

Introductory Statistics Homework Short Report for Topic 06

Comparison among Sections

Overview

The homework results that will be compared are Topico6.AB.csv, Topico6.CD.csv.

Figure 1 shows the side-by-side boxplots for the overall scores by section. Table 1 gives the average percentages correct for each learning outcome by section. Any percentages below 80 will be marked red.

	CD	AB
D	72	61
B	31	38
A	25.5	23
G	26	21.5
C	22	22
F	19.2	20.8
E	20.67	16.67

Table 1: Average percentages correct for each learning outcome by section. Learning outcomes are sorted by the average percentages correct of all sections, from the highest to the lowest.

Problematic question sets

ID	LO	Qset	Name	CrtPct
1	A	A	1	46.15
2	A	A	2	54.17
3	A	A	3	36.36
4	A	A	4	46.43
5	A	B	1	50.00
6	A	B	2	50.00
7	A	B	3	52.38
8	A	B	4	52.38
9	A	C	1	0.00
10	A	C	2	0.00
11	A	C	3	0.00
12	A	C	4	0.00

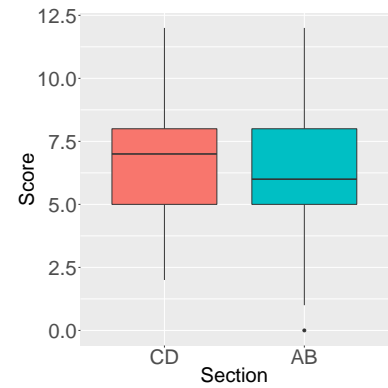


Figure 1: Boxplot for the overall scores by section.

- Use standardizing to determine how many standard deviations an observation is away from the mean value.
- Use z-scores to compare observations for different quantitative variables.
- Explain how standardizing affects the shape, center, and variability of the distribution of a quantitative variable.
- Determine which quantitative variables could be modeled using the normal distribution by interpreting graphical representations of the variable.
- Apply the 68-95-99.
- Find percentile or area values for any given observation from a normal distribution.
- Find the value of an observation when given a percentile or area value from the normal distribution.

13	A	D	1	0.00
14	A	D	2	0.00
15	A	D	3	0.00
16	A	D	4	0.00
17	B	E	compare1	41.00
18	B	F	compare2	28.00
19	C	G	1	20.00
20	C	H	1	24.00
21	D	I	feet	73.91
22	D	I	lowtemp	70.37
23	D	J	gain	60.71
24	D	J	mpg	80.00
25	D	J	blowhole	64.29
26	D	J	CDs	52.94
27	E	K	whale1	25.71
28	E	K	whale2	6.06
29	E	K	whale3	14.71
30	E	K	cow1	17.65
31	E	K	cow2	7.89
32	E	K	cow3	14.29
33	E	K	bulbs1	22.58
34	E	K	bulbs2	9.68
35	E	K	bulbs3	13.89
36	E	L	heights1	15.79
37	E	L	heights2	15.79
38	E	L	heights3	38.46
39	E	L	mm1	3.33
40	E	L	mm2	26.67
41	E	L	mm3	17.95
42	E	L	IQ1	36.36
43	E	L	IQ2	28.00
44	E	L	IQ3	21.43
45	F	M	mm1	40.74
46	F	M	Bulb1	16.67

47	F	M	IQ1	31.58
48	F	M	Whale1	41.18
49	F	M	Cow1	10.53
50	F	N	mm2	22.22
51	F	N	Bulb2	5.88
52	F	N	IQ2	27.27
53	F	N	Whale2	26.32
54	F	N	Cow2	12.50
55	F	O	mm3	20.00
56	F	O	Bulb3	14.29
57	F	O	IQ3	8.00
58	F	O	Whale3	24.00
59	F	O	Cow3	23.81
60	F	P	mm4	8.70
61	F	P	Bulb4	5.88
62	F	P	IQ4	20.00
63	F	P	Whale4	5.26
64	F	P	Cow4	14.29
65	F	Q	mm5	27.78
66	F	Q	Bulb5	26.32
67	F	Q	IQ5	10.53
68	F	Q	Whale5	27.27
69	F	Q	Cow5	24.24
70	G	R	mm1	33.33
71	G	R	Bulb1	22.73
72	G	R	IQ1	16.67
73	G	R	Whale1	24.00
74	G	R	Cow1	20.00
75	G	S	mm2	35.71
76	G	S	Bulb2	23.53
77	G	S	IQ2	13.64
78	G	S	Whale2	27.78
79	G	S	Cow2	26.67
80	G	T	mm3	18.18
81	G	T	Bulb3	31.25
82	G	T	IQ3	8.00
83	G	T	Whale3	12.50

84	G	T	Cow3	14.29
85	G	U	mm4	16.67
86	G	U	Bulb4	35.00
87	G	U	IQ4	33.33
88	G	U	Whale4	21.43
89	G	U	Cow4	33.33

Table 2: Question sets with any question correct percentage less than 80.

ID	LO	Qset	Name	CrtPct	Flag
1	A	A	1	46.15	
2	A	A	2	54.17	*
3	A	A	3	36.36	*
4	A	A	4	46.43	
23	D	J	gain	60.71	*
24	D	J	mpg	80.00	*
25	D	J	blowhole	64.29	*
26	D	J	CDs	52.94	*
27	E	K	whale1	25.71	*
28	E	K	whale2	6.06	*
29	E	K	whale3	14.71	
30	E	K	cow1	17.65	
31	E	K	cow2	7.89	*
32	E	K	cow3	14.29	
33	E	K	bulbs1	22.58	*
34	E	K	bulbs2	9.68	*
35	E	K	bulbs3	13.89	
36	E	L	heights1	15.79	*
37	E	L	heights2	15.79	*
38	E	L	heights3	38.46	*
39	E	L	mm1	3.33	*
40	E	L	mm2	26.67	*
41	E	L	mm3	17.95	*
42	E	L	IQ1	36.36	*
43	E	L	IQ2	28.00	*
44	E	L	IQ3	21.43	*
45	F	M	mm1	40.74	*
46	F	M	Bulb1	16.67	*

47	F	M	IQ1	31.58	*
48	F	M	Whale1	41.18	*
49	F	M	Cow1	10.53	*
50	F	N	mm2	22.22	*
51	F	N	Bulb2	5.88	*
52	F	N	IQ2	27.27	*
53	F	N	Whale2	26.32	*
54	F	N	Cow2	12.50	
55	F	O	mm3	20.00	
56	F	O	Bulb3	14.29	
57	F	O	IQ3	8.00	*
58	F	O	Whale3	24.00	*
59	F	O	Cow3	23.81	*
65	F	Q	mm5	27.78	*
66	F	Q	Bulb5	26.32	*
67	F	Q	IQ5	10.53	*
68	F	Q	Whale5	27.27	*
69	F	Q	Cow5	24.24	
70	G	R	mm1	33.33	*
71	G	R	Bulb1	22.73	
72	G	R	IQ1	16.67	*
73	G	R	Whale1	24.00	
74	G	R	Cow1	20.00	
75	G	S	mm2	35.71	*
76	G	S	Bulb2	23.53	
77	G	S	IQ2	13.64	*
78	G	S	Whale2	27.78	
79	G	S	Cow2	26.67	
80	G	T	mm3	18.18	
81	G	T	Bulb3	31.25	*
82	G	T	IQ3	8.00	*
83	G	T	Whale3	12.50	*
84	G	T	Cow3	14.29	*
85	G	U	mm4	16.67	*
86	G	U	Bulb4	35.00	*
87	G	U	IQ4	33.33	*
88	G	U	Whale4	21.43	

89	G	U	Cow4	33.33	*
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Table 3: Question sets with range greater than 15.