Statistics/Data Analysis

```
      name:  <unnamed>
       log:  C:\Users\eaj628\Documents\hwk2.smcl
  log type:  smcl
 opened on:  24 Sep 2016, 20:34:05

1 . /*
  >         Assignment 2
  >
  >         Evan Johnston
  > */
2 .
3 . set more off

4 . cd "\\tsclient\Stat Apps Server\hwk2"
  \\tsclient\Stat Apps Server\hwk2

5 .
6 . * prob 4
7 . use "\\tsclient\Stat Apps Server\Data Sets- STATA\bertrandmull.dta", clear

8 .
9 . * part 4.a
10. foreach i in female computerskills ofjobs yearsexp {
    2.         regress `i' black, robust
    3. }

Linear regression                               Number of obs     =      4,870
                                                F(1, 4868)        =       0.78
                                                Prob > F          =     0.3767
                                                R-squared         =     0.0002
                                                Root MSE          =     .4214

------------------------------------------------------------------------------
             |               Robust
      female |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       black |   .0106776    .012077     0.88   0.377    -.0129987    .0343539
       _cons |   .7638604   .0086086    88.73   0.000     .7469837    .7807371
------------------------------------------------------------------------------

Linear regression                               Number of obs     =      4,870
                                                F(1, 4868)        =       4.69
                                                Prob > F          =     0.0303
                                                R-squared         =     0.0010
                                                Root MSE          =     .38364

------------------------------------------------------------------------------
             |               Robust
computersk~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       black |   .0238193   .0109947     2.17   0.030     .0022646     .045374
       _cons |   .8086242   .0079736   101.41   0.000     .7929923    .8242562
------------------------------------------------------------------------------

Linear regression                               Number of obs     =      4,870
                                                F(1, 4868)        =       0.03
                                                Prob > F          =     0.8601
                                                R-squared         =     0.0000
                                                Root MSE          =     1.2192

------------------------------------------------------------------------------
             |               Robust
      ofjobs |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       black |  -.0061602   .0349428    -0.18   0.860    -.0746638    .0623435
       _cons |   3.664476   .0247103   148.30   0.000     3.616033     3.71292
------------------------------------------------------------------------------
```

Linear regression

Number of obs	= **4,870**
F(1, 4868)	= **0.03**
Prob > F	= **0.8535**
R-squared	= **0.0000**
Root MSE	= **5.0451**

yearsexp	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
black	**-.026694**	**.1445894**	**-0.18**	**0.854**	**-.3101545**	**.2567664**
_cons	**7.856263**	**.1029315**	**76.33**	**0.000**	**7.654471**	**8.058055**

```
11.
12. * part 4.b
13. tab education black
```

0=not reported; 1=HSD; 2=HSG; 3=some col; 4=col +	black 0	1	Total
0	**18**	**28**	**46**
1	**18**	**22**	**40**
2	**142**	**132**	**274**
3	**513**	**493**	**1,006**
4	**1,744**	**1,760**	**3,504**
Total	**2,435**	**2,435**	**4,870**

```
14.
15. * part 4.c
16. mean call if black
```

Mean estimation Number of obs = **2,435**

	Mean	Std. Err.	[95% Conf.	Interval]
call	**.0644764**	**.0049781**	**.0547145**	**.0742382**

```
17. local d1 = _b[call]

18. * Note that this [Avg(call | not black)] is the baseline to compare against
19. mean call if !black
```

Mean estimation Number of obs = **2,435**

	Mean	Std. Err.	[95% Conf.	Interval]
call	**.0965092**	**.0059853**	**.0847724**	**.1082461**

```
20. local d0 = _b[call]

21. * The calculated ATE:
22. display `d1'-`d0'
  -.03203285

23. regress call black, robust

  Linear regression                               Number of obs     =      4,870
                                                  F(1, 4868)        =      16.93
                                                  Prob > F          =     0.0000
                                                  R-squared         =     0.0035
                                                  Root MSE          =     .27164

------------------------------------------------------------------------------
             |               Robust
        call |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       black |  -.0320329    .007785    -4.11   0.000    -.0472949   -.0167708
       _cons |   .0965092   .0059853    16.12   0.000     .0847753    .1082431
------------------------------------------------------------------------------

24. * Note that [Avg(call | black) - Avg(call | not black)] =~ Coef. Black
25.
26. * part 4.d & e
27. regress call education ofjobs yearsexp computerskills female black, robust

  Linear regression                               Number of obs     =      4,870
                                                  F(6, 4863)        =       5.96
                                                  Prob > F          =     0.0000
                                                  R-squared         =     0.0082
                                                  Root MSE          =     .27114

------------------------------------------------------------------------------
             |               Robust
        call |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   education |  -.0009213   .0056877    -0.16   0.871    -.0120718    .0102291
     ofjobs |  -.0026042    .003694    -0.71   0.481    -.0098461    .0046376
   yearsexp |   .0033516   .0008754     3.83   0.000     .0016353    .0050678
computerskills |  -.0175576   .0114271    -1.54   0.124    -.0399598    .0048447
     female |   .0105578    .009598     1.10   0.271    -.0082587    .0293743
      black |  -.0316585   .0077655    -4.08   0.000    -.0468823   -.0164347
      _cons |   .0891904   .0257348     3.47   0.001     .0387386    .1396422
------------------------------------------------------------------------------

28.
29. log close
       name:  <unnamed>
        log:  C:\Users\eaj628\Documents\hwk2.smcl
   log type:  smcl
  closed on:  24 Sep 2016, 20:34:06
```