- 1 . 2 . clear
- 3 . set more off
- 4 . cd "C:\Users\wonja\Documents\GitHub\14.320\PS3" C:\Users\wonja\Documents\GitHub\14.320\PS3
- 5 . use final5
- 7 . * Problem 4.(a)
- 8.
- 9 . keep if 5 < c_size & classize < 45 (5 observations deleted)
- 10 . replace avgmath = avgmath 100 if avgmath > 100 (1 real change made)
- 11 . replace avgverb = avgverb 100 if avgverb > 100 (1 real change made)
- 12 . replace avgmath = . if mathsize == 0(1 real change made, 1 to missing)
- 13 . drop if mi(c_size) | mi(classize) | mi(verbsize) | mi(mathsize) (5 observations deleted)
- 14 . sum classize c_size tipuach verbsize mathsize avgverb avgmath, detail

classize

	Percentiles	Smallest		
1%	12	8		
5%	19	8		
10%	21	9	0bs	2,019
25%	26	9	Sum of Wgt.	2,019
50%	31		Mean	29.93512
		Largest	Std. Dev.	6.545885
75%	35	43		
90%	38	43	Variance	42.84861
95%	40	43	Skewness	5001536
99%	41	44	Kurtosis	2.917571
		c_size		
	Percentiles	Smallest		
1%	14	8		
5%	22	9		
10%	31	9	0bs	2,019
25%	50	9	Sum of Wgt.	2,019
50%	72		Mean	77.74195
		Largest	Std. Dev.	38.81073
75%	100	226		
90%	128	226	Variance	1506.273
95%	153	226	Skewness	.7739373
99%	194	226	Kurtosis	3.68702
		tipuach		
	Percentiles	Smallest		
1%	0	0		
5%	1	0		
10%	2	0	0bs	2,019
25%	4	0	Sum of Wgt.	2,019
			_	

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Mor	nday March 29 04	:26:45 2021 P	age 2	
50%	10	Laurant	Mean	14.10203
750/	20	Largest	Std. Dev.	13.49887
75%	20	71 71	Vaniance	102 2105
90%	35 43		Variance	182.2195
95%		76 76	Skewness	1.461092
99%	57	76	Kurtosis	4.784564
		number tested r	eading	
	Percentiles	Smallest		
1%	10	5		
5%	16	5		
10%	19	5	0bs	2,019
25%	23	5	Sum of Wgt.	2,019
50%	28		Mean	27.32343
3070		Largest	Std. Dev.	6.582096
75%	32	40	Sea. Bev.	0.302030
90%	36	41	Variance	43.32399
95%	37	41	Skewness	4077118
99%	40	41	Kurtosis	2.904936
J J/6		7.	Kui CO313	2.504550
	nu	mber tested mat	hematics	
	Percentiles	Smallest		
1%	11	0		
5%	16	5		
10%	19	5	0bs	2,019
25%	23	5	Sum of Wgt.	2,019
50%	28		Mean	27.71966
30%	20	Largest	Std. Dev.	6.641885
75%	22	-	stu. Dev.	0.041003
75%	33	41		44 44463
90%	36	41	Variance	44.11463
95%	38	41	Skewness	4506541
99%	40	41	Kurtosis	2.998595
	g	rammar score -	kovec2	
	Percentiles	Smallest		
1%	52.37	34.8		
5%	60.39	37.81		
10%	64.15	41.00381	0bs	2,019
25%	69.85	44.19	Sum of Wgt.	2,019
50%	75.40741		Mean	74.38641
30%	/3.40/41	Langost	Std. Dev.	7.684038
750/	70.046	Largest	stu. Dev.	7.004030
75%	79.846	91.57	M	FO 04444
90%	83.34029	91.72	Variance	59.04444
95%	85.05	93.81	Skewness	7883796
99%	88.21	93.86	Kurtosis	4.109639
	mat	hematics score	- kovec2	
	Percentiles	Smallest		
1%	43.56	27.69		
5%	50.21	31.45		
10%	54.8448	32.05	0bs	2,018
25%	61.1	37.58	Sum of Wgt.	2,018
			5	•
50%	67.8		Mean	67.29267
		Largest	Std. Dev.	9.598066
75%	74.09	92.69		
90%	79.40897	93.27	Variance	92.12286
95%	82.05	93.73	Skewness	3387665
99%	86.41	93.93	Kurtosis	3.116569

15 . eststo: quietly estpost sum classize c_size tipuach verbsize mathsize avgverb
> avgmath, detail
 (est3 stored)

16 . esttab using PS3-4a.tex, replace compress cells("mean(fmt(a1)) sd(fmt(a1)) p1
 > 0(fmt(a1)) p25(fmt(a1)) p50(fmt(a1)) p75(fmt(a1)) p90(fmt(a1))") nonumbers mt
 > itles("Unweighted descriptive statistics") variabels(classize "Class size" c_
 > size "Enrollment" tipuach "Percent disadvantaged" verbsize "Reading size" mat
 > hsize "Math size" avgverb "Average verbal" avgmath "Average math") stats(N, f
 > mt(%9.0gc) label("Observations"))
 (output written to PS3-4a.tex)

17 . eststo clear

12

19 . * Problem 4.(b)

20 .

21 . eststo: reg avgmath classize

Source	SS	df	MS		Number of obs F(1, 2016) Prob > F R-squared Adj R-squared Root MSE		2,018
Model Residual	8934.7384 176877.075	1 2,016	8934.738 87.736644	4 Prob 3 R-squ			101.84 0.0000 0.0481 0.0476
Total	185811.813	2,017	92.122862				9.3668
avgmath	Coef.	Std. Err.	t	P> t	[95% Con	f.	Interval]
classize _cons	.3217141 57.66021	.0318801 .977032	10.09 59.02	0.000 0.000	.2591928 55.74412		.3842355 59.57631

(est1 stored)

22 . eststo: reg avgverb classize

Source	SS	df	MS	Number of obs	=	2,019
				F(1, 2017)	=	74.13
Model	4223.68955	1	4223.68955	Prob > F	=	0.0000
Residual	114927.998	2,017	56.9796718	R-squared	=	0.0354
				Adj R-squared	=	0.0350
Total	119151.688	2,018	59.0444438	Root MSE	=	7.5485

avgverb	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
classize	.2210126	.0256703	8.61	0.000	.1706695	.2713557
_cons	67.77037	.7865921	86.16	0.000	66.22775	69.31299

(est2 stored)

24 . eststo clear

25

26 . * Problem 4.(c) i.

27 .

28 . eststo: reg avgmath classize c_size

Source	SS	df	MS		Number of obs F(2, 2015) Prob > F R-squared Adj R-squared		2,018
Model Residual	12449.6701 173362.143	2 2,015	6224.8350 86.035803)4 Prob 31 R-sq			72.35 0.0000 0.0670
Total	185811.813	2,017	92.122862		•	=	0.0661 9.2755
avgmath	Coef.	Std. Err.	t	P> t	[95% Co	nf.	Interval]
classize c_size _cons	.1621547 .0433775 59.06405	.0402469 .0067865 .9921315	4.03 6.39 59.53	0.000 0.000 0.000	.083224 .030068 57.1183	2	.2410845 .0566868 61.00976

(est1 stored)

29 . eststo: reg c_size classize

Source	SS	df	MS		er of obs	=	2,019
Model Residual	1171359.89 1868298.67	1 2,017	1171359.8 926.27598	8 9 Prob 8 7 R-sq	F(1, 2017) Prob > F R-squared Adj R-squared		1264.59 0.0000 0.3854
Total	3039658.56	2,018	1506.2728		•	=	0.3851 30.435
c_size	Coef.	Std. Err.	t	P> t	[95% Coi	nf.	Interval]
classize cons	3.68058 -32.43663	.1035002 3.171464	35.56 -10.23	0.000 0.000	3.47760: -38.6563:		3.883558 -26.21694

(est2 stored)

30 . eststo: reg avgmath classize

Source	SS	df	MS	Numb	er of obs	=	2,018
				— F(1,	2016)	=	101.84
Model	8934.7384	1	8934.738	34 Prob) > F	=	0.0000
Residual	176877.075	2,016	87.736644	13 R-sc	quared	=	0.0481
				— Adj	R-squared	=	0.0476
Total	185811.813	2,017	92.122862	24 Root	MSE	=	9.3668
avgmath	Coef.	Std. Err.	t	P> t	[95% Co	nf.	Interval]
classize	.3217141	.0318801	10.09	0.000	.259192	8	.3842355

(est3 stored)

- 32 . eststo clear

33

34 . eststo: reg avgverb classize c_size

	Source	SS	df	MS	Number of obs	=	2,019
_				-	F(2, 2016)	=	48.52
	Model	5472.45697	2	2736.22849	Prob > F	=	0.0000
	Residual	113679.231	2,016	56.3885073	R-squared	=	0.0459
_					Adj R-squared	=	0.0450
	Total	119151.688	2,018	59.0444438	Root MSE	=	7.5092

avgverb	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
classize	.1258571	.0325728	3.86	0.000	.0619772	.1897371
c_size	.0258534	.0054938	4.71	0.000	.0150793	.0366275
_cons	68.60896	.8025355	85.49	0.000	67.03508	70.18285

(est1 stored)

35 . eststo: reg c_size classize

Source	SS	df	MS		Adj R-squared		2,019
Model Residual	1171359.89 1868298.67	1 2,017	1171359.89 926.275987	Prob R-squ			1264.59 0.0000 0.3854
Total	3039658.56	2,018	1506.27282	-			0.3851 30.435
c_size	Coef.	Std. Err.	t	P> t	[95% C	Conf.	Interval]
classize _cons	3.68058 -32.43663	.1035002 3.171464	35.56 -10.23	0.000 0.000	3.4776 -38.656		3.883558 -26.21694

(est2 stored)

36 . eststo: reg avgverb classize

Source	SS	df	MS	Number		_, -,
Model Residual	4223.68955 114927.998	1 2,017	4223.68955 56.9796718	R-squar	F = ed =	0.0000 0.0354
Total	119151.688	2,018	59.0444438	- Adj R-s B Root MS	•	
avgverb	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
classize _cons	.2210126 67.77037	.0256703 .7865921			.1706695 66.22775	.2713557 69.31299

(est3 stored)

- 37 . esttab using PS3-4ci-2.tex, replace compress nonumbers mtitles("Average verba
 > 1" "Enrollment" "Average verbal") varlabels(classize "Class size" c_size "Enr
 > ollment" _cons "Constant") stats(N, fmt(%9.0gc) label(Observations))
 (output written to PS3-4ci-2.tex)
- 38 . eststo clear

39 .

40 . * Problem 4.(c) ii.

41 .

42 . eststo: reg avgmath classize tipuach

69.81244

Source	SS	df	MS		r of obs	=	2,018
Model Residual	46088.6083 139723.205	2 2,015	23044.304 69.34154	2 Prob 1 R-squ	F(2, 2015) Prob > F R-squared Adj R-squared		332.33 0.0000 0.2480 0.2473
Total	185811.813	2,017	92.122862	-	•	=	8.3272
avgmath	Coef.	Std. Err.	t	P> t	[95% Cor	nf.	Interval]
classize tipuach	.0758252 3395271	.030267 .0146679	2.51 -23.15	0.012 0.000	.0164672	_	.1351832 3107612

68.79

0.000

67.82204

71.80284

1.01492

(est1 stored)

_cons

43 . eststo: reg tipuach classize

Source	SS	df	MS		er of obs 2017)	=	2,019 281.20
Model Residual	44992.9189 322726.063	1 2,017	44992.9189 160.003000	Prob R-squ	> F ´	=	0.0000 0.1224 0.1219
Total	367718.982	2,018	182.21951		•	=	12.649
tipuach	Coef.	Std. Err.	t	P> t	[95% Con	f.	Interval]
classize _cons	7213452 35.69558	.0430165 1.318116	-16.77 27.08	0.000 0.000	8057066 33.11057		6369837 38.28059

(est2 stored)

44 . eststo: reg avgmath classize

Source	SS	df	MS		er of obs	=	2,018
Model Residual	8934.7384 176877.075	1 2,016	8934.738 87.736644	4 Prob	2016) > F uared	= =	101.84 0.0000 0.0481
Total	185811.813	2,017	92.122862		Adj R-squared Root MSE		0.0476 9.3668
avgmath	Coef.	Std. Err.	t	P> t	[95% Coi	nf.	Interval]
classize _cons	.3217141 57.66021	.0318801 .977032	10.09 59.02	0.000 0.000	.2591928 55.7441	-	.3842355 59.57631

(est3 stored)

45 . esttab using PS3-4cii-1.tex, replace compress nonumbers mtitles("Average math > " "Percent disadvantaged" "Average math") varlabels(classize "Class size" tip > uach "Percent disadvantaged" _cons "Constant") stats(N, fmt(%9.0gc) label(Obs > ervations)) (output written to <u>PS3-4cii-1.tex</u>)

46 . eststo clear

47

48 . eststo: reg avgverb classize tipuach

Source	SS	df	MS		er of obs 2016)	=	2,019 584.56
Model Residual	43735.6271 75416.0605	2 2,016	21867.813 37.408760	5 Prob2 R-sq	> F ´ uared	=	0.0000 0.3671
Total	119151.688	2,018	59.044443	,	R-squared MSE	=	0.3664 6.1163
avgverb	Coef.	Std. Err.	t	P> t	[95% C	onf.	Interval]
classize tipuach cons	0313879 3499026 80.26034	.0222023 .0107664 .7442497	-1.41 -32.50 107.84	0.158 0.000 0.000	074929 3710	17	.012154 3287882 81.71992

(est1 stored)

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49 . eststo: reg tipuach classize

Source	SS	df	MS		mber of obs	=	2,019
Model Residual	44992.9189 322726.063	1 2,017	44992.918 160.0030	3 9 Pr 36 R-	1, 2017) ob > F squared	=	281.20 0.0000 0.1224 0.1219
Total	367718.982	2,018	182.21951		j R-squared ot MSE	=	12.649
tipuach	Coef.	Std. Err.	t	P> t	[95% Co	nf.	Interval]
classize _cons	7213452 35.69558	.0430165 1.318116	-16.77 27.08	0.000 0.000			6369837 38.28059

(est2 stored)

50 . eststo: reg avgverb classize

Source	SS	df	MS	Numbe	er of obs	=	2,019
				- F(1,	2017)	=	74.13
Model	4223.68955	1	4223.6895	5 Prob	> F	=	0.0000
Residual	114927.998	2,017	56.979671	8 R-squ	ıared	=	0.0354
				– Adj F	R-squared	=	0.0350
Total	119151.688	2,018	59.044443	8 Root	MSE	=	7.5485
avgverb	Coef.	Std. Err.	t	P> t	[95% Co	nf.	Interval]
classize cons	.2210126 67.77037	.0256703	8.61 86.16	0.000 0.000	.170669		.2713557

(est3 stored)

51 . esttab using PS3-4cii-2.tex, replace compress nonumbers mtitles("Average verb > al" "Percent disadvantaged" "Average verbal") varlabels(classize "Class size" > tipuach "Percent disadvantaged" _cons "Constant") stats(N, fmt(%9.0gc) label > (Observations)) (output written to PS3-4cii-2.tex)

52 . eststo clear

54 . * Problem 4.(c) iii.

55 . 56 . eststo: reg avgmath classize c_size tipuach

2,018 224.83		Number of obs F(3, 2014)		MS	df	SS	Source
0.000	=) > F	` .	15538.775	3	46616.3258	Model
0.2509	=	quared	52 R-sc	69.113946	2,014	139195.488	Residual
0.2498	ed =	R-square	— Adj				
8.313	=	: MSE	24 Root	92.122862	2,017	185811.813	Total
Interval	Conf.	[95%	P> t	t	Std. Err.	Coef.	avgmath
.090403	3334	0533	0.613	0.51	.0366462	.0185351	classize
.02927	9699	.0049	0.006	2.76	.0061962	.0171215	c_size
		3609	0.000	-22.23	.0149173	3316712	tipuach
3024163	9261	3003	0.000				

(est1 stored)

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57 . eststo: reg avgverb classize c_size tipuach

Source	SS	df	MS		er of obs	=	2,019 389.60
Model Residual	43741.7731 75409.9145	3 2,015	14580.593 37.424275	1 Prob 2 R-sq	F(3, 2015) Prob > F R-squared Adj R-squared		0.0000 0.3671
Total	119151.688	2,018	59.044443		•	=	0.3662 6.1175
avgverb	Coef.	Std. Err.	t	P> t	[95% Co	nf.	Interval]
classize c_size tipuach _cons	0251977 0018474 3507472 80.23057	.0269533 .0045587 .0109685 .7480209	-0.93 -0.41 -31.98 107.26	0.350 0.685 0.000 0.000	078056 010787 372257 78.763	6 9	.0276614 .0070928 3292365 81.69755

(est2 stored)

58 . esttab using PS3-4ciii.tex, replace compress nonumbers mtitles("Average math" > "Average verbal") varlabels(classize "Class size" c_size "Enrollment" tipuac
> h "Percent disadvantaged" _cons "Constant") stats(N, fmt(%9.0gc) label(Observ (output written to PS3-4ciii.tex)

60 . log close

name: <unnamed>

log: C:\Users\wonja\Documents\GitHub\14.320\PS3\PS3-4.smc1

log type: smcl

closed on: 29 Mar 2021, 04:24:59