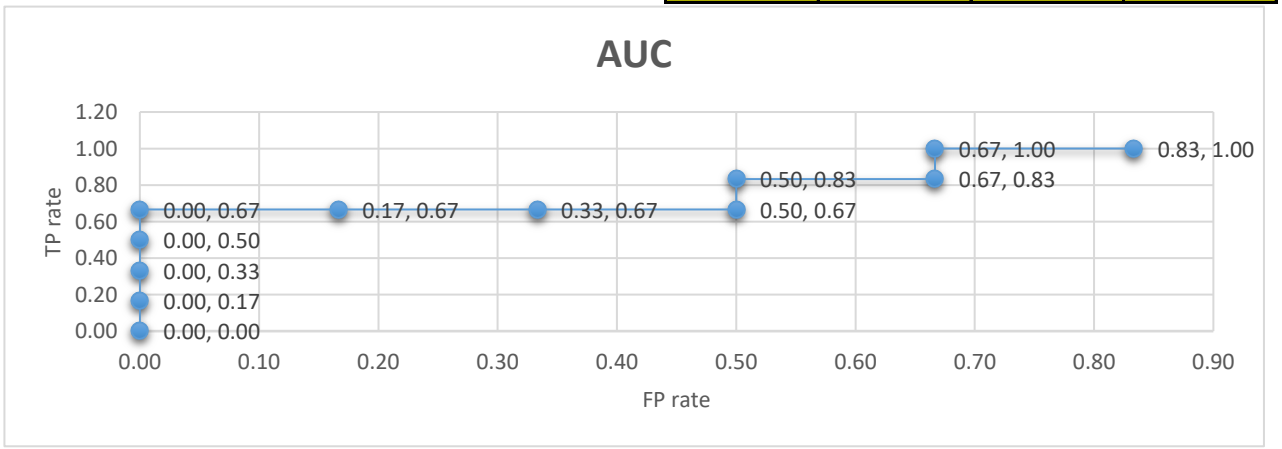
HW 2, Q3, Sum of std. height and weight as scores

Soldier ID	Height (inches)	Weight (pounds)	Age (years)	Standardized Height	Standardized Weight	Standardized Age	Sum of St. Height and Weight	Completed Goal	FP rate	TP rate
1	73	280	26	1.60	2.45	-0.06	4.05	1	0.00	0.00
2	72	165	40	1.36	0.29	1.49	1.65	1	0.00	0.17
6	66	195	21	-0.09	0.85	-0.61	0.76	1	0.00	0.33
4	70	130	30	0.87	-0.37	0.39	0.51	1	0.00	0.50
5	68	150	50	0.39	0.01	2.59	0.40	0	0.00	0.67
3	71	105	25	1.11	-0.84	-0.17	0.28	0	0.17	0.67
10	62.5	210	24	-0.93	1.14	-0.28	0.20	0	0.33	0.67
11	62	140	20	-1.05	-0.18	-0.72	-1.23	1	0.50	0.67
7	65	100	22	-0.33	-0.93	-0.50	-1.26	0	0.50	0.83
8	64	110	23	-0.57	-0.75	-0.39	-1.32	1	0.67	0.83
9	63	120	19	-0.81	-0.56	-0.83	-1.37	0	0.67	1.00
12	60	90	18	-1.54	-1.12	-0.94	-2.66	0	0.83	1.00

Avg	66.38	149.58	26.50
Std.d	4.15	53.13	9.08

Ans.	Method	AUC	Better
	St. height+St	0.6361	Yes
	St. height+St	0.5511	No

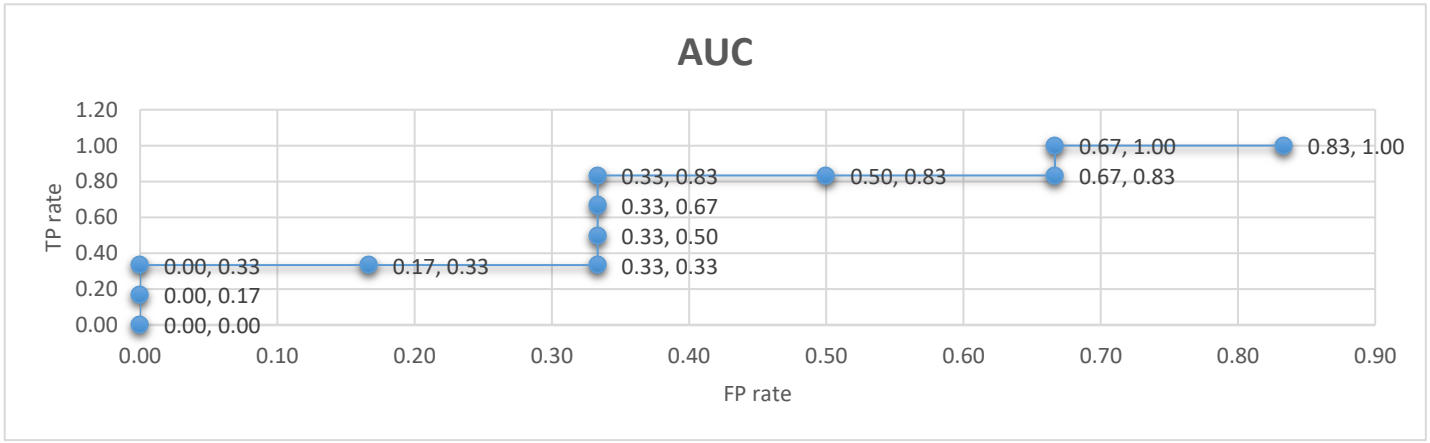


AUC
0.335
0.1411
0.16
0.6361

HW 2, Q3, standardized height + standardized weight – standardized age as score

Soldier ID	Height (inches)	Weight (pounds)	Age (years)	Standardized Height	Standardized Weight	Standardized Age	St. Height + St. Weight - St. Age	Completed Goal	FP rate	TP rate
1	73	280	26	1.60	2.45	-0.06	4.11	1	0.00	0.00
6	66	195	21	-0.09	0.85	-0.61	1.37	1	0.00	0.17
10	62.5	210	24	-0.93	1.14	-0.28	0.48	0	0.00	0.33
3	71	105	25	1.11	-0.84	-0.17	0.44	0	0.17	0.33
2	72	165	40	1.36	0.29	1.49	0.16	1	0.33	0.33
4	70	130	30	0.87	-0.37	0.39	0.12	1	0.33	0.50
11	62	140	20	-1.05	-0.18	-0.72	-0.52	1	0.33	0.67
9	63	120	19	-0.81	-0.56	-0.83	-0.54	0	0.33	0.83
7	65	100	22	-0.33	-0.93	-0.50	-0.77	0	0.50	0.83
8	64	110	23	-0.57	-0.75	-0.39	-0.93	1	0.67	0.83
12	60	90	18	-1.54	-1.12	-0.94	-1.72	0	0.67	1.00
5	68	150	50	0.39	0.01	2.59	-2.19	0	0.83	1.00

Avg	66.38	149.58	26.50
Std.dev	4.15	53.13	9.08



AUC
0.1089
0.2822
0.16
0.5511

HW 3 Q2

---

name: <unnamed>
log: C:\Users\aso5400\Desktop\Adioak.log
log type: text
opened on: 25 Sep 2017, 16:54:32

. use "C:\Users\aso5400\Downloads\data for HW3.xlsx", clear
file C:\Users\aso5400\Downloads\data for HW3.xlsx not Stata format
r(610);

. use "C:\Users\aso5400\Downloads\data for HW3.xlsx", clear
file C:\Users\aso5400\Downloads\data for HW3.xlsx not Stata format
r(610);

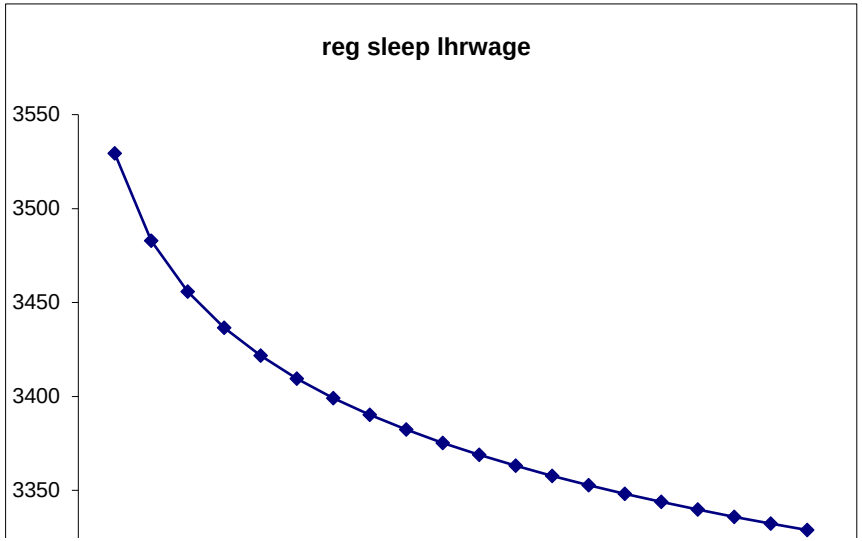
. use "C:\Users\aso5400\Downloads\SLEEP75(1).DTA", clear

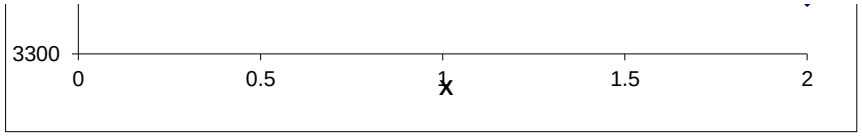
. *HW 3, Q2 a)

. regress sleep ln(lhrwage)
variable ln not found
r(111);

. reg sleep lhrwage

```
      Source |       SS       df       MS      Number of obs   =       532
#NAME?
       Model |  445336.018     1  445336.018   Prob > F        =    0.1216
    Residual |  98181344.4     530  185247.82   R-squared       =    0.0045
-------------+------------------------------   Adj R-squared   =    0.0026
       Total |  98626680.4     531  185737.628   Root MSE        =    430.4
```

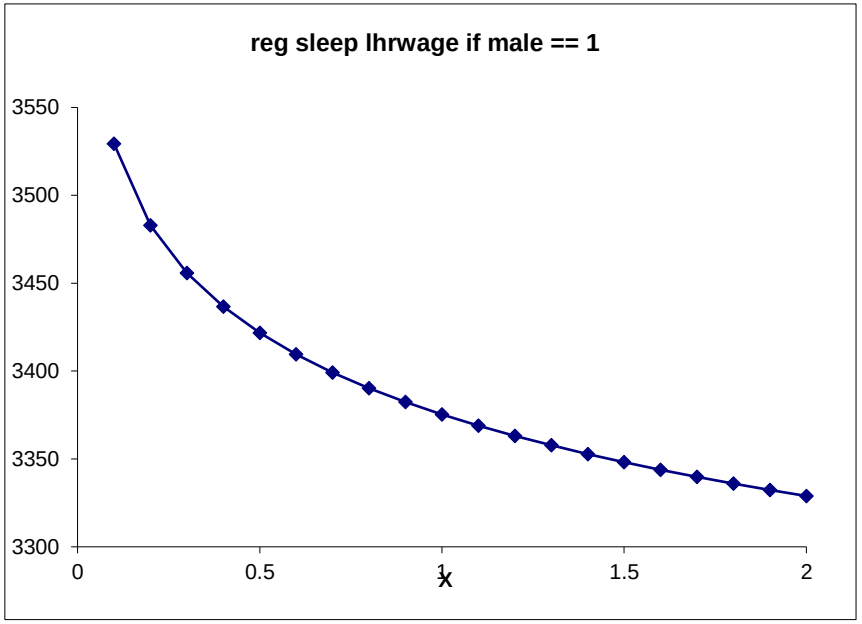





```
------------------------------------------------------------------------------
      sleep |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lhrwage |  -45.89257   29.59886    -1.55   0.122    -104.0381    12.25292
      _cons |   3325.137    46.2837    71.84   0.000     3234.215    3416.059
------------------------------------------------------------------------------
```

i) For every 1 % rise in wages, there is a 45.89% fall in the sleep minutes per week

. *HW 3, Q2 b)




```
. reg sleep lhrwage if male == 1

      Source |       SS       df       MS      Number of obs   =
> 293
-------------+------------------------------   F(1, 291)       =
> 0.15
       Model |  28344.2706     1  28344.2706   Prob > F        =   0.
> 6957
    Residual |  53814272.6     291  184928.772   R-squared       =   0.
> 0005
-------------+------------------------------   Adj R-squared   =  -0.
> 0029
       Total |  53842616.9     292  184392.524   Root MSE        =   43
> 0.03

------------------------------------------------------------------------------
> ----
      sleep |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Inter
> val]
-------------+----------------------------------------------------------------
> ----
    lhrwage |   18.33725   46.83859     0.39   0.696    -73.84811    110.
> 5226
```

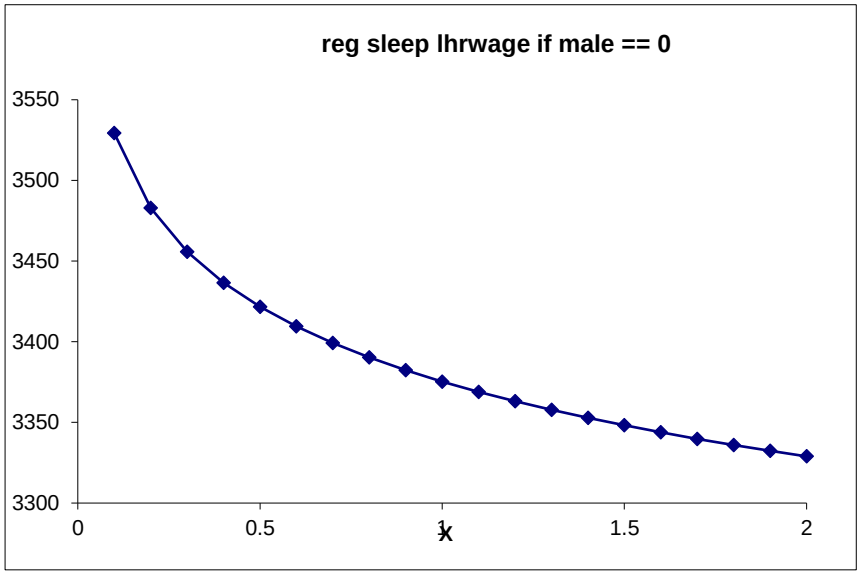
```
      _cons |   3194.988   82.95208    38.52   0.000     3031.726    335
> 8.25
------------------------------------------------------------------------------
> ----
```

i) In males, for every 1% rise in wages , there is an 18.33% rise in the sleep minutes per week

```
. reg sleep lhrwage if male == 0

      Source |       SS       df       MS      Number of obs   =       239
 #NAME?
       Model |  377170.337     1  377170.337   Prob > F        =    0.1538
    Residual |  43673754.3     237  184277.444   R-squared      =    0.0086
-------------+------------------------------   Adj R-squared   =    0.0044
       Total |  44050924.6     238  185087.919   Root MSE       =    429.28

------------------------------------------------------------------------------
       sleep |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lhrwage |  -66.96015   46.80408    -1.43   0.154    -159.1653    25.24502
      _cons |   3375.301   59.1584    57.06   0.000     3258.758    3491.845
------------------------------------------------------------------------------
```



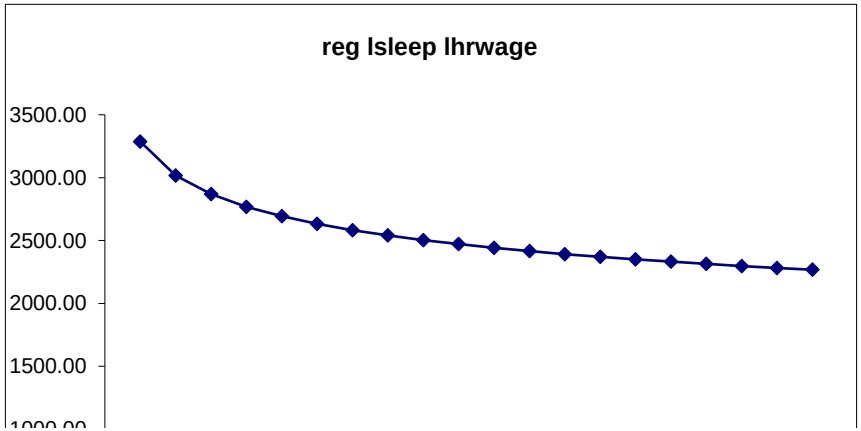
In females, for every 1% rise in wages, there is a 66.96% fall in the sleep minutes per week

***HW 3, Q2, c)**

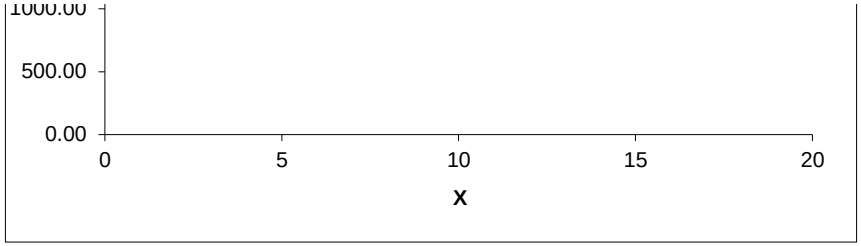
```
. gen lsleep = ln(sleep)

. reg lsleep lhrwage

      Source |       SS       df       MS      Number of obs   =       532
 #NAME?
       Model |  .032448274     1  .032448274   Prob > F        =    0.1928
    Residual |  10.1134979     530  .019082072   R-squared      =    0.0032
-------------+------------------------------   Adj R-squared   =    0.0013
       Total |  10.1459462     531  .019107243   Root MSE       =    .13814
```



```
------------------------------------------------------------------------------
      lsleep |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lhrwage |  -.0123878   .0094997    -1.30   0.193    -.0310495    .0062739
       _cons |   8.097854   .0148547   545.14   0.000     8.068673    8.127036
------------------------------------------------------------------------------
```



i) For every 1% rise wages, there is a 0.12% fall in the sleep minutes per week

```
. log close
      name:  <unnamed>
       log:  C:\Users\aso5400\Desktop\Adioak.log
  log type:  text
 closed on:  25 Sep 2017, 18:17:06
```