```
      ___  ____  ____  ____  ____ (R)
     /__    /   ____/   /   ____/
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Notes:
      1.  Unicode is supported; see  help unicode_advice .

running c:\ado\personal\profile.do ...

. doedit "C:\Users\lutib\Dropbox\PEP_distance_Poverty Course (Exercises)\2020\evaluations\weaks_semai
> nes 1-2-3\Stata outputs of assessments\BLOC1_COPY2.do"

. do "C:\Users\lutib\AppData\Local\Temp\STD1f98_000000.tmp"

.
. // EXERCICE 1
. // Q1
.
. clear

. /* Inserting the data */
. clear

. input     hhid     region income hhsize

          hhid      region     income     hhsize
  1. 1        1       310     4
  2. 2        1       460     6
  3. 3        1       300     5
  4. 4        1       220     3
  5. 5        2       560     2
  6. 6        2       400     4
  7. 7        3       140     3
  8. 8        3       250     2
  9. 9        3       340     2
 10. 10       3       220     2
 11.
. end

.
.
. /* Generating variable the variable per capita income */
. gen pcinc = income/hhsize

.
. /* listing the variables */
. list, separator(0)
```

	hhid	region	income	hhsize	pcinc
1.	1	1	310	4	77.5
2.	2	1	460	6	76.66666
3.	3	1	300	5	60
4.	4	1	220	3	73.33334
5.	5	2	560	2	280
6.	6	2	400	4	100
7.	7	3	140	3	46.66667
8.	8	3	250	2	125
9.	9	3	340	2	170
10.	10	3	220	2	110

```
.
. /* Estimating the average per capita income */
. sum    pcinc [aw=hhsize]

    Variable |      Obs      Weight        Mean   Std. Dev.        Min         Max
-------------+-----------------------------------------------------------------
       pcinc |       10          33      96.9697    57.94032    46.66667         280

. scalar mean_inc = r(mean)

.
. /* Estimating the total incomes of the population */
. /* method 1 */
. total hhsize

Total estimation                   Number of obs    =          10

-------------+-----------------------------------------------------------------
             |      Total    Std. Err.     [95% Conf. Interval]
-------------+-----------------------------------------------------------------
      hhsize |         33     4.484541     22.85526    43.14474

.
. /* method 2 */
. sum hhsize

    Variable |      Obs        Mean   Std. Dev.        Min         Max
-------------+---------------------------------------------------------
      hhsize |       10         3.3    1.418136          2           6

. scalar pop_size = r(sum)

. dis " The population size =" pop_size
 The population size =33

.
. //  Q3:
. gen     pline = 120

. gen     pgap = 0

. replace pgap = (pline-pcinc)/pline if (pcinc < pline)
(7 real changes made)

. sum     pgap [aw=hhsize]

    Variable |      Obs      Weight        Mean   Std. Dev.        Min         Max
-------------+-----------------------------------------------------------------
        pgap |       10          33    .3005051    .2054157           0    .6111111

.
. //  Q4:
. ifgt pcinc, pline(120) alpha(1) hsize(hhsize)

     Poverty index    :  FGT index
     Household size   :  hhsize
     Parameter alpha  :  1.00

-------------+-----------------------------------------------------------------
    Variable |      Estimate         STE          LB          UB       Pov. line
-------------+-----------------------------------------------------------------
       pcinc |      0.300505    0.061199    0.162064    0.438946         120.00
```

```
.
.
. //  Q5:
. gen     deflator = 1

. replace deflator = 1.2 if region == 2
(2 real changes made)

. replace deflator = 1.4 if region == 3
(4 real changes made)

. gen     rpcinc = pcinc/deflator

.
. // Q6
. sum rpcinc [aw=hhsize]
```

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
rpcinc	10	33	83.8961	44.54531	33.33334	233.3333

```
.
. replace pline = 110
(10 real changes made)

. replace pgap  = (pline-rpcinc)/pline if (rpcinc < pline)
(8 real changes made)

. sum     pgap [aw=hhsize]
```

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
pgap	10	33	.3115571	.1825609	0	.6969697

```
. ifgt    rpcinc, pline(110) alpha(1) hsize(hhsize)

    Poverty index    :  FGT index
    Household size   :  hhsize
    Parameter alpha  :  1.00
```

Variable	Estimate	STE	LB	UB	Pov. line
rpcinc	0.311557	0.053215	0.191176	0.431938	110.00

```
.
.
. // EXERCICE 2
.
. // Q1
. clear

.
. /* Opening the data data_2.dta*/
. use "C:\Users\lutib\Dropbox\PEP_distance_Poverty Course (Exercises)\2020\evaluations\weaks_semaines
>  1-2-3\Stata outputs of assessments\data_2.dta"

. imean ae_exp // This statistic can be refered to the sampled households.

    Index            :  Mean index
```

Variable	Estimate	STE	LB	UB
1: mean_ae_exp	40979.687500	865.346985	39282.609375	42676.761719

```
.
. // Q2
. svyset psu [pweight=sweight], strata(strata)

      pweight: sweight
          VCE: linearized
  Single unit: missing
     Strata 1: strata
         SU 1: psu
        FPC 1: <zero>

. imean ae_exp , hsize(hhsize)

    Index            :  Mean index
    Household size   :  hhsize
    Sampling weight  :  sweight
```

Variable	Estimate	STE	LB	UB
1: mean_ae_exp	**38796.238281**	**1197.018188**	**36443.195313**	**41149.281250**

```
.
. // Q3
. imean ae_exp , hsize(hhsize) hg(region)

    Index            :  Mean index
    Household size   :  hhsize
    Sampling weight  :  sweight
    Group variable   :  region
```

Group	Estimate	STE	LB	UB
1: 1	**50474.214844**	**2973.246582**	**44629.546875**	**56318.882813**
2: 2	**36314.699219**	**1630.791138**	**33108.968750**	**39520.433594**
3: 3	**21073.082031**	**1384.950073**	**18350.613281**	**23795.552734**
4: 4	**40848.519531**	**1632.345337**	**37639.730469**	**44057.304688**
Population	38796.238281	1197.018188	36443.195313	41149.281250

```
. // double of region 3 = 2*21087.664063 = 42175.328
. datest  42175.328, est(49773.925781) ste(4247.191895)
```

	Est. val.	Std. Err.	z	P>|z|	[95% Conf. interval]	
Estimates	**49773.93**	**4247.192**	**11.7193**	**1.0000**	**41449.59**	**58098.27**

```
  Sign. level = 5 %                                          z =      1.7891
```

H0: est. < 42175.328	H0: est. == 42175.328	H0: est. > 42175.328
Against	Against	Against
H1: est. >= 42175.328	H1: est. != 42175.328	H1: est. <= 42175.328
Pr(Z < z) = **0.0368**	Pr(|Z| > |z|) = **0.0736**	Pr(Z > z) = **0.9632**
H0 is rejected.	H0 is not rejected.	H0 is not rejected.

```
. // We cannot reject the H0:mean_1>   42175.328, because that the level of the error with the reject
> ion is 96.32%
.
. // Q4
```

```
. dimean ae_exp ae_exp, hsize1(hhsize) test(0) cond1(sex==2 ) hsize2(hhsize) cond2(sex==1 )
```

Index	Estimate	Std. Err.	t	P>|t|	[95% Conf. Interval]	
mean_D1	37429.57	4022.335	9.30543	0.0000	29522.65	45336.49
mean_D2	38866.03	1245.495	31.2053	0.0000	36417.69	41314.37
diff.	1436.469	4232.079	.339424	0.7345	-6882.752	9755.69

```
        estimate(diff) = estimate(  mean_D2 - mean_D1)              t =    0.3394
Ho: estimate(diff) = 0                               degrees of freedom =       411

 Ha: est.(diff) < 0         Ha: est.(diff) != 0           Ha: est.(diff)  > 0
Pr(T < t) =  0.3672       Pr(|T| > |t|) =  0.7345            Pr(T > t) =  0.6328
```

```
. // We cannot reject the H0:(mean_male -  mean_female)>0, because that the level of the error with t
> he rejection is 81.56%
.
.
. // EXERCICE 3
.
. // Q1
. clear

. /* Opening the data bkf98I.dta*/
. use "C:\Users\lutib\Dropbox\PEP_distance_Poverty Course (Exercises)\2020\evaluations\weaks_semaines
>  1-2-3\Stata outputs of assessments\data_2.dta"

. svydes

Survey: Describing stage 1 sampling units

      pweight: <none>
          VCE: linearized
  Single unit: missing
     Strata 1: <one>
        SU 1: <observations>
       FPC 1: <zero>
```

			#Obs per Unit		
Stratum	#Units	#Obs	min	mean	max
1	2,000	2,000	1	1.0	1
1	2,000	2,000	1	1.0	1

```
.
.
. // Q2
. /* sorting the data by the per capita income */
. sort pcexp

.
. /* generating the variable of the proportion of popultion */
. sum hhsize
```

Variable	Obs	Mean	Std. Dev.	Min	Max
hhsize	2,000	7.3045	5.009424	1	38

```
. gen ps = hhsize/r(sum)

.
. /* generating the variable percentile and the quantiles */
. gen p = sum(ps)

. gen q = pcexp

.
.
.
. // Q3
. line  p pcexp if p<0.95, title(The cumulative distribution curve) xtitle(The per per capita income
> (y)) ytitle(F(y))

.
.
. // Q4
. line  q p if p<0.95, title(The quantile curve)   xtitle(the percentile (p))  ytitle(The quantile Q(
> p))

.
.
. // Q5
. c_quantile pcexp, hsize(hhsize) min(0) max(0.95) hgroup(sex)

.
.
. // Q6
. cdensity pcexp , hs(hhsize) band(25000) min(0) max(1000000) hg(zone)

.
end of do-file

.
```