

Problem set A0

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Part1

1.

Number of students: 34083

Number of schools: 641

Number of programs: 33

Number of choices:3086

Missing test score: 179887

Apply for same school:60

Apply to less than 6 choices:17088

question 2.

	schoolcode	sssdistrict	ssslong	ssslat	cutoff	quality	size
225	10101	Accra Metropolitan	-0.19711526	5.607396	284	320.2312	398
244	10102	Accra Metropolitan	-0.19711526	5.607396	343	394.1492	248
272	10103	Accra Metropolitan	-0.19711526	5.607396	316	353.8330	443
264	10104	Accra Metropolitan	-0.19711526	5.607396	245	296.9182	220
287	10105	Accra Metropolitan	-0.19711526	5.607396	260	351.2139	346
223	10106	Accra Metropolitan	-0.19711526	5.607396	293	340.1013	395
250	10107	Accra Metropolitan	-0.19711526	5.607396	281	311.9542	306
80	10108		NA	NA	248	303.9025	318
231	10108	Accra Metropolitan	-0.19711526	5.607396	248	303.9025	318
288	10109	Accra Metropolitan	-0.19711526	5.607396	257	281.8233	300
234	10110	Accra Metropolitan	-0.19711526	5.607396	343	408.0785	535
1527	10111	Ga West (Amasaman)	-0.39751053	5.664688	371	412.5100	600
224	10112	Accra Metropolitan	-0.19711526	5.607396	316	375.6133	300
354	10114	Accra Metropolitan	-0.19711526	5.607396	319	346.2229	350
310	10115	Accra Metropolitan	-0.19711526	5.607396	274	316.3361	238
216	10116	Accra Metropolitan	-0.19711526	5.607396	205	289.9574	446
298	10117	Accra Metropolitan	-0.19711526	5.607396	330	369.3163	471
1513	10118	Ga West (Amasaman)	-0.39751053	5.664688	273	315.1206	539
242	10119	Accra Metropolitan	-0.19711526	5.607396	235	288.2111	398
307	10120	Accra Metropolitan	-0.19711526	5.607396	243	278.1403	278
217	10121	Accra Metropolitan	-0.19711526	5.607396	335	381.9820	500
293	10122	Accra Metropolitan	-0.19711526	5.607396	Inf	NaN	0
276	10123	Accra Metropolitan	-0.19711526	5.607396	Inf	NaN	0
286	10124	Accra Metropolitan	-0.19711526	5.607396	Inf	NaN	0
294	10125	Accra Metropolitan	-0.19711526	5.607396	Inf	NaN	0
263	10126	Accra Metropolitan	-0.19711526	5.607396	Inf	NaN	0
222	10128	Accra Metropolitan	-0.19711526	5.607396	203	268.6064	249

Showing 1 to 27 of 968 entries, 7 total columns

3.

	schoolplaced	jssdistrict	dist
1	10101	Accra Metropolitan	0.000000
2	10101	Accra Metropolitan	0.000000
3	10101	Accra Metropolitan	0.000000
4	10101	Accra Metropolitan	0.000000
5	10101	Accra Metropolitan	0.000000
6	10101	Accra Metropolitan	0.000000
7	10101	Accra Metropolitan	0.000000
8	10101	Accra Metropolitan	0.000000
9	10101	Accra Metropolitan	0.000000
10	10101	Accra Metropolitan	0.000000
11	10101	Accra Metropolitan	0.000000
12	10101	Accra Metropolitan	0.000000
13	10101	Accra Metropolitan	0.000000
14	10101	Ga West (Amasaman)	3.735473
15	10101	Ga West (Amasaman)	3.735473
16	10101	Ga West (Amasaman)	3.735473
17	10101	Ga West (Amasaman)	3.735473
18	10101	Accra Metropolitan	0.000000
19	10101	Accra Metropolitan	0.000000
20	10101	Accra Metropolitan	0.000000

4.

In this part, I delete all the outlier of distance (distance > 1000)

Rank choice	cutoff	mean		sd	
		quality	distance	quality	distance
1	165	313.64	35.23	56.41	52.77
2	173	302.45	33.91	49.04	48.154
3	190	288.61	28.4	42.42	42.79
4	185	276.77	22.73	37.51	38.45
5	198	252.75	31.78	30.45	29.19
6	158	251.17	31.20	28.95	28.52

quantile	cutoff	mean		sd	
		quality	distance	quality	distance
1	158	236.97	25.71		12.58
2	257	272.26	28.44		9.21
3	290	308.16	11.45		11.45
4	331	266.61	38.61		27.26

Part2.

5. Please see my code.

6.

The slope coefficient and standard error are:

```
      [,1]      [,2]
      2.4352988 0.13005862
x1  1.2456958 0.05537363
x2 -0.9345827 0.03718128
x3  0.1217732 0.06974194
```

7.

	Probit	logit	linear
X1	1.2109	2.0482	0.36360
X2	-0.9286	-1.4238	-0.22425
X3	0.1226	0.2343	0.03343
constant	-1.2153	-2.0364	0.10917

In probit model, x1 and x2 are significant.

In logit model, x1 and x2 are significant.

In linear model, x1 and x2 are significant.

Their numbers are the same signs.

Q8

> ea

```

              effect error t.value p.value
(Intercept) -0.341 0.052  -6.617  0.000
x1           0.340 0.024  13.876  0.000
x2          -0.233 0.019 -12.480  0.000
x3           0.049 0.040   1.219  0.223

```

```

              effect error t.value p.value
(Intercept) -0.334 0.051  -6.518  0.000
x1           0.336 0.026  13.095  0.000
x2          -0.234 0.020 -11.828  0.000
x3           0.058 0.043   1.361  0.174

```