

Ninja Warrior - Part 1

"Approximately many times would you say the ‘Salmon Ladder’ was used?"

Table 1: Summary statistics over the whole population

	Control	Truncated	Logarithmic
N	70.0000000	70.0000000	6.700000e+01
Min.	40.0000000	40.0000000	9.000000e+00
1st Qu.	41.0000000	41.0000000	3.000000e+01
Median	41.0000000	41.0000000	3.500000e+01
Mean	41.2071429	41.3535714	1.492539e+13
3rd Qu.	42.0000000	42.0000000	4.050000e+01
Max.	45.0000000	45.0000000	1.000000e+15
Var	0.7427019	0.7527045	1.492537e+28

Table 2: Summary statistics over the whole population after removing outliers in the logarithmic responses

	Control	Truncated	Logarithmic
N	70.0000000	70.0000000	47.00000
Min.	40.0000000	40.0000000	15.00000
1st Qu.	41.0000000	41.0000000	34.00000
Median	41.0000000	41.0000000	35.00000
Mean	41.2071429	41.3535714	36.27660
3rd Qu.	42.0000000	42.0000000	40.00000
Max.	45.0000000	45.0000000	55.00000
Var	0.7427019	0.7527045	74.63922

Table 3: Summary statistics relating to the control plot responses for comparison between languages

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	40.0000000	40.0000000	40.0000000
1st Qu.	41.0000000	41.0000000	40.0000000
Median	41.0000000	41.0000000	41.0000000
Mean	41.2071429	41.4868421	40.8750000
3rd Qu.	42.0000000	42.0000000	41.0000000
Max.	45.0000000	43.0000000	45.0000000
Var	0.7427019	0.4119844	0.9516129

Table 4: Summary statistics relating to the truncated plot responses for comparison between languages

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	40.0000000	40.0000000	40.0000000
1st Qu.	41.0000000	41.0000000	41.0000000
Median	41.0000000	41.0000000	41.0000000
Mean	41.3535714	41.5657895	41.1015625
3rd Qu.	42.0000000	42.0000000	41.2500000
Max.	45.0000000	45.0000000	44.0000000
Var	0.7527045	0.7590683	0.6486265

Table 5: Summary statistics relating to the logarithmic plot responses for comparison between languages

	Whole Pop	R	Python
N	47.00000	38.00000	10.00000
Min.	15.00000	30.00000	30.00000
1st Qu.	34.00000	35.00000	35.00000
Median	35.00000	35.00000	35.00000
Mean	36.27660	39.73684	36.70000
3rd Qu.	40.00000	40.00000	38.75000
Max.	55.00000	120.00000	50.00000
Var	74.63922	206.95590	31.12222

Warning in na.exclude(as.numeric(logarithmic_1_stem)): NAs introduced by coercion

Warning: NAs introduced by coercion

Warning in cbind(summary(logarithmic_1_stem), summary(logarithmic_1_hum), : number of rows of result is not a multiple of vector length (arg 1)

Warning: NAs introduced by coercion

Table 6: Summary statistics of degree subgroups relating to the logarithmic plot responses

	STEM	Humanities	Social Sci	Arts	Business	NA
N	28.00000	3.00000	3.000000e+01	2.00	4.0000	1
Min.	10.00000	9.00000	1.000000e+01	33.00	10.0000	NA
1st Qu.	26.25000	21.50000	3.400000e+01	34.75	10.3750	NA
Median	35.00000	34.00000	3.850000e+01	36.50	10.7500	NA
Mean	34.46429	26.33333	3.333337e+13	36.50	16.6250	NaN
3rd Qu.	40.00000	35.00000	5.375000e+01	38.25	17.0000	NA
Max.	120.00000	36.00000	1.000000e+15	40.00	35.0000	NA
NA's	10.00000	9.00000	1.000000e+01	33.00	10.0000	1
Var	422.10979	226.33333	3.333333e+28	24.50	150.2292	NA

Table 7: Degree and self-rated skills for the respondents that submitted invalid or high magnitude answers

	uni	sp_aware	obs_skl	num_skl	log_1
101	Technology	4	4	3	Don't know
121	None	4	3	3	Next to none.
102	Social Sciences	5	5	4	10^{15}
84	psychology	3	5	1	10^9

Table 8: Summary statistics for the subgroups that were shown each of the three plots first. ie. here the control statistics are only for respondents who saw the control plot first etc.

	Control First	Truncated First	Logarithmic First
N	25.000000	23.000000	15.00000
Min.	40.000000	40.000000	30.00000
1st Qu.	41.000000	41.000000	35.00000
Median	41.000000	41.250000	40.00000
Mean	41.160000	41.695652	40.20000
3rd Qu.	41.000000	42.000000	42.50000
Max.	45.000000	45.000000	55.00000
Var	1.056667	1.192935	49.88571

Table 9: Summary statistics to compare responses for the control plot between the whole population and those shown the control plot first

	Control Overall	Control First
N	70.0000000	25.0000000
Min.	40.0000000	40.0000000
1st Qu.	41.0000000	41.0000000
Median	41.0000000	41.0000000
Mean	41.2071429	41.1600000
3rd Qu.	42.0000000	41.0000000
Max.	45.0000000	45.0000000
Var	0.7427019	1.056667

Table 10: Summary statistics to compare responses for the truncated plot between the whole population and those shown the truncated plot first

	Truncated Overall	Truncated First
N	70.0000000	23.0000000
Min.	40.0000000	40.0000000
1st Qu.	41.0000000	41.0000000
Median	41.0000000	41.2500000
Mean	41.3535714	41.695652
3rd Qu.	42.0000000	42.0000000
Max.	45.0000000	45.0000000
Var	0.7527045	1.192935

Table 11: Summary statistics to compare responses for the logarithmic plot between the whole population and those shown the logarithmic plot first

	Log Overall	Log First
N	47.00000	15.00000
Min.	15.00000	30.00000
1st Qu.	34.00000	35.00000
Median	35.00000	40.00000
Mean	36.27660	40.20000
3rd Qu.	40.00000	42.50000
Max.	55.00000	55.00000
Var	74.63922	49.88571

Table 12: Shapiro-Wilk test results to test for normality

Variable	P-Value
control_1	5.59617692549319e-08
truncated_1	1.32713442823897e-07
logarithmic_1	0.000143418961230802
control_1_r	1.32189942975764e-05
truncated_1_r	3.42769548856748e-06
logarithmic_1_r	6.92253248166182e-11
control_1_py	4.34109928466654e-07
truncated_1_py	0.000139164254994752
logarithmic_1_py	0.0271232009029648
con_first_1	0.312
trn_first_1	0.018
log_first_1	0.892

Table 13: Symmetry test results to test for symmetric data

Variable	P-Value
control_1	0.012
truncated_1	0.014
logarithmic_1	0.198
control_1_r	0
truncated_1_r	0
logarithmic_1_r	0
control_1_py	0.38
truncated_1_py	0.33
logarithmic_1_py	0.174

Table 14: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
control_1	two.sided	41	0.12144948495552
truncated_1	two.sided	41	0.00256320799235321
truncated_1	greater	41	0.00128160399617661
truncated_1 and control_1	two.sided	0	0.187741558998824
control_1_r	two.sided	41	7.62939453116118e-05
control_1_r	greater	41	3.81469726558059e-05
truncated_1_r	two.sided	41	0.00040245056152366
truncated_1_r	greater	41	0.00020122528076183
logarithmic_1_r	two.sided	41	1.29134859889745e-05
logarithmic_1_r	less	41	6.45674299448727e-06

Table 15: MWW test results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
logarithmic_1	two.sided	41	0.00044239337186988
logarithmic_1	less	41	0.00022119668593494
logarithmic_1 and control_1	two.sided	0	3.78483115662938e-09
logarithmic_1 and control_1	less	0	1.89241557831469e-09
control_1_py	two.sided	41	0.166730310668163
control_1_py	greater	41	0.925860973799317
truncated_1_py	two.sided	41	0.718838518267998
truncated_1_py	greater	41	0.359419259133999
logarithmic_1_py	two.sided	41	0.0557193243527512
logarithmic_1_py	less	41	0.0278596621763756
control_1_r and control_1_py	two.sided	0	0.000116086067670827
control_1_r and control_1_py	greater	0	5.80430338354136e-05
truncated_1_r and truncated_1_py	two.sided	0	0.0216314828557741
truncated_1_r and truncated_1_py	greater	0	0.0108157414278871
logarithmic_1_r and logarithmic_1_py	two.sided	0	0.54824566935565
con_first_1 and log_first_1	two.sided	0	0.0305822787800973
con_first_1 and log_first_1	greater	0	0.0152911393900487
trn_first_1 and truncated_1	two.sided	0	0.13789414618821
log_first_1 and logarithmic_1	two.sided	0	0.170486828134328

Approximately how much more than ‘Log Grip’ would you say ‘Salmon Ladder’ was was used?

Table 16: Summary statistics over the whole population

	Control	Truncated	Logarithmic
N	70.000000	70.000000	70.000000
Min.	3.000000	1.000000	1.000000
1st Qu.	4.250000	5.000000	2.250000
Median	5.000000	6.000000	3.500000
Mean	5.357143	5.871429	3.671429
3rd Qu.	6.000000	7.000000	5.000000
Max.	7.000000	7.000000	7.000000
Var	1.334369	1.997723	2.745549

Table 17: Summary statistics relating to the control plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	3.000000	3.000000	3.000000
1st Qu.	4.250000	5.000000	4.000000
Median	5.000000	6.000000	5.000000
Mean	5.357143	5.500000	5.187500
3rd Qu.	6.000000	6.000000	6.000000
Max.	7.000000	7.000000	7.000000
Var	1.334369	1.283784	1.383064

Table 18: Summary statistics relating to the truncated plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	1.000000	1.000000	1.000000
1st Qu.	5.000000	5.000000	5.750000
Median	6.000000	6.000000	6.000000
Mean	5.871429	5.894737	5.843750
3rd Qu.	7.000000	7.000000	7.000000
Max.	7.000000	7.000000	7.000000
Var	1.997723	1.772404	2.329637

Table 19: Summary statistics relating to the logarithmic plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	1.000000	1.000000	1.000000
1st Qu.	2.250000	3.000000	2.000000
Median	3.500000	5.000000	3.000000
Mean	3.671429	4.263158	2.968750
3rd Qu.	5.000000	5.750000	4.000000
Max.	7.000000	7.000000	7.000000
Var	2.745549	2.523471	2.160282

Table 20: Summary statistics for the subgroups that were shown each of the three plots first. ie. here the control statistics are only for respondents who saw the control plot first etc.

	Control First	Truncated First	Logarithmic First
N	25.00	23.000000	22.000000
Min.	4.00	1.000000	1.000000
1st Qu.	5.00	5.000000	3.000000
Median	6.00	6.000000	5.000000
Mean	5.56	5.565217	4.136364
3rd Qu.	7.00	7.000000	5.750000
Max.	7.00	7.000000	6.000000
Var	1.34	2.166008	3.075758

Table 21: Summary statistics to compare responses for the control plot between the whole population and those shown the control plot first

	Control Overall	Control First
N	70.000000	25.00
Min.	3.000000	4.00
1st Qu.	4.250000	5.00
Median	5.000000	6.00
Mean	5.357143	5.56
3rd Qu.	6.000000	7.00
Max.	7.000000	7.00
Var	1.334369	1.34

Table 22: Summary statistics to compare responses for the truncated plot between the whole population and those shown the truncated plot first

	Truncated Overall	Truncated First
N	70.000000	23.000000
Min.	1.000000	1.000000
1st Qu.	5.000000	5.000000
Median	6.000000	6.000000
Mean	5.871429	5.565217
3rd Qu.	7.000000	7.000000
Max.	7.000000	7.000000
Var	1.997723	2.166008

Table 23: Summary statistics to compare responses for the logarithmic plot between the whole population and those shown the logarithmic plot first

	Log Overall	Log First
N	70.000000	22.000000
Min.	1.000000	1.000000
1st Qu.	2.250000	3.000000
Median	3.500000	5.000000
Mean	3.671429	4.136364
3rd Qu.	5.000000	5.750000
Max.	7.000000	6.000000
Var	2.745549	3.075758

Table 24: Shapiro-Wilk test results to test for normality

Variable	P-Value
control_2	5.89461936756892e-05
truncated_2	3.26345171855138e-09
logarithmic_2	0.00210480495108164
control_2_r	0.00317175442479402
truncated_2_r	4.89566216673365e-06
logarithmic_2_r	0.0115887474964918
control_2_py	0.00285808341673906
truncated_2_py	5.97589597973905e-06
logarithmic_2_py	0.0221068279265036

Table 25: Symmetry test results to test for symmetric data

Variable	P-Value
control_2	0.018
truncated_2	0.344
logarithmic_2	0.446
control_2_r	0.012
truncated_2_r	0.568
logarithmic_2_r	0
control_2_py	0.238
truncated_2_py	0.452
logarithmic_2_py	0.876
con_first_2	0.042
trn_first_2	0.12
log_first_2	0.03

Table 26: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
truncated_2 and control_2	two.sided	0	0.000191076425836156
truncated_2 and control_2	greater	0	9.55382129180782e-05
logarithmic_2 and control_2	two.sided	0	2.04742334197761e-11
logarithmic_2 and control_2	less	0	1.02371167098881e-11

Table 27: MWW test results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
control_2_r and control_2_py	two.sided	0	0.219867020228365
truncated_2_r and truncated_2_py	two.sided	0	0.910515342058137
logarithmic_2_r and logarithmic_2_py	two.sided	0	0.000964898381063036
logarithmic_2_r and logarithmic_2_py	greater	0	0.000482449190531518
con_first_2 and control_2	two.sided	0	0.494214297171587
trn_first_2 and truncated_2	two.sided	0	0.261448017255444
log_first_2 and logarithmic_2	two.sided	0	0.214217001868332

'Approximately how much more than 'Quintuple Steps' would you say 'Salmon Ladder' was used?'

Table 28: Summary statistics over the whole population

	Control	Truncated	Logarithmic
N	70.000000	70.000000	70.000000
Min.	1.000000	2.000000	1.000000
1st Qu.	2.000000	3.000000	1.000000
Median	3.000000	4.000000	2.000000
Mean	3.128571	3.771429	2.228571
3rd Qu.	4.000000	4.750000	3.000000
Max.	7.000000	7.000000	6.000000
Var	1.157143	1.309317	1.599172

Table 29: Summary statistics relating to the control plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	1.000000	2.000000	1.000000
1st Qu.	2.000000	2.250000	2.000000
Median	3.000000	3.000000	3.000000
Mean	3.128571	3.342105	2.875000
3rd Qu.	4.000000	4.000000	3.000000
Max.	7.000000	7.000000	5.000000
Var	1.157143	1.474395	0.6935484

Table 30: Summary statistics relating to the truncated plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	2.000000	2.000000	2.000000
1st Qu.	3.000000	3.000000	3.000000
Median	4.000000	4.000000	4.000000
Mean	3.771429	3.763158	3.781250
3rd Qu.	4.750000	4.750000	4.250000
Max.	7.000000	6.000000	7.000000
Var	1.309317	1.374822	1.273186

Table 31: Summary statistics relating to the logarithmic plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	1.000000	1.000000	1.000000
1st Qu.	1.000000	1.000000	1.000000
Median	2.000000	2.000000	2.000000
Mean	2.228571	2.500000	1.906250
3rd Qu.	3.000000	3.000000	2.250000
Max.	6.000000	6.000000	5.000000
Var	1.599172	1.932432	1.055443

Table 32: Summary statistics for the subgroups that were shown each of the three plots first. ie. here the control statistics are only for respondents who saw the control plot first etc.

	Control First	Truncated First	Logarithmic First
N	25.00	23.0000000	22.000000
Min.	2.00	2.0000000	1.000000
1st Qu.	2.00	3.0000000	1.250000
Median	3.00	3.0000000	2.500000
Mean	3.08	3.4782609	2.681818
3rd Qu.	4.00	4.0000000	4.000000
Max.	7.00	5.0000000	6.000000
Var	1.41	0.9881423	2.132035

Table 33: Summary statistics to compare responses for the control plot between the whole population and those shown the control plot first

	Control Overall	Control First
N	70.000000	25.00
Min.	1.000000	2.00
1st Qu.	2.000000	2.00
Median	3.000000	3.00
Mean	3.128571	3.08
3rd Qu.	4.000000	4.00
Max.	7.000000	7.00
Var	1.157143	1.41

Table 34: Summary statistics to compare responses for the truncated plot between the whole population and those shown the truncated plot first

	Truncated Overall	Truncated First
N	70.000000	23.0000000
Min.	2.000000	2.0000000
1st Qu.	3.000000	3.0000000
Median	4.000000	3.0000000
Mean	3.771429	3.4782609
3rd Qu.	4.750000	4.0000000
Max.	7.000000	5.0000000
Var	1.309317	0.9881423

Table 35: Summary statistics to compare responses for the logarithmic plot between the whole population and those shown the logarithmic plot first

	Log Overall	Log First
N	70.000000	22.000000
Min.	1.000000	1.000000
1st Qu.	1.000000	1.250000
Median	2.000000	2.500000
Mean	2.228571	2.681818
3rd Qu.	3.000000	4.000000
Max.	6.000000	6.000000
Var	1.599172	2.132035

Table 36: Shapiro-Wilk test results to test for normality

Variable	P-Value
control_3	2.96611257169236e-06
truncated_3	0.000285082694499877
logarithmic_3	5.1021593116109e-07
control_3_r	0.000376969643723173
truncated_3_r	0.00783579714723602
logarithmic_3_r	0.000800435424273599
control_3_py	0.00187662188224314
truncated_3_py	0.0091928840428001
logarithmic_3_py	5.96901899713831e-05

Table 37: Symmetry test results to test for symmetric data

Variable	P-Value
control_3	0.222
truncated_3	0.06800000000000001
logarithmic_3	0.08
control_3_r	0.034
truncated_3_r	0.162
logarithmic_3_r	0.03
control_3_py	0.22
truncated_3_py	0.116
logarithmic_3_py	0.562
con_first_3	0.674
trn_first_3	0.076
log_first_3	0.61

Table 38: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
truncated_3 and control_3	two.sided	0	9.24769992094454e-06
truncated_3 and control_3	greater	0	4.62384996047227e-06
logarithmic_3 and control_3	two.sided	0	1.21152574195093e-07
logarithmic_3 and control_3	less	0	6.05762870975467e-08

Table 39: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
control_3_r and control_3_py	two.sided	0	0.146485143648461
truncated_3_r and truncated_3_py	two.sided	0	0.970802226603567
logarithmic_3_r and logarithmic_3_py	two.sided	0	0.0737762640265625
logarithmic_3_r and logarithmic_3_py	greater	0	0.0368881320132813
con_first_3 and control_3	two.sided	0	0.671874166235261
trn_first_3 and truncated_3	two.sided	0	0.314548850942179
log_first_3 and logarithmic_3	two.sided	0	0.188900118627858

Ninja Warrior - Part 2

"How large would you say the difference between ‘Jumping spider’ and ‘Salmon Ladder’ is?"

Table 40: Summary statistics over the whole population

	Default	Narrow	Wide
N	70.0000000	70.0000000	70.0000000
Min.	4.0000000	3.0000000	2.0000000
1st Qu.	5.0000000	6.0000000	5.0000000
Median	6.0000000	6.0000000	6.0000000
Mean	5.9142857	6.1285714	5.357143
3rd Qu.	7.0000000	7.0000000	6.0000000
Max.	7.0000000	7.0000000	7.0000000
Var	0.7751553	0.8672878	1.363354

Table 41: Summary statistics relating to the default plot responses for comparison between languages

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	4.0000000	5.0000000	4.0000000
1st Qu.	5.0000000	6.0000000	5.0000000
Median	6.0000000	6.0000000	6.0000000
Mean	5.9142857	6.0789474	5.7187500
3rd Qu.	7.0000000	7.0000000	6.0000000
Max.	7.0000000	7.0000000	7.0000000
Var	0.7751553	0.5611664	0.9828629

Table 42: Summary statistics relating to the narrow plot responses for comparison between languages

	Whole Pop	R	Python
N	70.0000000	38.000000	32.000000
Min.	3.0000000	5.000000	3.000000
1st Qu.	6.0000000	6.000000	5.000000
Median	6.0000000	6.000000	6.000000
Mean	6.1285714	6.368421	5.843750
3rd Qu.	7.0000000	7.000000	7.000000
Max.	7.0000000	7.000000	7.000000
Var	0.8672878	0.455192	1.232863

Table 43: Summary statistics relating to the wide plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	2.000000	3.000000	2.000000
1st Qu.	5.000000	5.000000	4.000000
Median	6.000000	6.000000	5.000000
Mean	5.357143	5.7105263	4.937500
3rd Qu.	6.000000	6.000000	6.000000
Max.	7.000000	7.000000	7.000000
Var	1.363354	0.8598862	1.673387

Table 44: Summary statistics for the subgroups that were shown each of the three plots first. ie. here the default statistics are only for respondents who saw the default plot first etc.

	Default First	Narrow First	Wide First
N	25.000000	22.000000	23.000000
Min.	4.000000	5.000000	3.000000
1st Qu.	5.000000	5.250000	5.000000
Median	6.000000	6.000000	5.000000
Mean	5.720000	6.0454545	5.2173913
3rd Qu.	6.000000	7.000000	6.000000
Max.	7.000000	7.000000	7.000000
Var	0.8766667	0.6168831	0.9960474

Table 45: Summary statistics to compare responses for the default plot between the whole population and those shown the default plot first

	Default Overall	Default First
N	70.000000	25.000000
Min.	4.000000	4.000000
1st Qu.	5.000000	5.000000
Median	6.000000	6.000000
Mean	5.9142857	5.720000
3rd Qu.	7.000000	6.000000
Max.	7.000000	7.000000
Var	0.7751553	0.8766667

Table 46: Summary statistics to compare responses for the narrow plot between the whole population and those shown the narrow plot first

	Narrow Overall	Narrow First
N	70.0000000	22.0000000
Min.	3.0000000	5.0000000
1st Qu.	6.0000000	5.2500000
Median	6.0000000	6.0000000
Mean	6.1285714	6.0454545
3rd Qu.	7.0000000	7.0000000
Max.	7.0000000	7.0000000
Var	0.8672878	0.6168831

Table 47: Summary statistics to compare responses for the wide plot between the whole population and those shown the wide plot first

	Log Overall	Log First
N	70.0000000	23.0000000
Min.	2.0000000	3.0000000
1st Qu.	5.0000000	5.0000000
Median	6.0000000	5.0000000
Mean	5.357143	5.2173913
3rd Qu.	6.0000000	6.0000000
Max.	7.0000000	7.0000000
Var	1.363354	0.9960474

Table 48: Shapiro-Wilk test results to test for normality

Variable	P-Value
default_1	9.37124557032925e-07
narrow_1	1.70930831302025e-08
wide_1	3.14097138181924e-05
default_1_r	1.59258038423344e-05
narrow_1_r	1.92706985362911e-06
wide_1_r	0.000120695720334427
default_1_py	0.000646515703735704
narrow_1_py	0.000259256787785794
wide_1_py	0.0396509726470491

Table 49: Symmetry test results to test for symmetric data

Variable	P-Value
default_1	0.27
narrow_1	0.188
wide_1	0
default_1_r	0.372
narrow_1_r	0.002
wide_1_r	0.036
default_1_py	0.032
narrow_1_py	0.274
wide_1_py	0.762
def_first_1	0.116
nar_first_1	0.732
wid_first_1	0.296

Table 50: MWW test results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
narrow_1 and default_1	two.sided	0	0.0936861958323606
wide_1 and default_1	two.sided	0	0.00436273706237525
default_1_r and default_1_py	two.sided	0	0.161870207392515
narrow_1_r and narrow_1_py	two.sided	0	0.0435880357016989
wide_1_r and wide_1_py	two.sided	0	0.00570469471649445
def_first_1 and default_1	two.sided	0	0.3260739109644
nar_first_1 and narrow_1	two.sided	0	0.46564923084854
wid_first_1 and wide_1	two.sided	0	0.493405444031693

How large would you say the difference between ‘Log Grip’ and ‘Floating Steps’ is?

Table 51: Summary statistics over the whole population

	Default	Narrow	Wide
N	70.000000	70.000000	70.000000
Min.	2.000000	1.000000	1.000000
1st Qu.	2.000000	2.000000	2.000000
Median	3.000000	3.000000	3.000000
Mean	3.057143	3.214286	3.0571429
3rd Qu.	4.000000	4.000000	4.000000
Max.	7.000000	7.000000	5.000000
Var	1.301035	1.214286	0.8662526

Table 52: Summary statistics relating to the default plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.00000
Min.	2.000000	2.000000	2.00000
1st Qu.	2.000000	2.000000	2.00000
Median	3.000000	3.000000	3.00000
Mean	3.057143	3.026316	3.09375
3rd Qu.	4.000000	3.750000	4.00000
Max.	7.000000	6.000000	7.00000
Var	1.301035	1.215505	1.44254

Table 53: Summary statistics relating to the narrow plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.00000
Min.	1.000000	2.000000	1.00000
1st Qu.	2.000000	2.250000	2.00000
Median	3.000000	3.000000	3.00000
Mean	3.214286	3.289474	3.12500
3rd Qu.	4.000000	4.000000	4.00000
Max.	7.000000	6.000000	7.00000
Var	1.214286	1.130157	1.33871

Table 54: Summary statistics relating to the wide plot responses for comparison between languages

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	1.0000000	2.0000000	1.0000000
1st Qu.	2.0000000	2.0000000	2.7500000
Median	3.0000000	3.0000000	3.0000000
Mean	3.0571429	3.0789474	3.0312500
3rd Qu.	4.0000000	4.0000000	3.2500000
Max.	5.0000000	5.0000000	5.0000000
Var	0.8662526	0.9395448	0.8054435

Table 55: Summary statistics for the subgroups that were shown each of the three plots first. ie. here the default statistics are only for respondents who saw the default plot first etc.

	Default First	Narrow First	Wide First
N	25.0000000	22.0000000	23.0000000
Min.	2.0000000	2.0000000	2.0000000
1st Qu.	2.0000000	2.0000000	3.0000000
Median	3.0000000	3.0000000	3.0000000
Mean	2.9600000	3.0000000	3.3043478
3rd Qu.	3.0000000	3.0000000	4.0000000
Max.	7.0000000	5.0000000	5.0000000
Var	1.7066667	0.8571429	0.8577075

Table 56: Summary statistics to compare responses for the default plot between the whole population and those shown the default plot first

	Default Overall	Default First
N	70.0000000	25.0000000
Min.	2.0000000	2.0000000
1st Qu.	2.0000000	2.0000000
Median	3.0000000	3.0000000
Mean	3.057143	2.9600000
3rd Qu.	4.0000000	3.0000000
Max.	7.0000000	7.0000000
Var	1.301035	1.7066667

Table 57: Summary statistics to compare responses for the narrow plot between the whole population and those shown the narrow plot first

	Narrow Overall	Narrow First
N	70.000000	22.0000000
Min.	1.000000	2.0000000
1st Qu.	2.000000	2.0000000
Median	3.000000	3.0000000
Mean	3.214286	3.0000000
3rd Qu.	4.000000	3.0000000
Max.	7.000000	5.0000000
Var	1.214286	0.8571429

Table 58: Summary statistics to compare responses for the wide plot between the whole population and those shown the wide plot first

	Log Overall	Log First
N	70.0000000	23.0000000
Min.	1.0000000	2.0000000
1st Qu.	2.0000000	3.0000000
Median	3.0000000	3.0000000
Mean	3.0571429	3.3043478
3rd Qu.	4.0000000	4.0000000
Max.	5.0000000	5.0000000
Var	0.8662526	0.8577075

Table 59: Shapiro-Wilk test results to test for normality

Variable	P-Value
default_2	1.02300887918901e-07
narrow_2	1.80069521336978e-05
wide_2	1.02152464683882e-05
default_2_r	3.55607959666087e-05
narrow_2_r	0.00115308202187545
wide_2_r	0.000150200480316727
default_2_py	8.5552767804274e-05
narrow_2_py	0.000995681637986532
wide_2_py	0.00339675280251514

Table 60: Symmetry test results to test for symmetric data

Variable	P-Value
default_2	0.608
narrow_2	0.046
wide_2	0.516
default_2_r	0.866
narrow_2_r	0.07
wide_2_r	0.566
default_2_py	0.572
narrow_2_py	0.426
wide_2_py	0.822
def_first_2	0.846
nar_first_2	0.854
wid_first_2	0.08

Table 61: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
narrow_2 and default_2	two.sided	0	0.244640680506451
wide_2 and default_2	two.sided	0	0.568781201167986
default_2_r and default_2_py	two.sided	0	0.866661707837946
narrow_2_r and narrow_2_py	two.sided	0	0.455435088947733
wide_2_r and wide_2_py	two.sided	0	0.950469658621752
def_first_2 and default_2	two.sided	0	0.487030327081174
nar_first_2 and narrow_2	two.sided	0	0.427437361365033
wid_first_2 and wide_2	two.sided	0	0.259371722499934

How many times would you say ‘Floating Steps’ were used?

Table 62: Summary statistics over the whole population

	Default	Narrow	Wide
N	70.0000000	70.0000000	70.0000000
Min.	26.0000000	23.0000000	24.0000000
1st Qu.	27.1250000	27.0000000	27.0000000
Median	28.0000000	28.0000000	28.0000000
Mean	27.9714286	27.3857143	28.035714
3rd Qu.	28.0000000	28.0000000	29.0000000
Max.	33.0000000	29.0000000	30.0000000
Var	0.9774327	0.8708075	1.929865

Table 63: Summary statistics relating to the default plot responses for comparison between languages

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	26.0000000	26.0000000	27.0000000
1st Qu.	27.1250000	28.0000000	27.0000000
Median	28.0000000	28.0000000	28.0000000
Mean	27.9714286	27.973684	27.9687500
3rd Qu.	28.0000000	28.0000000	28.0000000
Max.	33.0000000	33.0000000	30.0000000
Var	0.9774327	1.053343	0.9183468

Table 64: Summary statistics relating to the narrow plot responses for comparison between languages

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	23.0000000	24.0000000	23.0000000
1st Qu.	27.0000000	27.0000000	27.0000000
Median	28.0000000	28.0000000	27.0000000
Mean	27.3857143	27.5000000	27.2500000
3rd Qu.	28.0000000	28.0000000	28.0000000
Max.	29.0000000	28.0000000	29.0000000
Var	0.8708075	0.6891892	1.080645

Table 65: Summary statistics relating to the wide plot responses for comparison between languages

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	24.000000	25.000000	24.000000
1st Qu.	27.000000	27.250000	27.000000
Median	28.000000	28.000000	28.500000
Mean	28.035714	27.8157895	28.296875
3rd Qu.	29.000000	28.000000	30.000000
Max.	30.000000	30.000000	30.000000
Var	1.929865	0.7489331	3.271925

Table 66: Summary statistics for the subgroups that were shown each of the three plots first. ie. here the default statistics are only for respondents who saw the default plot first etc.

	Default First	Narrow First	Wide First
N	25.000000	22.000000	23.000000
Min.	26.000000	23.000000	24.000000
1st Qu.	28.000000	27.000000	27.250000
Median	28.000000	28.000000	28.000000
Mean	27.980000	27.272727	27.891304
3rd Qu.	28.000000	28.000000	28.500000
Max.	30.000000	28.000000	30.000000
Var	0.8433333	1.445887	1.999012

Table 67: Summary statistics to compare responses for the default plot between the whole population and those shown the default plot first

	Default Overall	Default First
N	70.000000	25.000000
Min.	26.000000	26.000000
1st Qu.	27.125000	28.000000
Median	28.000000	28.000000
Mean	27.9714286	27.980000
3rd Qu.	28.000000	28.000000
Max.	33.000000	30.000000
Var	0.9774327	0.8433333

Table 68: Summary statistics to compare responses for the narrow plot between the whole population and those shown the narrow plot first

	Narrow Overall	Narrow First
N	70.0000000	22.0000000
Min.	23.0000000	23.0000000
1st Qu.	27.0000000	27.0000000
Median	28.0000000	28.0000000
Mean	27.3857143	27.272727
3rd Qu.	28.0000000	28.0000000
Max.	29.0000000	28.0000000
Var	0.8708075	1.445887

Table 69: Summary statistics to compare responses for the wide plot between the whole population and those shown the wide plot first

	Log Overall	Log First
N	70.000000	23.000000
Min.	24.000000	24.000000
1st Qu.	27.000000	27.250000
Median	28.000000	28.000000
Mean	28.035714	27.891304
3rd Qu.	29.000000	28.500000
Max.	30.000000	30.000000
Var	1.929865	1.999012

Table 70: Shapiro-Wilk test results to test for normality

Variable	P-Value
default_3	6.81008850707997e-10
narrow_3	5.57888481198726e-11
wide_3	1.78197006748736e-05
default_3_r	5.63937382266081e-09
narrow_3_r	1.48249198349354e-08
wide_3_r	3.04553493201853e-05
default_3_py	4.02423544805188e-05
narrow_3_py	7.08573834534838e-07
wide_3_py	0.000292780031974141
def_first_3	0.888
nar_first_3	0
wid_first_3	0.674

Table 71: Symmetry test results to test for symmetric data

Variable	P-Value
default_3	0.782
narrow_3	0
wide_3	0.802
default_3_r	0.854
narrow_3_r	0
wide_3_r	0.144
default_3_py	0.894
narrow_3_py	0.138
wide_3_py	0.562

Table 72: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
narrow_3	two.sided	28	2.09547579288481e-09
narrow_3	less	28	1.04773789644241e-09
narrow_3 and default_3	two.sided	0	0.000179991126060486
narrow_3 and default_3	less	0	8.99955630302432e-05
narrow_3_r	two.sided	28	0.0001220703125
narrow_3_r	less	28	6.103515625e-05
narrow_3_r and narrow_3_py	two.sided	0	0.122362418519539
nar_first_3 and narrow_3	two.sided	0	0.995946691592799

Table 73: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
default_3	two.sided	28	0.56672532578209
wide_3	two.sided	28	0.506674178654124
wide_3 and default_3	two.sided	0	0.378027854351741
default_3_r	two.sided	28	0.401160204990545
default_3_py	two.sided	28	0.928017616229503
narrow_3_py	two.sided	28	0.000113016729448749
narrow_3_py	less	28	5.65083647243744e-05
wide_3_r	two.sided	28	0.227059310644515
wide_3_py	two.sided	28	0.225993872330457
default_3_r and default_3_py	two.sided	0	0.65853822511721
wide_3_r and wide_3_py	two.sided	0	0.0873697074959608
def_first_3 and default_3	two.sided	0	0.826218081781394
wid_first_3 and wide_3	two.sided	0	0.766050180834421

Ninja Warrior - Part 3

How many times would you say ‘Floating Steps’ were used in the Finals (Regional/City) round?

Table 74: Summary statistics for the stacked and grouped plot responses for the whole population

	Stacked	Grouped
N	70.00000	70.00000
Min.	9.00000	10.00000
1st Qu.	10.00000	11.00000
Median	11.00000	11.00000
Mean	14.32857	11.80000
3rd Qu.	14.00000	12.00000
Max.	35.00000	40.00000
Var	54.83251	13.14783

Table 75: Summary statistics relating to the stacked plot responses for comparison between languages

	Whole Population	R	Python
N	70.00000	38.00000	32.00000
Min.	9.00000	9.00000	9.00000
1st Qu.	10.00000	10.00000	10.00000
Median	11.00000	10.00000	11.50000
Mean	14.32857	13.15789	15.71875
3rd Qu.	14.00000	12.00000	16.25000
Max.	35.00000	35.00000	35.00000
Var	54.83251	45.37980	64.20867

Table 76: Summary statistics relating to the grouped plot responses for comparison between languages

	Whole Population	R	Python
N	70.00000	38.0000000	32.00000
Min.	10.00000	10.0000000	10.00000
1st Qu.	11.00000	11.0000000	11.00000
Median	11.00000	11.0000000	11.00000
Mean	11.80000	11.2368421	12.46875
3rd Qu.	12.00000	12.0000000	12.00000
Max.	40.00000	12.0000000	40.00000
Var	13.14783	0.4018492	27.93448

Table 77: Shapiro-Wilk test results to test for normality

Variable	P-Value
stacked_1	7.89683022136146e-12
grouped_1	1.29451238374584e-16
stacked_1_r	9.34733406818928e-10
grouped_1_r	3.24950730831323e-06
stacked_1_py	2.72192783910971e-06
grouped_1_py	1.83295084072365e-10
stack_first_1	0
grp_first_1	0.102

Table 78: Shapiro-Wilk test results to test for normality

Variable	P-Value
stacked_1	0
grouped_1	0
stacked_1_r	0
grouped_1_r	0.05
stacked_1_py	0
grouped_1_py	0
stack_first_1	0
grp_first_1	0.062

Table 79: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
stacked_1	two.sided	11	0.52577336017565
grouped_1	two.sided	11	0.00947530427947663
grouped_1	greater	11	0.00473765213973831
grouped_1 and stacked_1	two.sided	0	0.280609717698354
stacked_1_r	two.sided	11	0.121449484955519
stacked_1_py	two.sided	11	0.571588188409806
grouped_1_r	two.sided	11	0.0490417480468759
grouped_1_r	greater	11	0.0245208740234379
grouped_1_py	two.sided	11	0.133800506591798

Table 80: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
stacked_1_r and stacked_1_py	two.sided	0	0.0608346309479584
grouped_1_r and grouped_1_py	two.sided	0	0.535481818545582
stack_first_1 and stacked_1	two.sided	0	0.748352958224093
group_first_1 and grouped_1	two.sided	0	0.674810697903381

How many times would you say 'Log Grip' was used in the Finals (Regional/City) round

Table 81: Summary statistics for the stacked and grouped plot responses for the whole population

	Stacked	Grouped
N	70.00000	70.000000
Min.	6.00000	2.000000
1st Qu.	8.00000	8.000000
Median	9.00000	9.000000
Mean	10.57143	9.057143
3rd Qu.	10.00000	10.000000
Max.	25.00000	15.000000
Var	23.92961	1.967702

Table 82: Summary statistics relating to the stacked plot responses for comparison between languages

	Whole Population	R	Python
N	70.00000	38.00000	32.00000
Min.	6.00000	6.00000	6.00000
1st Qu.	8.00000	8.00000	8.00000
Median	9.00000	9.00000	9.00000
Mean	10.57143	10.10526	11.12500
3rd Qu.	10.00000	10.00000	10.00000
Max.	25.00000	23.00000	25.00000
Var	23.92961	18.36700	30.75806

Table 83: Summary statistics relating to the grouped plot responses for comparison between languages

	Whole Population	R	Python
N	70.000000	38.0000000	32.000000
Min.	2.000000	7.0000000	2.000000
1st Qu.	8.000000	9.0000000	8.000000
Median	9.000000	9.0000000	9.000000
Mean	9.057143	9.0526316	9.062500
3rd Qu.	10.000000	10.0000000	10.000000
Max.	15.000000	10.0000000	15.000000
Var	1.967702	0.6458037	3.608871

Table 84: Shapiro-Wilk test results to test for normality

Variable	P-Value
stacked_2	2.17882893854671e-11
grouped_2	4.61119888096912e-10
stacked_2_r	5.92196851252123e-09
grouped_2_r	8.13770615557778e-05
stacked_2_py	1.34468066051548e-06
grouped_2_py	5.65036041747099e-06
stack_first_2	0
grp_first_2	0.11

Table 85: Shapiro-Wilk test results to test for normality

Variable	P-Value
stacked_2	0
grouped_2	0.672
stacked_2_r	0.004
grouped_2_r	0.606
stacked_2_py	0
grouped_2_py	0.83
stack_first_2	0.004
grp_first_2	0.13

Table 86: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
stacked_2	two.sided	9	0.694004094076131
stacked_2 and stacked_2	two.sided	0	1
stacked_2_r	two.sided	9	0.860050065908581
stacked_2_py	two.sided	9	0.845018982887267

Table 87: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
grouped_2 and stacked_2	two.sided	0	0.583820981865031
grouped_2	two.sided	9	0.595311723126611
grouped_2_r	two.sided	9	0.697418259605575
grouped_2_py	two.sided	9	0.749150109631703
grouped_2_r and grouped_2_py	two.sided	0	0.940391676524971
stacked_2_r and stacked_2_py	two.sided	0	0.866193207934279
stack_first_2 and stacked_2	two.sided	0	0.75019451328525
group_first_2 and grouped_2	two.sided	0	0.309320000078007

Please select the statement you feel applies to the bar chart above.

Table 88: Table showing responses over the whole population

	Equal	Less	More
Stacked	27	31	11
Grouped	60	5	2

Table 89: Table showing responses over the R subgroup

	Equal	Less	More
Stacked	11	20	6
Grouped	29	4	2

Warning in rbind(table(stacked_3_py), table(grouped_3_py)): number of columns of result is not a multiple of vector length (arg 2)

Table 90: Table showing responses over the Python subgroup

	Equal	Less	More
Stacked	16	11	5
Grouped	31	1	31

Which obstacle do you think was used MORE in Finals (Regional/City) rounds, 'Log Grip' or 'Floating Steps'?

Table 91: Table showing responses over the whole population

	Floating Steps	Log Grip	Both the same
Stacked	56	2	12
Grouped	57	4	9

Table 92: Table showing responses over the R subgroup

	Floating Steps	Log Grip	Both the same
Stacked	30	8	0
Grouped	32	1	5

Table 93: Table showing responses over the Python subgroup

	Floating Steps	Log Grip	Both the same
Stacked	26	2	4
Grouped	25	3	4

Which bar chart do you feel is easiest to read and interpret?

	A	B
Whole Population	32	38
R	17	21
Python	15	17

Table 94: Description of colour pairings

Colour Set	Main Palette	Secondary Palette
A	Viridis	Default
B	Default	Viridis
C	Default	Greyscale
D	Greyscale	Default
E	Viridis	Greyscale
F	Greyscale	Viridis

Table 95: Table showing responses over the whole population, separated by colour set

	A	B	A Colour	B Colour
Set A	3	10	Viridis	Default
Set B	1	11	Default	Viridis
Set C	9	1	Default	Greyscale
Set D	1	11	Greyscale	Default
Set E	8	3	Viridis	Greyscale
Set F	10	2	Greyscale	Viridis

Table 96: Table showing responses over the R subgroup, separated by colour set

	A	B	A Colour	B Colour
Set A	2	6	Viridis	Default
Set B	6	6	Default	Viridis
Set C	4	1	Default	Greyscale
Set D	1	6	Greyscale	Default
Set E	4	1	Viridis	Greyscale
Set F	6	1	Greyscale	Viridis

Table 97: Table showing responses over the Python subgroup, separated by colour set

	A	B	A Colour	B Colour
Set A	1	4	Viridis	Default
Set B	1	5	Default	Viridis
Set C	5	5	Default	Greyscale
Set D	5	5	Greyscale	Default
Set E	4	2	Viridis	Greyscale
Set F	4	1	Greyscale	Viridis

Which colour scheme do you find most aesthetically pleasing?

Table 98: Table showing responses over the whole population

	A	B	A Colour	B Colour
Set A	3	10	Viridis	Default
Set B	1	11	Default	Viridis
Set C	9	1	Default	Greyscale
Set D	1	11	Greyscale	Default
Set E	8	3	Viridis	Greyscale
Set F	10	2	Greyscale	Viridis

Table 99: Table showing responses over the R subgroup

	A	B	A Colour	B Colour
Set A	2	6	Viridis	Default
Set B	0	6	Default	Viridis
Set C	4	1	Default	Greyscale
Set D	1	6	Greyscale	Default
Set E	4	1	Viridis	Greyscale
Set F	6	1	Greyscale	Viridis

Table 100: Table showing responses over the Python subgroup

	A	B	A Colour	B Colour
Set A	1	4	Viridis	Default
Set B	1	5	Default	Viridis
Set C	5	0	Default	Greyscale
Set D	0	5	Greyscale	Default
Set E	4	2	Viridis	Greyscale
Set F	4	1	Greyscale	Viridis

Do you feel that one of the colour schemes makes it easier to read and interpret? If so, please select which one.

Warning in rbind(table(a_2), table(b_2), table(c_2), table(d_2), table(e_2), :
number of columns of result is not a multiple of vector length (arg 2)

Table 101: Table showing responses over the whole population, separated by colour set

	None	A	B	A Colour	B Colour
Set A	3	7	3	Viridis	Default
Set B	1	11	1	Default	Viridis
Set C	9	1	9	Default	Greyscale
Set D	2	10	2	Greyscale	Default
Set E	11	11	11	Viridis	Greyscale
Set F	1	2	9	Greyscale	Viridis

Table 102: Table showing responses over the R subgroup, separated by colour set

	None	A	B	A Colour	B Colour
Set A	0	5	3	Viridis	Default
Set B	1	5	0	Default	Viridis
Set C	0	4	1	Default	Greyscale
Set D	0	1	6	Greyscale	Default
Set E	0	5	0	Viridis	Greyscale
Set F	1	2	4	Greyscale	Viridis

Table 103: Table showing responses over the Python subgroup, separated by colour set

	None	A	B	A Colour	B Colour
Set A	3	2	0	Viridis	Default
Set B	0	6	0	Default	Viridis
Set C	0	5	0	Default	Greyscale
Set D	0	1	4	Greyscale	Default
Set E	0	6	0	Viridis	Greyscale
Set F	0	0	5	Greyscale	Viridis

Sales - Part 1

Table 104: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	2.000000	2.000000	1.000000
Median	3.000000	2.000000	1.000000
Mean	2.956522	2.328571	1.371429
3rd Qu.	4.000000	3.000000	1.750000
Max.	6.000000	5.000000	3.000000

Table 105: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	2.000000	2.000000	1.000000
Median	2.000000	2.000000	1.000000
Mean	2.868421	2.421053	1.473684
3rd Qu.	4.000000	3.000000	2.000000
Max.	6.000000	4.000000	3.000000

Table 106: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.000000	1.00000	1.00
1st Qu.	2.000000	1.75000	1.00
Median	3.000000	2.00000	1.00
Mean	3.064516	2.21875	1.25
3rd Qu.	4.000000	3.00000	1.00
Max.	6.000000	5.00000	3.00

Table 107: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	2.000000	2.000000	1.000000
Median	3.000000	2.000000	1.000000
Mean	3.142857	2.421053	1.473684
3rd Qu.	4.000000	3.000000	2.000000
Max.	6.000000	4.000000	3.000000

Table 108: Shapiro-Wilk test results to test for normality

Variable	P-Value
trn_ab_1a	5.35455870068124e-06
zero_ab_1a	6.54138080382216e-13
trn_ab_1a_r	0.000566438700529975
zero_ab_1a_r	3.92153876863925e-08
trn_ab_1a_py	0.000342433023227564
zero_ab_1a_py	6.92541983845556e-10
trn_first_ab	0.000566438700529975
zero_first_ab	3.92153876863925e-08

Table 109: symiro-Wilk test results to test for normality

Variable	P-Value
sep_ab_1a	0.8
trn_ab_1a	0
zero_ab_1a	0
sep_ab_1a	0.822
trn_ab_1a_r	0.014
zero_ab_1a_r	0
sep_ab_1a	0.782
trn_ab_1a_py	0.08
zero_ab_1a_py	0
sep_ab_1a	0.864
trn_first_ab	0.014
zero_first_ab	0

Table 110: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
trn_ab_1a and zero_ab_1a	two.sided	0	1.774136393351e-13
trn_ab_1a and zero_ab_1a	greater	0	8.870681966755e-14

Table 111: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
trn_ab_1a and sep_ab_1a	two.sided	0	0.0130835128760645
trn_ab_1a and sep_ab_1a	less	0	0.00654175643803223
sep_ab_1a and zero_ab_1a	two.sided	0	6.96159868541323e-13
sep_ab_1a and zero_ab_1a	greater	0	3.48079934270661e-13
trn_ab_1a_r and trn_ab_1a_py	two.sided	0	0.335681509581421
zero_ab_1a_r and zero_ab_1a_py	two.sided	0	0.104140120580514
sep_ab_1a_r and sep_ab_1a_py	two.sided	0	0.418310233239994
trn_first_ab and trn_ab_1a	two.sided	0	0.600620786710905
zero_first_ab and zero_ab_1a	two.sided	0	0.392970285434783
sep_first_ab and sep_ab_1a	two.sided	0	0.587566764284451

How much would you say sales of each company increased between January and December? [Company B]

Table 112: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	4.000000	4.000000	1.000000
Median	4.000000	4.000000	1.000000
Mean	4.130435	4.318841	1.371429
3rd Qu.	5.000000	5.000000	1.750000
Max.	6.000000	6.000000	3.000000

Table 113: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	4.000000	4.000000	1.000000
Median	4.000000	4.000000	1.000000
Mean	4.081081	4.394737	1.473684
3rd Qu.	5.000000	5.000000	2.000000
Max.	6.000000	6.000000	3.000000

Table 114: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	2.0000	1.000000	1.00
1st Qu.	4.0000	4.000000	1.00
Median	4.0000	4.000000	1.00
Mean	4.1875	4.225807	1.25
3rd Qu.	4.2500	5.500000	1.00
Max.	6.0000	6.000000	3.00

Table 115: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.0	1.000000	1.000000
1st Qu.	4.0	4.000000	1.000000
Median	4.0	4.000000	1.000000
Mean	4.3	4.394737	1.473684
3rd Qu.	5.0	5.000000	2.000000
Max.	6.0	6.000000	3.000000

Table 116: Shapiro-Wilk test results to test for normality

Variable	P-Value
trn_ab_1b	2.19637519410788e-06
zero_ab_1b	6.54138080382216e-13
trn_ab_1b_r	0.000117054127245544
zero_ab_1b_r	3.92153876863925e-08
trn_ab_1b_py	0.00215780969368076
zero_ab_1b_py	6.92541983845556e-10
trn_first_ab	0.000117054127245544
zero_first_ab	3.92153876863925e-08

Table 117: symiro-Wilk test results to test for normality

Variable	P-Value
sep_ab_1b	0.212
trn_ab_1b	0.008
zero_ab_1b	0
sep_ab_1b	0.23
trn_ab_1b_r	0.034
zero_ab_1b_r	0
sep_ab_1b	0.186
trn_ab_1b_py	0.24
zero_ab_1b_py	0
sep_ab_1b	0.202
trn_first_ab	0.026
zero_first_ab	0

Table 118: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
trn_ab_1b and zero_ab_1b	two.sided	0	1.79050953726314e-22
trn_ab_1b and zero_ab_1b	greater	0	8.95254768631571e-23
trn_ab_1b and sep_ab_1b	two.sided	0	0.21622920494869
trn_ab_1b and sep_ab_1b	less	0	0.892724276004682
sep_ab_1b and zero_ab_1b	two.sided	0	2.46327564235365e-23
sep_ab_1b and zero_ab_1b	greater	0	1.23163782117683e-23
trn_ab_1b_r and trn_ab_1b_py	two.sided	0	0.568112613597696
zero_ab_1b_r and zero_ab_1b_py	two.sided	0	0.104140120580514
sep_ab_1b_r and sep_ab_1b_py	two.sided	0	0.979536489090163
trn_first_ab and trn_ab_1b	two.sided	0	0.756958550896413
zero_first_ab and zero_ab_1b	two.sided	0	0.392970285434783
sep_first_ab and sep_ab_1b	two.sided	0	0.389101300338762

How large would you say the drop in sales between April and July of Company A is?

Table 119: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	3.000000	2.000000	1.000000
Median	4.000000	3.000000	1.000000
Mean	4.028571	2.814286	1.371429
3rd Qu.	5.000000	3.000000	1.750000
Max.	7.000000	7.000000	3.000000

Table 120: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.00000	1.000000	1.000000
1st Qu.	2.00000	2.000000	1.000000
Median	3.50000	3.000000	1.000000
Mean	3.81579	2.868421	1.473684
3rd Qu.	5.00000	3.750000	2.000000
Max.	7.00000	7.000000	3.000000

Table 121: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1.00000	1.00	1.00
1st Qu.	3.00000	2.00	1.00
Median	4.50000	3.00	1.00
Mean	4.28125	2.75	1.25
3rd Qu.	5.00000	3.00	1.00
Max.	7.00000	6.00	3.00

Table 122: Statistics over the whole population

	Separate	Truncated	Zeroed
Min.	1	1.000000	1.000000
1st Qu.	2	2.000000	1.000000
Median	4	3.000000	1.000000
Mean	4	2.868421	1.473684
3rd Qu.	5	3.750000	2.000000
Max.	7	7.000000	3.000000

Table 123: Shapiro-Wilk test results to test for normality

Variable	P-Value
trn_ab_2	4.17206293921977e-05
zero_ab_2	6.54138080382216e-13
trn_ab_2_r	0.00378572405089229
zero_ab_2_r	3.92153876863925e-08
trn_ab_2_py	0.00336626681055323
zero_ab_2_py	6.92541983845556e-10
trn_first_ab	0.00378572405089229
zero_first_ab	3.92153876863925e-08

Table 124: symiro-Wilk test results to test for normality

Variable	P-Value
sep_ab_2	0.944
trn_ab_2	0.108
zero_ab_2	0
sep_ab_2	0.896
trn_ab_2_r	0.436
zero_ab_2_r	0
sep_ab_2	0.924
trn_ab_2_py	0.09200000000000001
zero_ab_2_py	0
sep_ab_2	0.898
trn_first_ab	0.542
zero_first_ab	0

Table 125: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
trn_ab_2 and zero_ab_2	two.sided	0	1.03832498155043e-11
trn_ab_2 and zero_ab_2	greater	0	5.19162490775216e-12

Table 126: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
trn_ab_2 and sep_ab_2	two.sided	0	0.00012743463393642
trn_ab_2 and sep_ab_2	less	0	6.37173169682098e-05
sep_ab_2 and zero_ab_2	two.sided	0	1.1261341031207e-16
sep_ab_2 and zero_ab_2	greater	0	5.6306705156035e-17
trn_ab_2_r and trn_ab_2_py	two.sided	0	1
zero_ab_2_r and zero_ab_2_py	two.sided	0	0.104140120580514
sep_ab_2_r and sep_ab_2_py	two.sided	0	0.279663731588861
trn_first_ab and trn_ab_2	two.sided	0	1
zero_first_ab and zero_ab_2	two.sided	0	0.392970285434783
sep_first_ab and sep_ab_2	two.sided	0	0.977150080823923

Sales - Part 2

Based on the above graph, how large would you say the difference is between the number of sales Company C makes and the number of sales Company D makes?

Table 127: Statistics over the whole population

	Truncated	Zeroed
Min.	2.000000	1.0
1st Qu.	4.000000	2.0
Median	4.000000	3.0
Mean	4.271429	2.7
3rd Qu.	5.000000	3.0
Max.	7.000000	5.0

Table 128: Statistics for the R subgroup

	Truncated	Zeroed
Min.	2.000000	1.000000
1st Qu.	4.000000	2.000000
Median	4.000000	2.000000
Mean	4.263158	2.631579
3rd Qu.	5.000000	3.000000
Max.	7.000000	4.000000

Table 129: Statistics for the R subgroup

	Truncated	Zeroed
Min.	2.00000	1.00000
1st Qu.	3.75000	2.00000
Median	4.00000	3.00000
Mean	4.28125	2.78125
3rd Qu.	5.00000	3.00000
Max.	7.00000	5.00000

Table 130: Statistics over the whole population

	Truncated - Whole Population	Truncated First
Min.	2.000000	2.000000
1st Qu.	4.000000	4.000000
Median	4.000000	4.000000
Mean	4.271429	4.108108
3rd Qu.	5.000000	5.000000
Max.	7.000000	7.000000

Table 131: Statistics over the whole population

	Zeroed - Whole Population	Zeroed First
Min.	1.0	1.000000
1st Qu.	2.0	2.000000
Median	3.0	3.000000
Mean	2.7	3.030303
3rd Qu.	3.0	4.000000
Max.	5.0	5.000000

Table 132: Shapiro-Wilk test results to test for normality

Variable	P-Value
trn_cd	0.000547172788139774
zero_cd	1.8870634525797e-06
trn_cd_r	0.0277209613173283
zero_cd_r	5.82559290012677e-05
trn_cd_py	0.0245137395260841
zero_cd_py	0.000814074994084011
trn_first_cd	0.00543061407003878
zero_first_cd	0.00400338047851882

Table 133: Shapiro-Wilk test results to test for normality

Variable	P-Value
trn_cd	0.024
zero_cd	0.016
trn_cd_r	0.136
zero_cd_r	0
trn_cd_py	0.104
zero_cd_py	0.108
trn_first_cd	0.484
zero_first_cd	0.766

Table 134: Sign test results for data considered non-normal and asymmetric

Variable(s)	Alternative	Null Value	P-Value
trn_cd and zero_cd	two.sided	0	8.88178419700125e-15
trn_cd and zero_cd	greater	0	4.44089209850063e-15

Table 135: MWW results for data considered non-normal but symmetric, and also comparisons of asymmetric data for which the two samples are of different sizes

Variable(s)	Alternative	Null Value	P-Value
trn_cd_r and trn_cd_py	two.sided	0	0.936464530098312
zero_cd_r and zero_cd_py	two.sided	0	0.549883706615318
trn_first_cd and trn_cd	two.sided	0	0.518250235417295
zero_first_cd and zero_cd	two.sided	0	0.0607098339094588