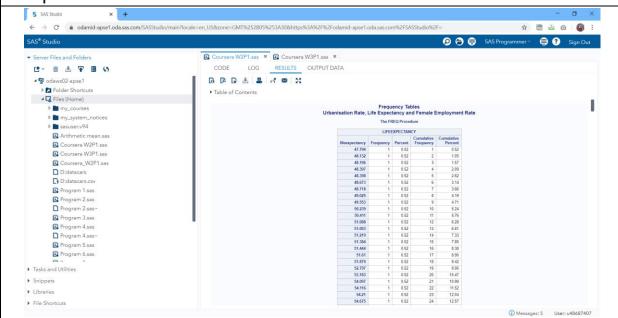
**STEP 2:** Run frequency distributions for your chosen variables and select columns, and possibly rows.

# My First SAS Program

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

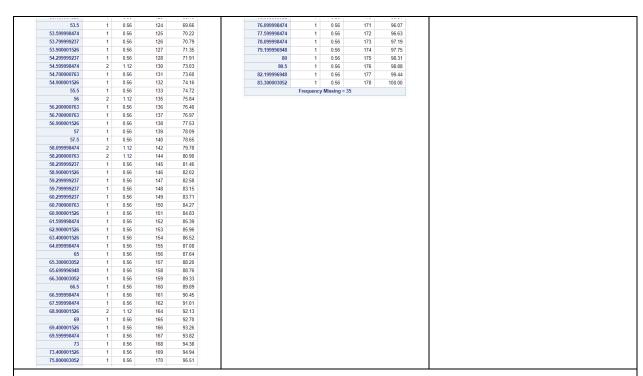
PROC FREQ; TABLES lifeexpectancy urbanrate femaleemployrate;
Title 'Frequency Tables';
Title2 'Urbanisation Rate, Life Expectancy and Female Employment Rate';
RUN;
```

### Output



isation Rate, I		ency Tal tancy an		Employment Rate	58.58 59.27	4	1 0.5	2	36 18.85 37 19.37	7	70.124 70.349	1	0.52	77 78	40.3
		EQ Proced			59.31		1 0.5		38 19.90	_	70.563	1	0.52	79	41.36
					61.06		1 0.5		39 20.42		70.739	1	0.52	80	41.8
	LIFEE	XPECTAN		0 14	61.45		1 0.5		10 20.94		71.017	1	0.52	81	42.4
lifeexpectancy	Frequency	Percent	Cumulative Frequency	Cumulative Percent	61.59		1 0.5		11 21.47		71.172 72.15	1	0.52	82 83	42.93
47.794	1	0.52	1	0.52	62.09 62.46		1 0.5		12 21.99 13 22.51		72.196	1	0.52	84	43.46
48.132	1	0.52	2	1.05	62.46		1 0.5		43 22.5 44 23.04	_	72.231	1	0.52	85	44.50
48.196	1	0.52	3	1.57					15 23.56	_	72.283	1	0.52	86	45.03
48.397	1	0.52	4	2.09	62.70 62.79		1 0.5		16 24.08		72.317	1	0.52	87	45.55
48.398	1	0.52	5	2.62	63.12		1 0.5		17 24.61		72.444	1	0.52	88	46.07
48.673	1	0.52	6	3.14	64.22		1 0.5		18 25.13		72.477	- 1	0.52	89	46.60
48.718	1	0.52	7	3.66	64.66		1 0.5		19 25.65	_	72.64	1	0.52	90	47.12
49.025	1	0.52	8	4.19	64.98		1 0.5		50 26.18	_	72.832	1	0.52	91	47.64
49.553	1	0.52	9	4.71	65.19		1 0.5		51 26.70		72.974	2	1.05	93	48.69
50.239	1	0.52	10	5.24	65.43		1 0.5		52 27.23		73.126	1	0.52	94	49.2
50.411	1	0.52	11	5.76	65.43		1 0.5		53 27.75		73.127	1	0.52	95	49.74
51.088	1	0.52	12	6.28	65.49		1 0.5		54 28.27		73.131	1	0.52	96	50.26
51.093	1	0.52	13	6.81	66.61	8	1 0.5	2 !	55 28.80		73.235	1	0.52	97	50.79
51.219 51.384	1	0.52 0.52	14 15	7.33 7.85	66.71		1 0.5		56 29.32	2	73.339	1	0.52	98	51.31
					67.01		1 0.5		57 29.84		73.371	1	0.52	99	51.83
51.444 51.61	1	0.52 0.52	16 17	8.38 8.90	67.18		1 0.5		58 30.37		73.373	1	0.52	100	52.36
51.879	1	0.52	18	9.42	67.48		1 0.5		59 30.89		73.396 73.403	1	0.52 0.52	101 102	52.88 53.40
52.797	1	0.52	19	9.95	67.52	9	1 0.5	2 (	31.41		73.403	1	0.52	102	53.40
53.183	1	0.52	20	10.47	67.71	4	1 0.5	2 (	31.94	1	73.488	1	0.52	103	54.46
54.097	1	0.52	21	10.99	67.85	2	1 0.5		32.46	5	73.703	1	0.52	105	54.4
54.116	1	0.52	22	11.52	68.28		1 0.5		32.98		73.737	1	0.52	106	55.50
54.21	1	0.52	23	12.04	68.49		1 0.5		33.51		73.911	1	0.52	107	56.02
54.675	1	0.52	24	12.57	68.49	-	1 0.5		34.03	_	73.979	2	1.05	109	57.07
55.377	1	0.52	25	13.09	68.74		1 0.5		66 34.55		73.99	1	0.52	110	57.59
55.439	1	0.52	26	13.61	68.79		1 0.5		35.08		74.044	1	0.52	111	58.12
55.442	1	0.52	27	14.14	68.82		1 0.5		35.60		74.126	1	0.52	112	58.64
56.081	1	0.52	28	14.66	68.84		1 0.5		59 36.13	_	74.156	1	0.52	113	59.16
56.786	1	0.52	29	15.18	68.94		1 0.5		70 36.65	_	74.221	1	0.52	114	59.69
57.062	1	0.52	30	15.71	68.97		1 0.5		71 37.17		74.241	1	0.52	115	60.2
57.134	1	0.52	31	16.23	69.04		1 0.5		72 37.70		74.402	1	0.52	116	60.73
57.379 57.937	1	0.52 0.52	32 33	16.75 17.28	69.24 69.31		1 0.5		73 38.22 74 38.74		74.414	1	0.52	117	61.26
57.937 58.199	1	0.52	33	17.28	69.31		1 0.5		75 39.27	_	74.515	1	0.52	118	61.78
58.199	1	0.52	35	18.32	69.92		1 0.5		76 39.79		74.522 74.573	1	0.52	119 120	62.83
50.503	- :	0.02	20	10.02	70.40		. 0.0		30.71			- 1			
74.576	1	0.52	121	63.35	79.59	1	1 0.5	2 16	3 85.34		17.24	1	0.49	9	4.43
74.641	1	0.52	122	63.87	79.63	4	1 0.5	2 16	4 85.86		17.96	1	0.49	10	4.93
74.788	1	0.52	123	64.40	79.83	9	1 0.5				18.34	1	0.49	11	5.42
74.825	1	0.52	124	64.92	79.91		1 0.5				18.8	1	0.49	12	5.91
74.847	1	0.52	125	65.45	79.96		1 0.5				19.56	1	0.49	13	6.40
74.941	1	0.52	126	65.97	79.97		1 0.5				20.72	1	0.49	14	6.90
75.057	1	0.52	127	66.49	80.00		1 0.5				21.56	1	0.49	15	7.39
75.133	1	0.52 0.52	128 129	67.02 67.54	80.1 80.41		1 0.5				21.6	1	0.49	16	7.88
75.181 75.246	1	0.52	130	68.06	80.49		1 0.5				22.54	1	0.49	17 18	8.37 8.87
75.446	1	0.52	131	68.59	80.55		1 0.5			-	24.04	1	0.49	19	9.36
75.62	1	0.52	132	69.11	80.64		1 0.5				24.76	1	0.49	20	9.85
75.632	1	0.52	133	69.63	80.65		1 0.5				24.78	1	0.49	21	10.34
75.67	1	0.52	134	70.16	80.73		1 0.5				24.94	1	0.49	22	10.84
75.85	1	0.52	135	70.68	80.85		1 0.5				25.46	1	0.49	23	11.33
75.901	1	0.52	136	71.20	80.93	4	1 0.5	2 17	93.19		25.52	1	0.49	24	11.82
75.956	1	0.52	137	71.73	81.01		1 0.5				26.46	1	0.49	25	12.32
76.072	1	0.52	138	72.25	81.09		1 0.5				26.68	1	0.49	26	12.81
76.126	1	0.52	139	72.77	81.12		1 0.5				27.14	1	0.49	27	13.30
76.128	1	0.52	140	73.30	81.40		1 0.5				27.3	1	0.49	28	13.79
76.142	1	0.52	141	73.82	81.43		1 0.5				27.84	2	0.99	30	14.78
76.521	1	0.52	142	74.35	81.53		1 0.5				28.08	1	0.49	31	15.27
76.546	1	0.52	143	74.87	81.61		1 0.5			-	28.38	1	0.49	32	15.76
76.64	1	0.52	144	75.39	81.80 81.85		1 0.5			-	29.52	1	0.49	33	16.26
76.652	1	0.52	145	75.92	81.90		1 0.5			-	29.54	1	0.49	34	16.75
76.835	1	0.52	146	76.44	82.33		1 0.5				29.84	1	0.49	35	17.24
76.848 76.918	1	0.52 0.52	147 148	76.96 77.49	82.75		1 0.5				30.46 30.64	1	0.49	36 37	17.73 18.23
76.918	1	0.52	148	78.01	83.39		1 0.5				30.64	1	0.49	38	18.23
76.934	1	0.52	150	78.53	30100		uency Miss				30.84	1	0.49	38	19.21
77.653	1	0.52	151	79.06							32.18	1	0.49	40	19.70
77.685	1	0.52	152	79.58							32.32	1	0.49	41	20.20
78.005	1	0.52	153	80.10			urbanrate		0 10		32.58	1	0.49	42	20.69
78.371	1	0.52	154	80.63	urbanrate	Frequency	Percent	Cumulative Frequency	Cumulative Percent		33.32	1	0.49	43	21.18
78.531	1	0.52	155	81.15	10.4	1 requeries	0.49	1	0.49		33.96	1	0.49	44	21.67
78.826	1	0.52	156	81.68	12.54	1	0.49	2	0.99		34.44	1	0.49	45	22.17
79.12	1	0.52	157	82.20	12.98	1		3	1.48		34.48	1	0.49	46	22.66
79.143	1	0.52	158	82.72	13.22	1		4	1.97		35.42	1	0.49	47	23.15
79.158	1	0.52	159	83.25	14.32	1	0.49	5	2.46		36.16	1	0.49	48	23.65
79.311	1	0.52	160	83.77	15.1	- 1	0.49	6	2.96		36.28	1	0.49	49	24.14
79.341	1	0.52	161	84.29	16.54	1	0.49	7	3.45		36.52	1	0.49	50	24.63
		0.52	162	84.82	17	1		8	3.94		36.82	1	0.49	51	25.12

20.04			52	20.12	56.42	1	0.49	95	46.80	69.9	1	0.49	139	68.47
36.84		99	53	26.11		1				70.36	1			68.47
37.34		49	54	26.60	56.56		0.49	96	47.29			0.49	140	
37.76		49	55	27.09	56.7	1	0.49	97	47.78	71.08	1	0.49	141	69.46
37.86		49	56	27.59	56.74	1	0.49	98	48.28	71.1	1	0.49	142	69.95
38.58	1 0	49	57	28.08	56.76	1	0.49	99	48.77	71.4	1	0.49	143	70.44
39.38	1 0	49	58	28.57	57.18	1	0.49	100	49.26	71.62	1	0.49	144	70.94
39.84	1 0	49	59	29.06	57.28	1	0.49	101	49.75	71.9	1	0.49	145	71.43
41		49	60	29.56	57.94	1	0.49	102	50.25	72.84	1	0.49	146	71.92
41.2		49	61	30.05	59.46	1	0.49	103	50.74	73.2	1	0.49	147	72.41
41.42		49	62	30.54	59.58	1	0.49	104	51.23	73.46	1	0.49	148	72.91
					59.62	1	0.49	105	51.72	73.48	1	0.49	149	73.40
41.76		49	63	31.03						73.5	1	0.49	150	73.40
42		49	64	31.53	60.14	1	0.49	106	52.22					
42.38		49	65	32.02	60.18	1	0.49	107	52.71	73.64	1	0.49	151	74.38
42.48		49	66	32.51	60.3	1	0.49	108	53.20	73.92	1	0.49	152	74.88
42.72	1 0	49	67	33.00	60.56	1	0.49	109	53.69	74.5	1	0.49	153	75.37
43.1	1 0	49	68	33.50	60.7	1	0.49	110	54.19	74.82	1	0.49	154	75.86
43.44	1 0	49	69	33.99	60.74	1	0.49	111	54.68	74.92	1	0.49	155	76.35
43.84	1 0	49	70	34.48	61	1	0.49	112	55.17	75.66	1	0.49	156	76.85
46.72	1 0	49	71	34.98	61.32	- 1	0.49	113	55.67	77.12	1	0.49	157	77.34
46.78		49	72	35.47	61.34	2	0.99	115	56.65	77.2	1	0.49	158	77.83
46.84					62.68	1	0.49	116	57.14	77.36	1	0.49	159	78.33
		49	73	35.96		1				77.48	1	0.49	160	78.82
47.04		49	74	36.45	63.26		0.49	117	57.64					
47.44		49	75	36.95	63.3	1	0.49	118	58.13	77.54	1	0.49	161	79.31
47.88		49	76	37.44	63.86	1	0.49	119	58.62	77.88	1	0.49	162	79.80
48.36	1 0	49	77	37.93	64.78	1	0.49	120	59.11	78.42	1	0.49	163	80.30
48.58	1 0	49	78	38.42	64.92	1	0.49	121	59.61	80.4	1	0.49	164	80.79
48.6		49	79	38.92	65.22	1	0.49	122	60.10	80.46	1	0.49	165	81.28
48.62		49	80	39.41	65.58	2	0.99	124	61.08	81.46	1	0.49	166	81.77
48.78		49	81	39.90	66.48	1	0.49	125	61.58	81.7	1	0.49	167	82.27
50.02		49	82	40.39	66.5	1	0.49	126	62.07	81.82	1	0.49	168	82.76
51.46		49	83	40.89	66.6	1	0.49	127	62.56	82.42	1	0.49	169	83.25
			83				0.49		63.05	82.44	1	0.49	170	83.74
51.64		49		41.38	66.9	1		128		82.44	1	0.49	170	84.24
51.7		49	85	41.87	66.96	1	0.49	129	63.55					
51.92		49	86	42.36	67.16	1	0.49	130	64.04	83.7	1	0.49	172	84.73
52.04		49	87	42.86	67.5	1	0.49	131	64.53	84.54	1	0.49	173	85.22
52.36	1 0	49	88	43.35	67.98	1	0.49	132	65.02	85.04	1	0.49	174	85.71
52.74	1 0	49	89	43.84	68.08	1	0.49	133	65.52	85.58	1	0.49	175	86.21
53.3	1 0	49	90	44.33	68.12	1	0.49	134	66.01	86.56	1	0.49	176	86.70
54.22		49	91	44.83	68.46	1	0.49	135	66.50	86.68	1	0.49	177	87.19
54.24		49	92	45.32	68.68	1	0.49	136	67.00	86.96	- 1	0.49	178	87.68
54.34		49	93	45.81	69.02	1	0.49	137	67.49	87.3	1	0.49	179	88.18
										88.44	1	0.49	180	88.67
56.02	1 0	49	94	46.31	69.46	1	0.49	138	67.98	00.44	- !	0.49	100	00.07
88.52	1 0	10	181	89.16										
88.74	1 0.				30.200000763		1 0.56	20	11.24	44	1		71	39.8
			182	89.66	30.399999619		1 0.56	21	11.80	44.099998474	1		72	40.4
88.92	1 0.		183	90.15	31.700000763		1 0.56	22	12.36	44.799999237	1		73	41.0
89.94	1 0.		184	90.64	32.299999237		1 0.56	23	12.92	45.299999237	2	1.12	75	42.1
91.66	1 0.	49	185	91.13	34.200000763		2 1.12	25	14.04	45.5	1	0.56	76	42.7
92	1 0.	49	186	91.63	34.299999237		1 0.56	26	14.61	45.599998474	1	0.56	77	43.2
92.26	1 0.	49	187	92.12	34.400001526		1 0.56	27	15.17	45.799999237	1	0.56	78	43.8
92.3	1 0.	49	188	92.61	34.599998474		1 0.56	28	15.73	45.900001526	2	1.12	80	44.9
92.68	1 0	49	189	93.10	34.900001526		1 0.56	29	16.29	46			81	45.5
93.16		49	190	93.60										
93.32		49	191	94.09	35.400001526		1 0.56	30	16.85	46.200000763			82	46.0
					35.5		1 0.56	31	17.42	46.400001526	1		83	46.6
94.22		49	192	94.58	35.799999237		1 0.56	32	17.98	46.799999237	2		85	47.7
94.26		49	193	95.07	36		1 0.56	33	18.54	47.099998474	3		88	49.4
95.64		49	194	95.57	36.299999237		1 0.56	34	19.10	47.5	1	0.56	89	50.0
97.36	1 0.	49	195	96.06	36.5		1 0.56	35	19.66	47.599998474	1	0.56	90	50.5
98.32	1 0.	49	196	96.55	36.799999237		1 0.56	36	20.22	48	1	0.56	91	51.1
98.36	1 0.	49	197	97.04	37.299999237		2 1.12	38	21.35	48.400001526	1		92	51.6
	6 2	96	203	100.00	37.799999237		1 0.56	39	21.91	48.5			93	52.2
100										48.599998474			94	52.8
100	Frequency N				37.900001526			40	22.47	48.799999237	2		94	53.9
100	Frequency N				38				20.00	48.799999237		1.12		
100	Frequency M						1 0.56	41	23.03			0.55		54.4
100	Frequency M	PLOYRAT	E		38.099998474		1 0.56	42	23.60	49	1		97	55.6
100	FEMALEEM	(		Cumulative	38.200000763		1 0.56 1 0.56	42 43	23.60 24.16	49.400001526	1 2	1.12	99	
100 femaleemployrate	FEMALEEM	(		Cumulative Percent			1 0.56	42	23.60	49.400001526 49.700000763	1 2	1.12	99 100	
	FEMALEEM	(	Cumulative		38.200000763		1 0.56 1 0.56	42 43	23.60 24.16	49.400001526	1 2	1.12	99	
femaleemployrate	FEMALEEM Frequency F	ercent	Cumulative Frequency	Percent	38.200000763 38.299999237		1 0.56 1 0.56 1 0.56	42 43 44	23.60 24.16 24.72	49.400001526 49.700000763	1 2	1.12 0.56 0.56	99 100	56.1 56.7 57.3
femaleemployrate 11.300000191	FEMALEEM Frequency F	ercent 0.56	Cumulative Frequency	Percent 0.56	38.20000763 38.299999237 38.70000763 38.799999237		1 0.56 1 0.56 1 0.56 1 0.56	42 43 44 45	23.60 24.16 24.72 25.28	49.400001526 49.700000763 49.799999237	1 2 1	1.12 0.56 0.56 0.56	99 100 101	56.7 57.3
femaleemployrate 11.300000191 12.399999619 13	FEMALEEM Frequency F 1 1 1	0.56 0.56 0.56	Cumulative Frequency 1 2 3	0.56 1.12 1.69	38.200000763 38.29999237 38.70000763 38.79999237 39.20000763		1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56	42 43 44 45 46 47	23.60 24.16 24.72 25.28 25.84 26.40	49.40001526 49.70000763 49.79999237 49.90001526	1 1 1 1	1.12 0.56 0.56 0.56 0.56	99 100 101 102 103	56.7
femaleemployrate 11.300000191 12.399999619 13 16.70000763	FEMALEEM Frequency F 1 1 1 1	0.56 0.56 0.56 0.56	Cumulative Frequency 1 2 3	0.56 1.12 1.69 2.25	38.200000763 38.29999237 38.700000763 38.799999237 39.20000763 39.40001526		1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56	42 43 44 45 46 47 48	23.60 24.16 24.72 25.28 25.84 26.40 26.97	49.400001526 49.700000763 49.799999237 49.90001526 50.99998474 50.400001526	1 1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104	56.7 57.3 57.8 58.4
femaleemployrate 11.30000191 12.399999619 13 16.70000763 17.70000763	FEMALEEM Frequency F 1 1 1	0.56 0.56 0.56 0.56 0.56	Cumulative Frequency 1 2 3	0.56 1.12 1.69 2.25 2.81	38.20000763 38.29999237 38.700000763 38.79999237 39.200000763 39.400001526 39.59998474		1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 3 1.69	42 43 44 45 46 47 48 51	23.60 24.16 24.72 25.28 25.84 26.40 26.97 28.65	49.400001526 49.700000763 49.79999237 49.900001526 50.99998474 50.400001526	1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105	56.7 57.3 57.8 58.4 58.9
femaleemployrate 11.300000191 12.399999619 13 16.700000763 17.700000763 18.20000763	Frequency F 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency 1 2 3 4 5	0.56 1.12 1.69 2.25 2.81 3.37	38.200000763 38.29999237 38.70000763 38.79999237 39.20000763 39.400001526 39.59998247 39.900001526		1 0.56 1 0.56	42 43 44 45 46 47 48 51	23.60 24.16 24.72 25.28 25.84 26.40 26.97 28.65 29.21	49.400001526 49.70000763 49.709999237 49.900001526 50.400001526 50.55 50.59998474	1 1 1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105	56.7 57.3 57.8 58.4 58.9 59.5
femaleemployrate 11.300000191 12.39999619 13 16.700000763 17.700000763 18.200000763	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 4 5 6 7	Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93	38.20000763 38.29999237 38.70000763 38.79999237 39.20000763 39.400001526 39.5999474 49.099998474		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53	23.60 24.16 24.72 25.28 25.84 26.40 26.97 28.65 29.21 29.78	49.400001526 49.700000763 49.799999237 49.900001526 50.099998474 50.400001526 50.59998474 50.700000763	1 1 1 1 1 2	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106	56.7 57.3 57.8 58.4 58.9 59.5 60.6
femaleemployrate 11.30000191 12.399999613 16.70000763 17.70000763 18.20000763	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 4 5 6 7 8	Percent  0.56  1.12  1.69  2.25  2.81  3.37  3.93  4.49	38.20000763 38.29999237 38.70000763 39.20000763 39.40000126 39.59998474 39.50001526 40.09999474 40.29999237		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34	49,40001526 49,70000763 49,79999277 49,90001526 50,09998474 50,40001526 50,59998474 50,70000763 50,90001526	1 1 1 1 1 1 2 2 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106 108	56.7 57.3 57.8 58.4 58.9 59.5 60.6 61.2
femaleemployrate 11.300000191 12.39999619 13 16.700000763 17.700000763 18.200000763	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 4 5 6 7	Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93	38.20000763 38.29999237 38.70000763 38.79999237 39.20000763 39.400001526 39.5999474 49.099998474		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53	23.60 24.16 24.72 25.28 25.84 26.40 26.97 28.65 29.21 29.78	49.400001526 49.70000763 49.799999277 49.90001526 50.09998474 50.40001526 50.59998474 50.70000763 50.90990476 50.90901526	1 1 1 1 1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106 108 109	56.7 57.3 57.8 58.4 58.9 59.5 60.6 61.2 61.8
femaleemployrate 11.30000191 12.399999613 16.70000763 17.70000763 18.20000763	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 4 5 6 7 8	Percent  0.56  1.12  1.69  2.25  2.81  3.37  3.93  4.49	38.20000763 38.29999237 38.70000763 39.20000763 39.40000126 39.59998474 39.50001526 40.09999474 40.29999237		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34	49,40001526 49,70000763 49,79999277 49,90001526 50,09998474 50,40001526 50,59998474 50,70000763 50,90001526	1 1 1 1 1 1 2 2 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106 108	56.7 57.3 57.8 58.4 58.9 59.5 60.6 61.2 61.8
femaleemployrate 11.300000191 12.39999619 13 16.700000763 17.700000763 18.200000763 19 20.29999237 21.39999619 21.89999619	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 4 5 6 7 8 9 10	9.56 1.12 1.69 2.25 2.81 3.37 3.93 4.49 5.06 5.62	38.20000763 38.29999237 38.70000763 38.79999237 39.20001526 39.5999474 39.50001526 40.59999237 40.29999237 41.09999474		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53 54 55	23.60 24.16 24.72 25.28 25.84 26.40 26.97 28.65 29.21 29.78 30.34 30.90 31.46	49.400001526 49.70000763 49.799999277 49.90001526 50.09998474 50.40001526 50.59998474 50.70000763 50.90990476 50.90901526	1 1 1 1 1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106 108 109	56.7 57.3 57.8 58.4 58.9 59.5 60.6 61.2 61.8
femaleemployrate 11,300000191 12,39999619 13 16,700000763 17,700000763 18,200000763 20,29999237 21,39999619 22,200000763	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 4 5 6 7 8 9 10 11	9 Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93 4.49 5.06 5.62 6.18	38,20000763 38,29999237 38,700000763 39,20000763 39,20000763 40,09998474 40,29999277 40,59999277 41,09998474 41,70000763		1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 3 1.69 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53 54 55 56	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34 30 90 31 146 32 58	49.400001526 49.70000763 49.70900737 49.90001526 50.09998474 50.400001526 50.59998474 50.70000763 50.90001526 51.59998474 51.59998237 51.59998237	1 1 2 2 1 1 1 2 2 1 1 3 3 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106 108 109 110 113	56.7 57.3 57.8 58.4 58.9 59.5 60.6 61.2 61.8 63.4
femaleemployrate 11.30000191 12.39999619 16.70000763 18.200000763 18.200000763 20.29999237 21.39999619 21.39999619 22.20000963 22.20099632	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 4 5 6 6 7 8 9 10 11 12	Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93 4.49 5.06 5.62 6.18 6.74	38,20000763 38,700000763 38,700000763 39,20000763 39,400001526 40,99998474 40,29999237 41,1099998474 41,70000763 41,709099763 41,709099763		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53 54 55 56 58	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34 30 90 31 46 32 28 33 15	49,400001526 49,70000763 49,70000763 49,709001526 50,09998474 50,40001526 50,59998474 50,70000763 50,50990477 51,70000763 51,599998277 51,599998474 51,70000763	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 101 102 103 104 105 106 108 109 110 113 114 115 115 106 108 109 110 113 114 115	56.7 57.3 57.8 58.4 58.9 59.5 60.6 61.2 61.8 63.4 64.0
femaleemployrate 11.30000191 12.399999619 13 16.700000763 18.200000763 20.29999237 21.39999619 22.200000763 22.29999237 22.500000381	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 3 4 5 6 7 8 9 9 10 11 12 13	Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93 4.49 5.06 5.62 6.18 6.74 7.30	38.20000763 38.29999237 38.70000763 38.79999237 39.20000763 39.500001526 40.99999377 40.59999237 40.59999237 41.70000763 41.70000763 41.79999237		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53 54 55 56 56 59	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34 30 90 31 46 32 58 33 31 5	49.40001526 49.70000763 49.70000763 49.709001526 50.09998474 50.40001626 50.59999474 50.70000763 50.90901526 51.599998474 51.70000763 52.09998474 51.70000763	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 101 102 103 104 105 106 108 109 110 1114 115 116 116 116 116 116 116 116 116 116	56.7 57.8 57.8 58.4 58.9 59.5 60.6 61.2 61.8 63.4 64.0 64.6
femaleemployrate 11.30000191 12.399999619 13 16.70000763 17.70000763 18.200000763 21.39999619 21.39999619 22.200000763 22.29999227 22.500000381 23.200000763	Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 10 11 11 11 11 11 11 11 11 11 11 11 11	Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93 4.49 5.06 5.62 6.18 6.74 7.30 7.87	38,20000763 38,29999237 38,700000763 39,200000763 39,400001526 39,9999474 40,29999474 41,70000763 41,70909763 41,79999277 42,09999474 42,09999474		1 0.56 1	42 43 44 45 46 47 48 51 52 53 54 55 56 58 59 60	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34 30 90 31 146 32 58 33 31 5	49,400001526 49,70000763 49,70900763 49,509001526 50,09998474 50,40001526 50,59998474 50,70000763 51,29999237 51,59999474 51,70000763 52,299998474 52,29999847	11 11 11 11 11 11 11 11 11 11 11 11 11	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 101 102 103 103 104 105 106 108 109 110 113 114 115 116 117 117 117 117 117 117 117 117 117	56.7 57.3 57.8 58.4 58.9 59.5 60.6 61.2 61.8 63.4 64.0 64.0 65.1
femaleemployrate 11.30000191 12.399999619 13 16.700000763 18.200000763 20.29999237 21.39999619 22.200000763 22.29999237 22.500000381	FEMALEEM Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 3 4 5 6 7 8 9 9 10 11 12 13	Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93 4.49 5.06 5.62 6.18 6.74 7.30	38.20000763 38.29999237 38.70000763 38.79999237 39.20000763 39.500001526 40.99999377 40.59999237 40.59999237 41.70000763 41.70000763 41.79999237		1 0.56 1 0.56	42 43 44 45 46 47 48 51 52 53 54 55 56 56 59	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34 30 90 31 46 32 58 33 31 5	49,40001526 49,70000763 49,70000763 49,709001526 50,09998474 50,40001526 50,59998474 50,70000763 50,9001526 51,2999937 51,59998474 51,70000763 52,09998474 52,29999327	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 1.12 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106 108 109 110 113 114 115 116 116 117	56.7 57.3 57.8 58.4 58.9 60.6 61.2 61.8 63.4 64.0 64.0 65.1 65.7 66.8
femaleemployrate 11.30000191 12.399999619 13 16.70000763 17.70000763 18.200000763 21.39999619 21.39999619 22.200000763 22.29999227 22.500000381 23.200000763	Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 10 11 11 11 11 11 11 11 11 11 11 11 11	Percent 0.56 1.12 1.69 2.25 2.81 3.37 3.93 4.49 5.06 5.62 6.18 6.74 7.30 7.87	38,20000763 38,29999237 38,700000763 39,200000763 39,400001526 39,9999474 40,29999474 41,70000763 41,70909763 41,79999277 42,09999474 42,09999474		1 0.56 1	42 43 44 45 46 47 48 51 52 53 54 55 56 58 59 60	23 60 24 16 24 72 25 28 25 84 26 40 26 97 28 65 29 21 29 78 30 34 30 90 31 146 32 58 33 31 5	49.400001526 49.70000763 49.70000763 49.709001526 50.09998474 50.400001526 50.59998474 50.70000763 50.99998474 51.70900763 52.99999237 51.59998474 52.29999237 52.59998474 53.09998474 53.09998474	11 11 12 2 11 11 12 2 11 11 2 2 1 11 12 2 1 11 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 1.12 0.56 0.56 0.56 0.56 0.56	99 100 101 101 102 103 103 104 105 106 108 109 110 113 114 115 116 117 117 117 117 117 117 117 117 117	56.7 57.3 57.8 58.4 58.9 60.6 61.2 61.8 63.4 64.0 64.0 65.1 65.7 66.8
femaleemployrate 11.30000191 12.39999619 13.3 16.700000763 17.70000763 18.20000763 18.20000763 21.399999237 21.399999619 22.200000763 22.200000763 22.200000763 23.200000763	Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 1 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 111 12 13 13 14 15 16	Percent  0.56 1.12 1.699 2.25 2.81 3.37 3.93 4.49 5.06 5.62 6.18 6.74 6.73 7.87	38,20000763 38,29999237 38,70000763 39,20000763 39,20000763 40,09998474 40,29999237 40,59999237 41,70000763 41,70909763 41,09999474 42,29999237 42,42,9999474 43,09998474		1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 1 0.56 3 1.69 1 0.56 1	42 43 44 45 46 47 48 51 52 53 54 55 56 66 64 65 66	23.80 24.16 24.72 25.28 25.84 26.97 26.65 29.78 30.34 30.34 30.34 31.46 32.58 33.71 35.96 36.56 37.08	49,40001526 49,70000763 49,70000763 49,709001526 50,09998474 50,40001526 50,59998474 50,70000763 50,9001526 51,2999937 51,59998474 51,70000763 52,09998474 52,29999327	11 11 12 2 11 11 12 2 11 11 2 2 1 11 12 2 1 11 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 102 103 104 105 106 108 109 110 113 114 115 116 116 117	56.7 57.3 57.8 58.4 58.9 60.6 61.2 61.8 63.4 64.0 64.6 65.1 66.7
femaleemployrate 11.300000191 12.39999619 14.700000763 17.700000763 18.200000763 20.29999237 21.39999619 22.200000763 22.29999237 22.600000381 22.600000381 25.600000381	Frequency F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	Cumulative Frequency  1 2 3 3 4 5 6 7 8 8 9 10 11 12 13 14 15	Percent  0.56 1.169 2.25 2.81 3.97 3.93 4.49 5.06 5.62 6.18 6.74 7.30 7.87 8.43 8.99	38.200000763 38.29999237 38.700000763 38.700000763 39.20000763 39.59998474 40.29999237 41.709998474 41.709998474 41.709998474 41.709998474 42.99998474 43.99998474		1 0.56 1	42 43 44 45 46 47 48 51 52 53 54 55 56 58 59 60 64	23 60 24 16 24 72 25 28 25 84 26 60 26 97 28 65 29 21 29 78 30 34 30 90 31 46 33 37 1 33 37 1 33 59 36 62	49.400001526 49.70000763 49.70000763 49.709001526 50.09998474 50.400001526 50.59998474 50.70000763 50.99998474 51.70900763 52.99999237 51.59998474 52.29999237 52.59998474 53.09998474 53.09998474	11 11 12 2 11 11 12 2 11 11 2 2 1 11 12 2 1 11 1	1.12 0.56 0.56 0.56 0.56 0.56 0.56 0.56 0.56	99 100 101 101 102 103 104 105 106 108 109 110 111 115 116 116 117 119 120 120	56.7 57.3 57.8



There are 213 records in the Gapminder dataset provided.

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

- urbanrate
- lifeexpectancy
- femaleemployrate

#### Missing data

- There are 22 records with missing details for urbanization rate parameter
- There are 10 records with missing details for life expectancy parameter
- There are 35 records with missing details for female employment rate parameter

### **General Observation**

The data is very much dustributed and appropraiate grouping need to be performed before analysing the dataset any further. There is meaningful inference can be arrived at this point of time.