



 (R)
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Notes:
1. Unicode is supported; see [help unicode advice](#) .
2. More than 2 billion observations are allowed; see [help obs advice](#) .
3. Maximum number of variables is set to 5000; see [help set maxvar](#) .

```
1 . doedit "D:\THU\Sophomore\Econometrics\PS4\2022011545-李昊伦-ps4.do"
2 . do "D:\THU\Sophomore\Econometrics\PS4\2022011545-李昊伦-ps4.do"
3 . cd "D:\THU\Sophomore\Econometrics\PS4"
D:\THU\Sophomore\Econometrics\PS4
4 . clear
5 .
6 . log using "2022011545.log", replace
```

name: <unnamed>
log: D:\THU\Sophomore\Econometrics\PS4\2022011545.log
log type: text
opened on: 21 May 2024, 22:02:16

```
7 .
8 . use jtrain98.dta, clear
   (Written by R. )
9 .
10 . **3(b)
11 . reg earn98 train
```

Source	SS	df	MS	Number of obs	=	1,130
Model	1054.41369	1	1054.41369	F(1, 1128)	=	17.91
Residual	66408.4778	1,128	58.872764	Prob > F	=	0.0000
				R-squared	=	0.0156
				Adj R-squared	=	0.0148
Total	67462.8915	1,129	59.754554	Root MSE	=	7.6729

earn98	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
train	-2.050053	.4844142	-4.23	0.000	-3.000507	-1.099599
_cons	10.6099	.279429	37.97	0.000	10.06164	11.15816

```
12 .
13 . **3(c)
```

```
14 . reg train earn96 educ age married
```

Source	SS	df	MS	Number of obs	=	1,130
Model	62.3769648	4	15.5942412	F(4, 1125)	=	93.06
Residual	188.511531	1,125	.167565805	Prob > F	=	0.0000
				R-squared	=	0.2486
				Adj R-squared	=	0.2460
Total	250.888496	1,129	.222221874	Root MSE	=	.40935

train	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
earn96	-.019028	.0011428	-16.65	0.000	-.0212703	-.0167858
educ	-.0123111	.0043717	-2.82	0.005	-.0208886	-.0037336
age	-.0050343	.0012841	-3.92	0.000	-.0075539	-.0025147
married	-.1240124	.0289627	-4.28	0.000	-.1808395	-.0671854
_cons	.9464928	.0731975	12.93	0.000	.8028737	1.090112

```
15 .
16 . **3(d)
17 . regress earn98 earn96 educ age married if train == 1
```

Source	SS	df	MS	Number of obs	=	376
Model	5777.16257	4	1444.29064	F(4, 371)	=	40.24
Residual	13315.4315	371	35.8906509	Prob > F	=	0.0000
				R-squared	=	0.3026
				Adj R-squared	=	0.2951
Total	19092.594	375	50.9135841	Root MSE	=	5.9909

earn98	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
earn96	.4861164	.0505084	9.62	0.000	.3867978	.585435
educ	.3429644	.112609	3.05	0.002	.1215325	.5643964
age	-.137996	.0339719	-4.06	0.000	-.2047976	-.0711943
married	1.765867	.6971311	2.53	0.012	.3950437	3.136691
_cons	5.779343	1.828301	3.16	0.002	2.184211	9.374476

```
18 . predict yhat_1, xb
```

```
19 . summarize yhat_1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
yhat_1	1,130	12.28533	6.127292	-.6435448	26.36363

```
20 .
21 . regress earn98 earn96 educ age married if train == 0
```

Source	SS	df	MS	Number of obs	=	754
Model	20755.3927	4	5188.84818	F(4, 749)	=	146.32
Residual	26560.491	749	35.4612697	Prob > F	=	0.0000
				R-squared	=	0.4387
				Adj R-squared	=	0.4357
Total	47315.8838	753	62.836499	Root MSE	=	5.9549

earn98	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
earn96	.3533617	.0200041	17.66	0.000	.3140909	.3926324
educ	.3778346	.0777784	4.86	0.000	.225145	.5305242
age	-.1960609	.0227436	-8.62	0.000	-.2407097	-.151412
married	2.759077	.5439972	5.07	0.000	1.691136	3.827017
_cons	5.077574	1.386709	3.66	0.000	2.355275	7.799872

22 . predict yhat_0, xb

23 . summarize yhat_0

Variable	Obs	Mean	Std. Dev.	Min	Max
yhat_0	1,130	9.179123	5.203652	-4.376209	21.33735

24 .

25 . gen diff_yhat = yhat_1 - yhat_0

26 . summarize diff_yhat

Variable	Obs	Mean	Std. Dev.	Min	Max
diff_yhat	1,130	3.106202	1.46172	.451417	7.140118

27 .

28 . regress earn98 train earn96 educ age married

Source	SS	df	MS	Number of obs	=	1,130
Model	27320.1797	5	5464.03593	F(5, 1124)	=	152.99
Residual	40142.7118	1,124	35.7141564	Prob > F	=	0.0000
				R-squared	=	0.4050
				Adj R-squared	=	0.4023
Total	67462.8915	1,129	59.754554	Root MSE	=	5.9761

earn98	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
train	2.410547	.4352625	5.54	0.000	1.556528	3.264565
earn96	.3725384	.0186262	20.00	0.000	.3359923	.4090845
educ	.3628329	.064047	5.67	0.000	.2371678	.4884979
age	-.181046	.018875	-9.59	0.000	-.2180803	-.1440118
married	2.481719	.4262625	5.82	0.000	1.64536	3.318079
_cons	4.667042	1.145283	4.08	0.000	2.419908	6.914176

29 .

30 . log close

```

    name: <unnamed>
    log: D:\THU\Sophomore\Econometrics\PS4\2022011545.log
    log type: text
    closed on: 21 May 2024, 22:02:16

```

31 .

end of do-file

32 .