```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
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                       PEP

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_COPY1.do"

. do "C:\Users\lutib\AppData\Local\Temp\STD1b78_000000.tmp"

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

. /* Inserting the data */
. clear

. input   hhid    region income hhsize

          hhid     region     income     hhsize
  1. 1       1       210     4
  2. 2       1       450     6
  3. 3       1       300     5
  4. 4       1       210     3
  5. 5       2       560     2
  6. 6       2       400     4
  7. 7       3       140     4
  8. 8       3       250     2
  9. 9       3       340     2
 10. 10      3       220     2
 11. 11      3       360     3
 12. 12      3       338     3
 13.
. 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	210	4	52.5
2.	2	1	450	6	75
3.	3	1	300	5	60
4.	4	1	210	3	70
5.	5	2	560	2	280
6.	6	2	400	4	100
7.	7	3	140	4	35
8.	8	3	250	2	125
9.	9	3	340	2	170

10.	**10**	**3**	**220**	**2**	**110**
11.	**11**	**3**	**360**	**3**	**120**
12.	**12**	**3**	**338**	**3**	**112.6667**

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

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
pcinc	**12**	**40**	**94.45**	**56.45776**	**35**	**280**

```
. scalar mean_inc = r(mean)

.
. /* Estimating the total incomes of the population */
. /* method 1 */
. total pcinc [pw=hhsize]

Total estimation                  Number of obs   =            12
```

	Total	Std. Err.	[95% Conf.	Interval]
pcinc	**3778**	**579.6328**	**2502.237**	**5053.763**

```
.
. /* method 2 */
. sum hhsize
```

Variable	Obs	Mean	Std. Dev.	Min	Max
hhsize	**12**	**3.333333**	**1.302678**	**2**	**6**

```
. scalar pop_size = r(sum)

. dis " total incomes of the population =" pop_size*mean_inc
 total incomes of the population =3778

.
. //  Q3:
. gen     pline = 100

. gen     pgap = 0

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

. sum     pgap [aw=hhsize]
```

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
pgap	**12**	**40**	**.2225**	**.2368688**	**0**	**.65**

```
.
. //  Q4:
. ifgt pcinc, pline(100) alpha(1) hsize(hhsize)

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

Variable	Estimate	STE	LB	UB	Pov. line
pcinc	**0.222500**	**0.070494**	**0.067344**	**0.377656**	100.00

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

. replace deflator = 1.1 if region == 2
(2 real changes made)

. replace deflator = 1.3 if region == 3
(6 real changes made)

. gen     rpcinc = pcinc/deflator

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

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
rpcinc	**12**	**40**	**82.76049**	**47.90741**	**26.92308**	**254.5455**

```
.
. replace pline = 120
(12 real changes made)

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

. sum     pgap [aw=hhsize]
```

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
pgap	**12**	**40**	**.370877**	**.2130232**	**0**	**.775641**

```
. ifgt    rpcinc, pline(120) alpha(1) hsize(hhsize)

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

Variable	Estimate	STE	LB	UB	Pov. line
rpcinc	**0.370877**	**0.060711**	**0.237253**	**0.504501**	120.00

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

. /* Opening the data data_1.dta*/
. use "C:\Users\lutib\Dropbox\PEP_distance_Poverty Course (Exercises)\2020\evaluations\weaks_semaines
>  1-2-3\Stata outputs of assessments\data_1.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	**42048.738281**	**1332.803223**	**39434.910156**	**44662.566406**

```
.
. // Q2
. // CASE1
. svyset _n, strata(strata)

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

. imean ae_exp , hsize(hhsize)

    Index            :  Mean index
    Household size   :  hhsize
```

Variable	Estimate	STE	LB	UB
1: mean_ae_exp	**42964.714844**	**1702.926636**	**39625.007813**	**46304.421875**

```
.
. // CASE2
. svyset psu

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

. imean ae_exp , hsize(hhsize)

    Index            :  Mean index
    Household size   :  hhsize
```

Variable	Estimate	STE	LB	UB
1: mean_ae_exp	**42964.714844**	**1693.014282**	**39636.878906**	**46292.550781**

```
.
. // CASE3
. svyset psu, strata(strata)

      pweight: <none>
          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
```

Variable	Estimate	STE	LB	UB
1: mean_ae_exp	**42964.714844**	**1699.352783**	**39624.207031**	**46305.222656**

```
.
. // CASE4
. 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	**41993.101563**	**2213.284668**	**37642.332031**	**46343.875000**

```
.
.
. // 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	**59713.667969**	**6364.844238**	**47201.960938**	**72225.382813**
2: 2	**39196.687500**	**1927.418579**	**35407.859375**	**42985.515625**
3: 3	**22984.812500**	**1136.773804**	**20750.195313**	**25219.427734**
4: 4	**36195.886719**	**975.479248**	**34278.335938**	**38113.437500**
Population	41993.101563	2213.284668	37642.332031	46343.875000

```
. // double of region 3 = 2*20045.771484  = 40091.543
. datest  40091.543, est(47992.410156) ste(3910.776855)
```

	Est. val.	Std. Err.	z	P>|z|	[95% Conf. interval]	
Estimates	**47992.41**	**3910.777**	**12.2718**	**1.0000**	**40327.43**	**55657.39**

Sign. level = 5 % z = **2.0203**

H0: est. < 40091.543	H0: est. == 40091.543	H0: est. > 40091.543
Against	Against	Against
H1: est. >= 40091.543	H1: est. != 40091.543	H1: est. <= 40091.543
Pr(Z < z) = **0.0217**	Pr(|Z| > |z|) = **0.0434**	Pr(Z > z) = **0.9783**
H0 is rejected.	H0 is rejected.	H0 is not rejected.

```
. // We cannot reject the H0:mean_1>  40091.543, because that the level of the error with the rejecti
> on is 97.83%
.
```

```
. // 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	**32037.23**	**2236.5**	**14.3247**	**0.0000**	**27640.82**	**36433.64**
mean_D2	**42563.9**	**2332.328**	**18.2495**	**0.0000**	**37979.12**	**47148.68**
diff.	**10526.67**	**3234.094**	**3.25491**	**0.0012**	**4169.241**	**16884.1**

estimate(diff) = estimate(**mean_D2** - **mean_D1**) t = **3.2549**
Ho: estimate(diff) = 0 degrees of freedom = **411**

Ha: est.(diff) < 0 Ha: est.(diff) != 0 Ha: est.(diff) > 0
Pr(T < t) = **0.0006** Pr(|T| > |t|) = **0.0012** Pr(T > t) = **0.9994**

```
. // We cannot reject the H0:(mean_male -  mean_female)>0, because that the level of the error with t
> he rejection is 97.36%
.
.
. // 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_1.dta"

.
.
.
.
. // 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**	**7.347**	**5.281623**	**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(zone)

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

.
end of do-file

.
```