```
 1 . do "/Users/imisiaiyetan/Documents/Problem set 4_2.do"

 2 . *****Name: Imisi Raphael Aiyetan******
 3 . *****Course: Econometrics 512********
 4 .
 5 . ***** Let's clear the workplace******
 6 . clear all

 7 . set more off

 8 .
 9 . ***** We import the data from Download folder*******
10 .
11 . use "/Users/imisiaiyetan/Downloads/midterm-1.dta"

12 .
13 . ***** We define the regression estimation in the next line of code*******
14 .
15 . reg dayssmklm17 pct_insclnxtyr mhighgrad msomcol fhighgrad fsomcol parincome afq
   > t, vce(robust)

Linear regression                               Number of obs =     711
                                                F(  7,   703) =    4.06
                                                Prob > F      =  0.0002
                                                R-squared     =  0.0465
                                                Root MSE      =  9.9317

------------------------------------------------------------------------------
             |               Robust
dayssmklm17 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
pct_insclnxtyr |  -.0517476   .0150114    -3.45   0.001    -.0812201   -.0222751
     mhighgrad |   1.705758   1.138679     1.50   0.135      -.52986    3.941376
       msomcol |   1.654315   1.249697     1.32   0.186      -.79927    4.107899
     fhighgrad |   2.047867   1.175058     1.74   0.082    -.2591768    4.354911
       fsomcol |  -.6947287   1.274121    -0.55   0.586    -3.196266    1.806809
     parincome |   .0156005    .008707     1.79   0.074    -.0014943    .0326953
          afqt |   .0254616    .016147     1.58   0.115    -.0062404    .0571637
         _cons |   4.478025    1.39837     3.20   0.001     1.732544    7.223506
------------------------------------------------------------------------------

16 .
17 . ***We define the bootstrapping exercise of the regression estimation in the next
   >  line of code****
18 .
19 . bs, reps(1000) seed(12345) size(500) saving(bsauto1, replace): reg dayssmklm17 p
   > ct_insclnxtyr mhighgrad msomcol fhighgrad fsomcol parincome afqt, vce(robust)
   (running regress on estimation sample)

   Bootstrap replications (1000)
   ----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5
   .................................................    50
   .................................................   100
```

```
.................................................   150
.................................................   200
.................................................   250
.................................................   300
.................................................   350
.................................................   400
.................................................   450
.................................................   500
.................................................   550
.................................................   600
.................................................   650
.................................................   700
.................................................   750
.................................................   800
.................................................   850
.................................................   900
.................................................   950
.................................................  1000

Linear regression                               Number of obs      =       711
                                                Replications       =      1000
                                                Wald chi2(7)       =     20.21
                                                Prob > chi2        =    0.0051
                                                R-squared          =    0.0465
                                                Adj R-squared      =    0.0370
                                                Root MSE           =    9.9317
```

daysmklm17	Observed Coef.	Bootstrap Std. Err.	z	P>|z|	Normal-based [95% Conf.	Interval]
pct_insclnxtyr	-.0517476	.0177892	-2.91	0.004	-.0866139	-.0168813
mhighgrad	1.705758	1.350351	1.26	0.207	-.9408825	4.352398
msomcol	1.654315	1.460228	1.13	0.257	-1.20768	4.516309
fhighgrad	2.047867	1.371592	1.49	0.135	-.640404	4.736138
fsomcol	-.6947287	1.565226	-0.44	0.657	-3.762515	2.373058
parincome	.0156005	.0107038	1.46	0.145	-.0053785	.0365795
afqt	.0254616	.0182464	1.40	0.163	-.0103006	.0612239
_cons	4.478025	1.661462	2.70	0.007	1.22162	7.73443

```
20 .
21 . ***** In the next line of code we define the IV estimation*******
22 .
23 . ivregress gmm dayssmklm17 ctuition17 mhighgrad msomcol fhighgrad fsomcol parinco
   > me afqt, vce(robust)

Instrumental variables (GMM) regression         Number of obs =      2588
                                                Wald chi2(7)  =     49.49
                                                Prob > chi2   =    0.0000
                                                R-squared     =    0.0174
GMM weight matrix: Robust                       Root MSE      =    9.7589

------------------------------------------------------------------------------
```

dayssmklm17	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
ctuition17	.8258207	.2201231	3.75	0.000	.3943873	1.257254
mhighgrad	1.714111	.6204114	2.76	0.006	.4981272	2.930095
msomcol	1.641105	.6479326	2.53	0.011	.3711801	2.911029
fhighgrad	.3465952	.6267453	0.55	0.580	-.881803	1.574994
fsomcol	-1.267924	.6853476	-1.85	0.064	-2.611181	.0753322
parincome	.0080818	.0033105	2.44	0.015	.0015934	.0145701
afqt	-.0212942	.0082172	-2.59	0.010	-.0373997	-.0051887
_cons	2.573612	.6027601	4.27	0.000	1.392224	3.755

(no endogenous regressors)

```
24 .
25 . ***We define the bootstrapping exercise of the IV estimation in the next line of
>  code****
26 .
27 . bs, reps(1000) seed(12345) size (500) saving(bsauto2, replace): ivregress gmm da
> yssmklm17 ctuition17 mhighgrad msomcol fhighgrad fsomcol parincome afqt, vce(rob
> ust)
(running ivregress on estimation sample)

Bootstrap replications (1000)
----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5
..................................................   50
..................................................   100
..................................................   150
..................................................   200
..................................................   250
..................................................   300
..................................................   350
..................................................   400
..................................................   450
..................................................   500
..................................................   550
..................................................   600
..................................................   650
..................................................   700
..................................................   750
..................................................   800
..................................................   850
..................................................   900
..................................................   950
..................................................  1000

Instrumental variables (GMM) regression               Number of obs =      2588
                                                      Wald chi2(7)  =      9.50
                                                      Prob > chi2   =    0.2187
                                                      R-squared     =    0.0174
GMM weight matrix: Robust                             Root MSE      =    9.7589

             |   Observed   Bootstrap                         Normal-based
```

dayssmklm17	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ctuition17	.8258207	.5003227	1.65	0.099	-.1547937	1.806435
mhighgrad	1.714111	1.418963	1.21	0.227	-1.067005	4.495227
msomcol	1.641105	1.439741	1.14	0.254	-1.180735	4.462944
fhighgrad	.3465952	1.429186	0.24	0.808	-2.454558	3.147749
fsomcol	-1.267924	1.564162	-0.81	0.418	-4.333625	1.797776
parincome	.0080818	.0077051	1.05	0.294	-.0070201	.0231836
afqt	-.0212942	.0183612	-1.16	0.246	-.0572816	.0146932
_cons	2.573612	1.333937	1.93	0.054	-.0408558	5.188079

(no endogenous regressors)

```
28 .
29 . ****  In the next line of code we carry out sensitivity analysis on the instrume
   > nt*****
30 .
31 . use bsauto1, replace
   (bootstrap: regress)

32 .
33 . mean _b_pct_insclnxtyr
```

Mean estimation Number of obs = 1000

	Mean	Std. Err.	[95% Conf.	Interval]
_b_pct_insclnxtyr	-.0524788	.0005625	-.0535827	-.0513749

```
34 .
35 . use bsauto2, replace
   (bootstrap: ivregress)

36 .
37 . mean _b_ctuition17
```

Mean estimation Number of obs = 1000

	Mean	Std. Err.	[95% Conf.	Interval]
_b_ctuition17	.8145842	.0158216	.7835368	.8456315

```
38 .
   end of do-file

39 .
```