

Stat101 Homework Short Report for Topic 06

Comparison among Sections

Overview

The homework results that will be compared are Topico6.A.csv, Topico6.B.csv, Topico6.C.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.

	A	C	B
D	95	94	90
E	93.67	86.33	85.67
B	82	90	84
A	84	78.5	76.5
F	74.8	79.6	70.4
C	74	75	59
G	71.5	72.5	62

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	78.26
2	A	A	2	82.86
3	A	A	3	94.12
4	A	A	4	88.57
5	A	B	1	88.57
6	A	B	2	78.38
7	A	B	3	84.44
8	A	B	4	90.91
9	A	C	1	75.00
10	A	C	2	65.79
11	A	C	3	68.75
12	A	C	4	80.00

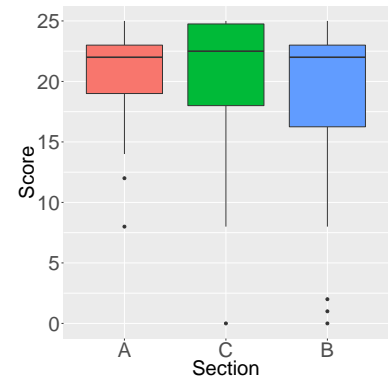


Figure 1: Boxplot for the overall scores by section.

- 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	66.67
14	A	D	2	82.22
15	A	D	3	81.40
16	A	D	4	65.71
19	C	G	1	66.00
20	C	H	1	72.67
27	E	K	whale1	90.62
28	E	K	whale2	86.27
29	E	K	whale3	78.05
30	E	K	cow1	79.07
31	E	K	cow2	91.11
32	E	K	cow3	87.76
33	E	K	bulbs1	89.29
34	E	K	bulbs2	87.76
35	E	K	bulbs3	90.38
45	F	M	mm1	76.67
46	F	M	Bulb1	85.19
47	F	M	IQ1	85.29
48	F	M	Whale1	89.66
49	F	M	Cow1	76.67
50	F	N	mm2	80.00
51	F	N	Bulb2	86.96
52	F	N	IQ2	79.49
53	F	N	Whale2	84.62
54	F	N	Cow2	85.19
55	F	O	mm3	72.00
56	F	O	Bulb3	65.79
57	F	O	IQ3	75.86
58	F	O	Whale3	64.00
59	F	O	Cow3	63.64
60	F	P	mm4	60.00
61	F	P	Bulb4	71.88
62	F	P	IQ4	47.62
63	F	P	Whale4	59.46
64	F	P	Cow4	66.67

65	F	Q	mm5	77.78
66	F	Q	Bulb5	93.10
67	F	Q	IQ5	85.00
68	F	Q	Whale5	69.57
69	F	Q	Cow5	67.74
70	G	R	mm1	68.97
71	G	R	Bulb1	88.00
72	G	R	IQ1	75.76
73	G	R	Whale1	76.47
74	G	R	Cow1	75.86
75	G	S	mm2	88.00
76	G	S	Bulb2	71.43
77	G	S	IQ2	76.67
78	G	S	Whale2	67.39
79	G	S	Cow2	76.19
80	G	T	mm3	46.88
81	G	T	Bulb3	65.22
82	G	T	IQ3	73.81
83	G	T	Whale3	73.91
84	G	T	Cow3	80.00
85	G	U	mm4	57.14
86	G	U	Bulb4	62.96
87	G	U	IQ4	53.85
88	G	U	Whale4	46.15
89	G	U	Cow4	56.52

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

ID	LO	Qset	Name	CrtPct	Flag
1	A	A	1	78.26	*
2	A	A	2	82.86	
3	A	A	3	94.12	*
4	A	A	4	88.57	
13	A	D	1	66.67	*
14	A	D	2	82.22	*
15	A	D	3	81.40	*
16	A	D	4	65.71	*

60	F	P	mm4	60.00	
61	F	P	Bulb4	71.88	*
62	F	P	IQ4	47.62	*
63	F	P	Whale4	59.46	
64	F	P	Cow4	66.67	*
65	F	Q	mm5	77.78	*
66	F	Q	Bulb5	93.10	*
67	F	Q	IQ5	85.00	*
68	F	Q	Whale5	69.57	*
69	F	Q	Cow5	67.74	*
70	G	R	mm1	68.97	*
71	G	R	Bulb1	88.00	*
72	G	R	IQ1	75.76	
73	G	R	Whale1	76.47	
74	G	R	Cow1	75.86	
75	G	S	mm2	88.00	*
76	G	S	Bulb2	71.43	*
77	G	S	IQ2	76.67	
78	G	S	Whale2	67.39	*
79	G	S	Cow2	76.19	
80	G	T	mm3	46.88	*
81	G	T	Bulb3	65.22	*
82	G	T	IQ3	73.81	*
83	G	T	Whale3	73.91	*
84	G	T	Cow3	80.00	*
85	G	U	mm4	57.14	
86	G	U	Bulb4	62.96	*
87	G	U	IQ4	53.85	
88	G	U	Whale4	46.15	*
89	G	U	Cow4	56.52	

Table 3: Question sets with range greater than 15.