

Quade Test

Standalone verified Python analysis

Test: Quade Test

Design: Weighted complete-block comparison of G1, G2, and G3, giving more weight to students with larger within-row ranges.

Variables: G1, G2, G3, student blocks

Null hypothesis: After block adjustment, all three grade occasions have equal location.

Formula: $S_{ij}=Q_i[R_{ij}-(k+1)/2]$; $F_Q=(b-1)B/(A-B)$

Source rows: 649

Calculated metrics:

quade_f: 91.14810748936087

numerator_df: 2

denominator_df: 1296

p_value: 9.175119171202815e-38

Independent reference values:

quade_f: 91.14810748936087

numerator_df: 2

denominator_df: 1296

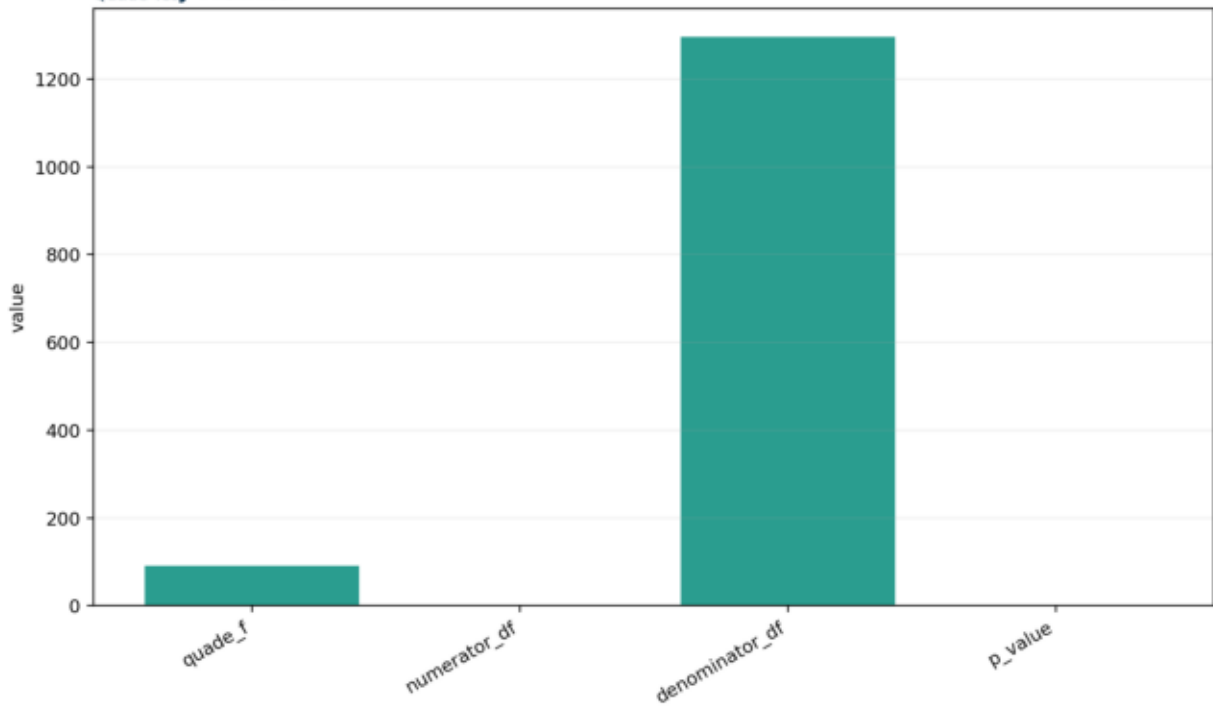
p_value: 9.175119171202815e-38

Interpretation:

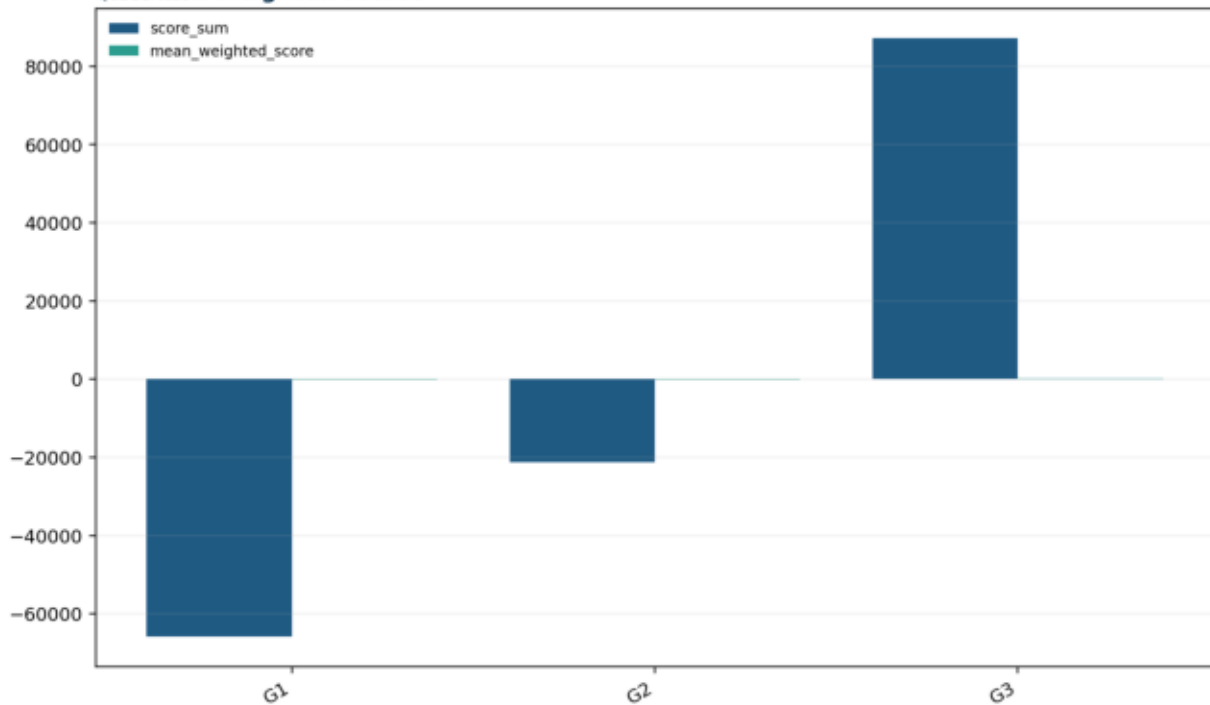
Students with a larger within-row grade range receive larger Quade weights.

Quade F=91.148107 on (2,1296) df, p=9.17512e-38.

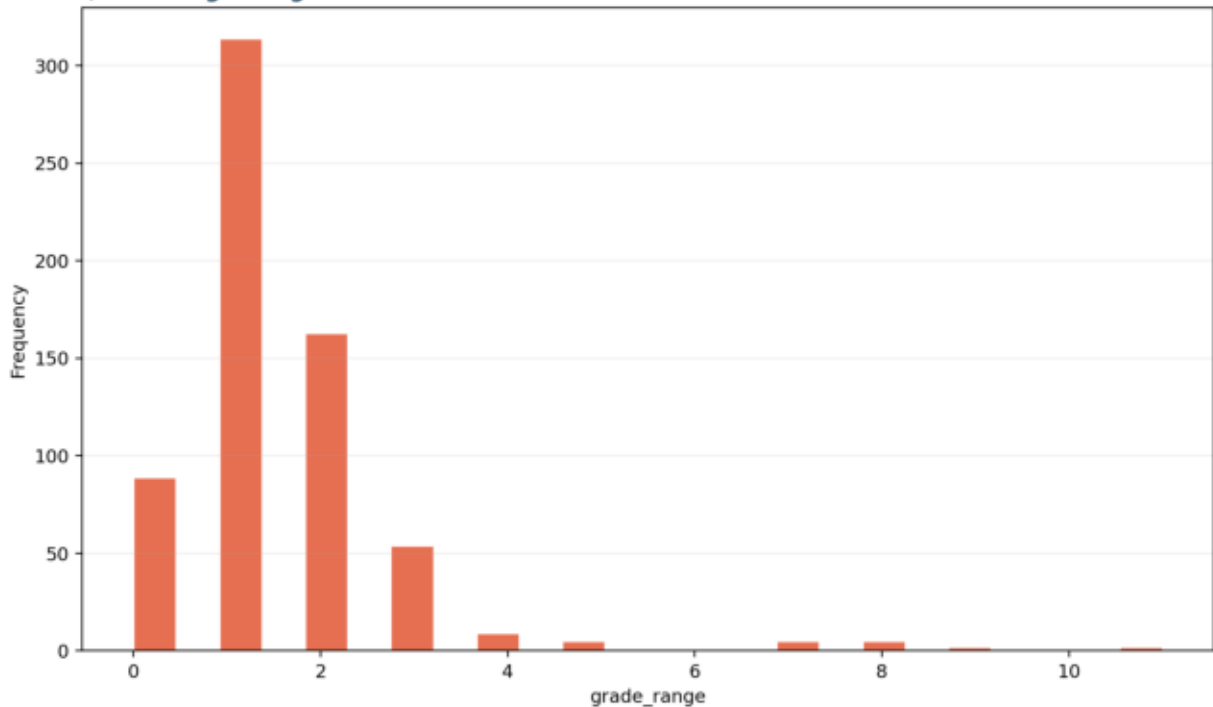
Primary Metrics



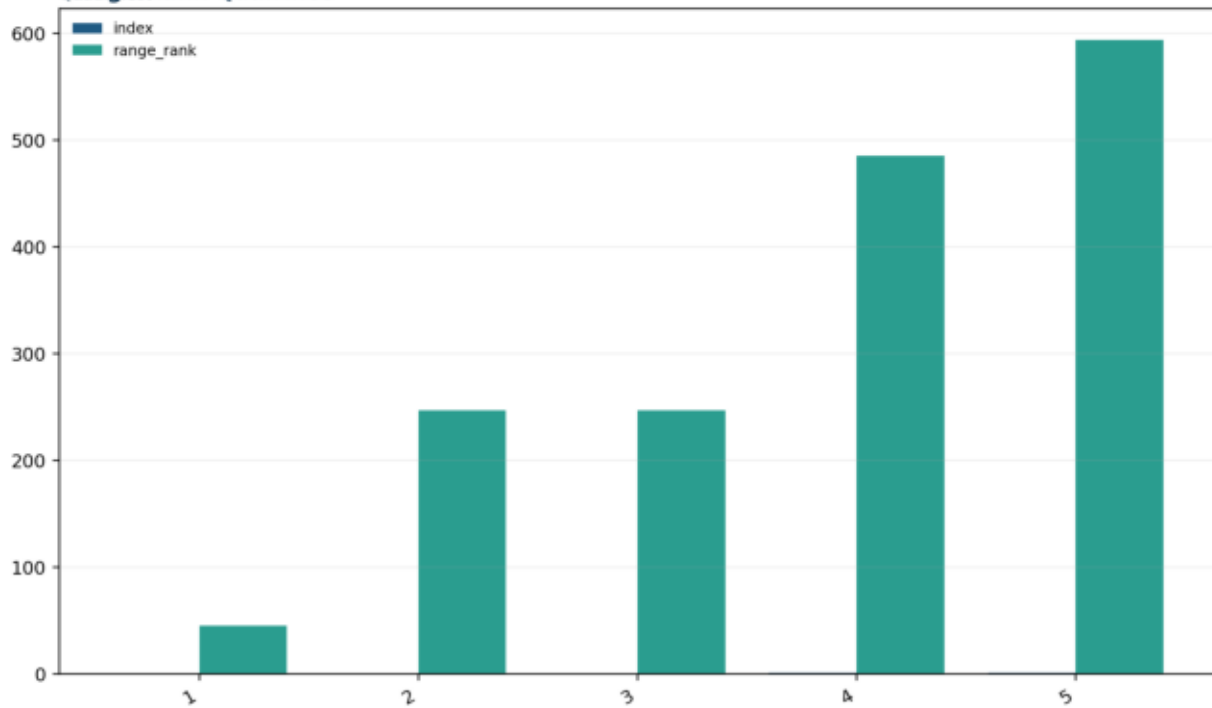
Occasion Weighted Scores



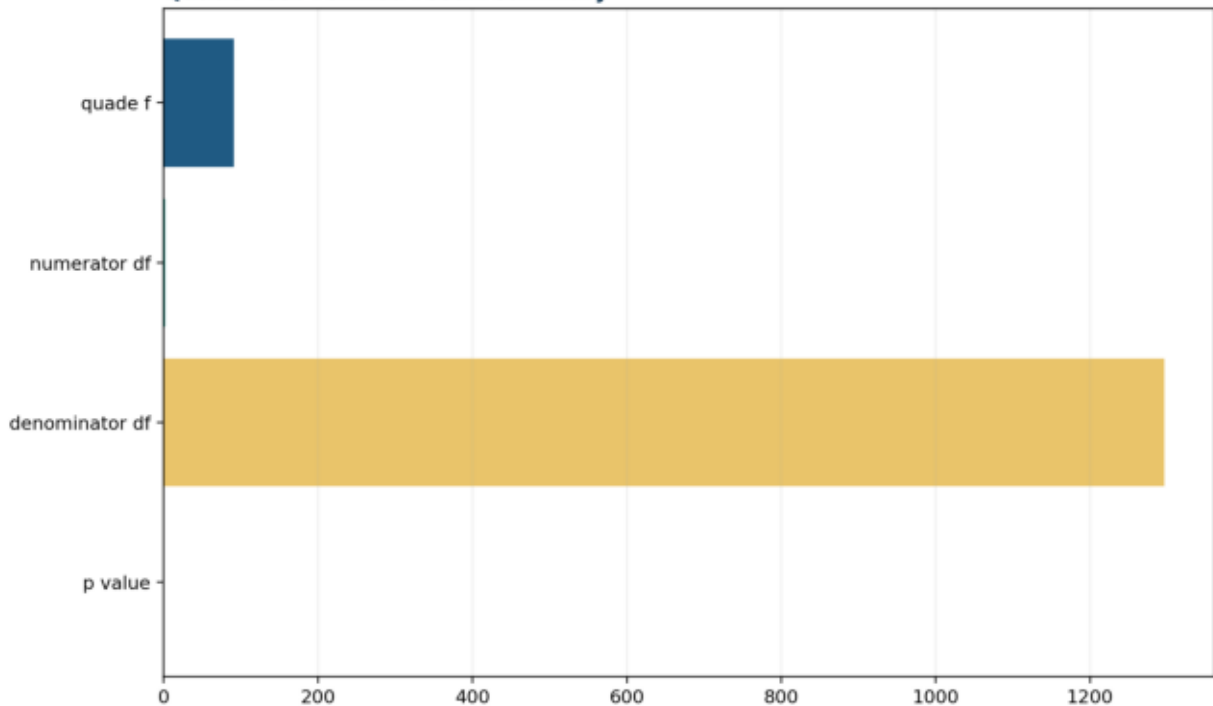
Block Range Weights



RangeRank Quantiles



Quade Test verified result summary



Primary Metrics

metric	value
quade_f	91.1481
numerator_df	2
denominator_df	1296
p_value	9.17512e-38

Occasion Weighted Scores

occasion	score_sum	mean_weighted_score
G1	-65888.2	-101.523
G2	-21292.8	-32.8086
G3	87181	134.331

Block Range Weights

grade_range	range_rank	G1_score	G2_score	G3_score
11	648.5	-648.5	324.25	324.25
2	485	-485	242.5	242.5
1	246.5	-123.25	246.5	-123.25
0	45	0	0	0
2	485	-485	242.5	242.5
1	246.5	-123.25	-123.25	246.5
1	246.5	123.25	-246.5	123.25
3	593.5	-593.5	296.75	296.75
2	485	-485	0	485
1	246.5	-123.25	-123.25	246.5
0	45	0	0	0
3	593.5	-593.5	0	593.5
1	246.5	-123.25	246.5	-123.25
1	246.5	-123.25	-123.25	246.5
1	246.5	-123.25	-123.25	246.5
0	45	0	0	0
1	246.5	-123.25	-123.25	246.5
1	246.5	-246.5	123.25	123.25
1	246.5	123.25	123.25	-246.5
0	45	0	0	0
2	485	-485	0	485
1	246.5	-246.5	123.25	123.25
2	485	-485	0	485
0	45	0	0	0
1	246.5	-123.25	246.5	-123.25
2	485	-485	0	485

Range Rank Quantiles

index	range_rank
0.1	45
0.25	246.5
0.5	246.5
0.75	485
0.9	593.5