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Statistics and Data Science

17.0
MP-Parallel Edition

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Notes:

1. Unicode is supported; see [help unicode advice](#).
2. More than 2 billion observations are allowed; see [help obs advice](#).
3. Maximum number of variables is set to 5,000; see [help set maxvar](#).

```
1 . cd "C:\Users\Administrator\Desktop\Stata exam"
   C:\Users\Administrator\Desktop\Stata exam

2 . pwd
   C:\Users\Administrator\Desktop\Stata exam

3 . use "Data set_BUPFS EXCEL MAESTROS ROUND 2"

4 . help string

5 . help f_sting

6 . recast double case_id

7 . recast float case_id

8 . recast string case_id
   case_id: string invalid
   r(109);

9 . destring cluster, gen(cl)
   cluster: all characters numeric; cl generated as byte

10 . drop cluster

11 . rename cl cluster

12 . rename V001 gender
```

```
13 . rename V003 age
14 . rename age income
15 . rename v002 age
16 . rename v004 edu
17 . rename V005 occup
18 . rename v025 residence
19 . rename v225 mar_st
20 . label variable gender "Sex of the respondent"
21 . label variable age "Age of the respondent"
22 . label variable income "Monthly income"
23 . label variable edu "Highest education achieved"
24 . label variable occup "Current occupation"
25 . label variable residence "Place of residence"
26 . label variable mar_st "Ever married status"
27 . label define gen_label 1 "Female" 2 "Male"
28 . label value gender gen_label
29 . br
30 . ed
31 . label define occup_label 1 "Agricultue" 2 "Business" 3 "Privat
    > e job" 4 "Government job" 5 "Day laborer"
32 . label value occup occup_label
33 . ed
34 . label define res_label 0 "Urban" 2 "Rural"
35 . label value residence res_label
36 . ed
37 . label define res_label 1 "Urban" 2 "Rural"
    label res_label already defined
    r(110);
```

38 . label define res_labell 1 "Urban" 2 "Rural"

39 . label value residence res_labell

40 . ed

41 . label define mr_label 0 "No" 1 "Yes"

42 . label value mar_st mr_label

43 . ed

44 . summarize age income edu, detail

Age of the respondent

	Percentiles	Smallest		
1%	25.02747	25.00549		
5%	25.29695	25.02747		
10%	25.68148	25.09949	Obs	113
25%	27.18787	25.17426	Sum of wgt.	113
50%	29.53597		Mean	29.77941
		Largest	Std. dev.	3.057544
75%	32.53594	34.64049		
90%	34.27671	34.86572	Variance	9.348574
95%	34.43022	34.92676	Skewness	.1321498
99%	34.92676	34.95758	Kurtosis	1.75177

Monthly income

	Percentiles	Smallest		
1%	10163	10066		
5%	10519	10163		
10%	11405	10252	Obs	113
25%	16131	10306	Sum of wgt.	113
50%	21768		Mean	21748.99
		Largest	Std. dev.	7255.816
75%	27074	34364		
90%	31853	34648	Variance	5.26e+07
95%	34007	34703	Skewness	.0294865
99%	34703	34947	Kurtosis	1.922893

Highest education achieved

	Percentiles	Smallest		
1%	0	0		
5%	1	0		
10%	2	0	Obs	113
25%	6	0	Sum of wgt.	113
50%	9		Mean	8.548673
		Largest	Std. dev.	4.342463
75%	12	16		
90%	14	16	Variance	18.85698
95%	16	17	Skewness	-.023112
99%	17	17	Kurtosis	2.3383

45 . tab age income edu
too many variables specified
r(103);

46 . tab age

Age of the respondent	Freq.	Percent	Cum.
25.01	1	0.88	0.88
25.03	1	0.88	1.77
25.10	1	0.88	2.65
25.17	1	0.88	3.54
25.24	1	0.88	4.42
25.30	1	0.88	5.31
25.39	1	0.88	6.19
25.55	1	0.88	7.08
25.55	1	0.88	7.96
25.56	1	0.88	8.85
25.62	1	0.88	9.73
25.68	1	0.88	10.62
25.80	1	0.88	11.50
25.87	1	0.88	12.39
25.90	1	0.88	13.27
26.03	1	0.88	14.16
26.29	1	0.88	15.04
26.35	1	0.88	15.93
26.38	1	0.88	16.81
26.40	1	0.88	17.70
26.49	1	0.88	18.58
26.66	1	0.88	19.47
26.68	1	0.88	20.35
26.70	1	0.88	21.24
26.71	1	0.88	22.12
26.82	1	0.88	23.01
26.91	1	0.88	23.89
26.99	1	0.88	24.78
27.19	1	0.88	25.66
27.20	1	0.88	26.55
27.21	1	0.88	27.43
27.22	1	0.88	28.32
27.26	1	0.88	29.20
27.47	1	0.88	30.09
27.49	1	0.88	30.97
27.53	1	0.88	31.86
27.71	1	0.88	32.74
27.75	1	0.88	33.63
27.79	1	0.88	34.51
27.86	1	0.88	35.40
27.99	1	0.88	36.28
28.25	1	0.88	37.17
28.33	1	0.88	38.05
28.69	1	0.88	38.94
28.77	1	0.88	39.82
28.81	1	0.88	40.71
28.91	1	0.88	41.59
28.92	1	0.88	42.48
28.93	1	0.88	43.36
29.15	1	0.88	44.25
29.16	1	0.88	45.13
29.24	1	0.88	46.02
29.36	1	0.88	46.90
29.43	1	0.88	47.79

29.44	1	0.88	48.67
29.46	1	0.88	49.56
29.54	1	0.88	50.44
29.59	1	0.88	51.33
29.61	1	0.88	52.21
29.74	1	0.88	53.10
29.96	1	0.88	53.98
29.98	1	0.88	54.87
30.18	1	0.88	55.75
30.26	1	0.88	56.64
30.36	1	0.88	57.52
30.45	1	0.88	58.41
30.49	1	0.88	59.29
30.61	1	0.88	60.18
30.62	1	0.88	61.06
30.74	1	0.88	61.95
30.76	1	0.88	62.83
30.80	1	0.88	63.72
31.10	1	0.88	64.60
31.18	1	0.88	65.49
31.18	1	0.88	66.37
31.18	1	0.88	67.26
31.23	1	0.88	68.14
31.36	1	0.88	69.03
31.51	1	0.88	69.91
31.54	1	0.88	70.80
31.74	1	0.88	71.68
32.16	1	0.88	72.57
32.34	1	0.88	73.45
32.52	1	0.88	74.34
32.54	1	0.88	75.22
32.56	1	0.88	76.11
32.69	1	0.88	76.99
32.72	1	0.88	77.88
32.88	1	0.88	78.76
33.36	1	0.88	79.65
33.49	1	0.88	80.53
33.56	1	0.88	81.42
33.69	1	0.88	82.30
33.70	1	0.88	83.19
33.73	1	0.88	84.07
33.78	1	0.88	84.96
33.83	1	0.88	85.84
33.84	1	0.88	86.73
33.93	1	0.88	87.61
33.98	1	0.88	88.50
34.09	1	0.88	89.38
34.28	1	0.88	90.27
34.31	1	0.88	91.15
34.34	1	0.88	92.04
34.35	1	0.88	92.92
34.36	1	0.88	93.81
34.40	1	0.88	94.69
34.43	1	0.88	95.58
34.44	1	0.88	96.46
34.64	1	0.88	97.35
34.87	1	0.88	98.23
34.93	1	0.88	99.12
34.96	1	0.88	100.00
Total	113	100.00	

```
47 . ed

48 . gen inc_cat = income

49 . ed

50 . replace inc_cat=1 if income < 15000
    (24 real changes made)

51 . replace inc_cat=2 if 15000 < income < 20000
    (113 real changes made)

52 . replace inc_cat=1 if income < 15000
    (24 real changes made)

53 . ed

54 . replace inc_cat=5 if income < 40000
    (113 real changes made)

55 . replace inc_cat=4 if income < 30000
    (97 real changes made)

56 . replace inc_cat=3 if income < 25000
    (69 real changes made)

57 . replace inc_cat=2 if income < 20000
    (48 real changes made)

58 . replave inc_cat=1 if income < 15000
command replave is unrecognized
r(199);

59 . replace inc_cat=1 if income < 15000
    (24 real changes made)

60 . ed

61 . gen edu_cat = edu

62 . replace edu_cat="Secondary pass or above" if edu < 20
type mismatch
r(109);

63 . replace edu_cat=4 if edu < 20
    (106 real changes made)

64 .

65 . . replace edu_cat=3 if edu <= 7
    (45 real changes made)
```

```

66 . replace edu_cat=2 if edu <= 4
    (22 real changes made)

67 . replace edu_cat=1 if edu == 0
    (5 real changes made)

68 . label define educ_label 1 "Uneducated" 2 "Below primary" 3 "Pr
    > imary pass" 4 "Secondary pass or above"

69 . label value edu_cat educ_label

70 . ed

71 . gen age_cat = age

72 . replace age_cat=1 if age <50
    (113 real changes made)

73 . replace age_cat=2 if age < 50
    (113 real changes made)

74 . replace age_cat=1 if age <= 30
    (62 real changes made)

75 . ed

76 . label define agec_label 1 "30 years of below" 2 "30 years abov
    > e"

77 . label value age_cat agec_label

78 . ed

79 .
80 . . label define agec_label 1 "30 years of below" 2 "30 years abov
    label agec_label already defined
    r(110);

81 .
82 . label define agec_labell 1 "30 years or below" 2 "30 years above"

83 . label value age_cat agec_labell

84 . label variable inc_cat "Generated Income Category"

85 . label variable edu_cat "Generated Education Category"

86 . label variable age_cat "Generated Age Category"

87 . tab residence

```

Place of residence	Freq.	Percent	Cum.
Urban	32	28.32	28.32
Rural	81	71.68	100.00
Total	113	100.00	

88 . tab gender

Sex of the respondent	Freq.	Percent	Cum.
Female	62	54.87	54.87
Male	51	45.13	100.00
Total	113	100.00	

89 . tab occup

Current occupation	Freq.	Percent	Cum.
Agricultue	7	6.19	6.19
Business	44	38.94	45.13
Private job	34	30.09	75.22
Government job	20	17.70	92.92
Day laborer	8	7.08	100.00
Total	113	100.00	

90 . tab inc_cat

Generated Income Category	Freq.	Percent	Cum.
1	24	21.24	21.24
2	24	21.24	42.48
3	21	18.58	61.06
4	28	24.78	85.84
5	16	14.16	100.00
Total	113	100.00	

91 . tab edu_cat

Generated Education Category	Freq.	Percent	Cum.
Uneducated	5	4.42	4.42
Below primary	17	15.04	19.47
Primary pass	23	20.35	39.82
Secondary pass or above	68	60.18	100.00
Total	113	100.00	

92 . tab edu_cat gender, row col chi2

Key
<i>frequency</i>
<i>row percentage</i>
<i>column percentage</i>

Generated Education Category	Sex of the respondent		Total
	Female	Male	
Uneducated	3	2	5
	60.00	40.00	100.00
	4.84	3.92	4.42
Below primary	8	9	17
	47.06	52.94	100.00
	12.90	17.65	15.04
Primary pass	9	14	23
	39.13	60.87	100.00
	14.52	27.45	20.35
Secondary pass or abo	42	26	68
	61.76	38.24	100.00
	67.74	50.98	60.18
Total	62	51	113
	54.87	45.13	100.00
	100.00	100.00	100.00

Pearson chi2(3) = 4.0783 Pr = 0.253

93 . tab edu_cat gender, row col chi2

Key
<i>frequency</i>
<i>row percentage</i>
<i>column percentage</i>

Generated Education Category	Sex of the respondent		Total
	Female	Male	
Uneducated	3	2	5
	60.00	40.00	100.00
	4.84	3.92	4.42
Below primary	8	9	17
	47.06	52.94	100.00
	12.90	17.65	15.04
Primary pass	9	14	23
	39.13	60.87	100.00
	14.52	27.45	20.35
Secondary pass or abo	42	26	68
	61.76	38.24	100.00
	67.74	50.98	60.18
Total	62	51	113
	54.87	45.13	100.00
	100.00	100.00	100.00

Pearson chi2(3) = 4.0783 Pr = 0.253

94 .

95 . tab inc_cat residence , row col chi2

Key
<i>frequency</i>
<i>row percentage</i>
<i>column percentage</i>

Generated Income Category	Place of residence		Total
	Urban	Rural	
1	7	17	24
	29.17	70.83	100.00
	21.88	20.99	21.24
2	7	17	24
	29.17	70.83	100.00
	21.88	20.99	21.24
3	8	13	21
	38.10	61.90	100.00
	25.00	16.05	18.58
4	8	20	28
	28.57	71.43	100.00
	25.00	24.69	24.78
5	2	14	16
	12.50	87.50	100.00
	6.25	17.28	14.16
Total	32	81	113
	28.32	71.68	100.00
	100.00	100.00	100.00

Pearson chi2(4) = 2.9790 Pr = 0.561

96 . tab inc_cat edu_cat , row col chi2

Key
<i>frequency</i>
<i>row percentage</i>
<i>column percentage</i>

Generated Income Category	Generated Education Category			Total
	Uneducate	Below pri	Primary p	
1	2	2	6	24
	8.33	8.33	25.00	100.00
	40.00	11.76	26.09	21.24
2	1	3	4	24
	4.17	12.50	16.67	100.00
	20.00	17.65	17.39	21.24

3	1 4.76 20.00	2 9.52 11.76	8 38.10 34.78	21 100.00 18.58
4	0 0.00 0.00	9 32.14 52.94	1 3.57 4.35	28 100.00 24.78
5	1 6.25 20.00	1 6.25 5.88	4 25.00 17.39	16 100.00 14.16
Total	5 4.42 100.00	17 15.04 100.00	23 20.35 100.00	113 100.00 100.00

Generated Income Category	Generated Education Category Secondary	Total
1	14 58.33 20.59	24 100.00 21.24
2	16 66.67 23.53	24 100.00 21.24
3	10 47.62 14.71	21 100.00 18.58
4	18 64.29 26.47	28 100.00 24.78
5	10 62.50 14.71	16 100.00 14.16
Total	68 60.18 100.00	113 100.00 100.00

Pearson chi2(12) = 18.2393 Pr = 0.109

97 . graph pie gender

98 . ed

```

99 . graph pie residence, over(gender)

100 . graph export "C:\Users\Administrator\Desktop\Stata exam\Graph.
> png", as(png) name("Graph")
file C:\Users\Administrator\Desktop\Stata exam\Graph.png saved
as PNG format

101 . histogram income
(bin=10, start=10066, width=2488.1)

102 . graph save "Graph" "C:\Users\Administrator\Desktop\Stata exam\
> Histogram.gph"
file C:\Users\Administrator\Desktop\Stata exam\Histogram.gph sav
> ed

103 . reg income age edu residence occup

```

	Source	SS	df	MS	Number of obs
> =	113				F(4, 108)
> =	0.83				
> Model	175653305	4	43913326.3		Prob > F
> =	0.5095				
> Residual	5.7208e+09	108	52970324.7		R-squared
> =	0.0298				
					Adj R-squared
> =	-0.0061				
> Total	5.8964e+09	112	52646860.5		Root MSE
> =	7278.1				

	income	Coefficient	Std. err.	t	P> t	[95% c
> on						
> f. interval]						
> age	-327.3089	232.9013	-1.41	0.163	-788.95	
> 97						
> 134.3419						
> edu	-16.01918	159.3633	-0.10	0.920	-331.9	
> 05						
> 299.8666						
> residence	2123.722	1572.621	1.35	0.180	-993.48	
> 45						
> 5240.929						
> occup	-329.6182	667.5158	-0.49	0.622	-1652.	
> 75						
> 993.5139						
> _cons	28911.64	7293.245	3.96	0.000	14455.	
> 17						
> 43368.12						

```
104 . save "C:\Users\Administrator\Desktop\Stata exam\stata test.dta"
> "
file C:\Users\Administrator\Desktop\Stata exam\stata test.dta
    saved

105 . export excel using "stata test", firstrow(variables)
file stata test.xls saved

106 . graph bar (mean) occup

107 . graph save "Graph" "C:\Users\Administrator\Desktop\Stata exam\
> bar plot.gph"
file C:\Users\Administrator\Desktop\Stata exam\bar plot.gph save
> d

108 . save "C:\Users\Administrator\Desktop\Stata exam\stata test.dta"
> ", replace
file C:\Users\Administrator\Desktop\Stata exam\stata test.dta
    saved

109 . putexcel set "Results"

110 . putexcel set "C:\Users\Administrator\Desktop\Stata exam\Results.xlsx"

111 . save "C:\Users\Administrator\Desktop\Stata exam\stata test.dta", replace
file C:\Users\Administrator\Desktop\Stata exam\stata test.dta saved

112 .
```