**Conclusion: Positive correlation**

**Correlation analysis of all package levels (a total of 90 sets of data) for five projects**

**For Metric 1 Statement Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.7882**

**Spearman correlation coefficient is 0.7939**

**For Metric 2 Branch Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.8270**

**Spearman correlation coefficient is 0.8388**

**Correlation analysis of project lang package level (a total of 11 sets of data)**

**For Metric 1 Statement Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.3152**

**Spearman correlation coefficient is 0.1709**

**For Metric 2 Branch Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.5255**

**Spearman correlation coefficient is 0.5298**

**Correlation analysis of project codec package level (a total of 7 sets of data)**

**For Metric 1 Statement Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.9696**

**Spearman correlation coefficient is 0.0541**

**For Metric 2 Branch Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.9760**

**Spearman correlation coefficient is 0.6429**

**Correlation analysis of project collections package level (a total of 19 sets of data)**

**For Metric 1 Statement Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.4017**

**Spearman correlation coefficient is 0.3229**

**For Metric 2 Branch Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.5100**

**Spearman correlation coefficient is 0.4474**

**Correlation analysis of project configuration package level (a total of 17 sets of data)**

**For Metric 1 Statement Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.8381**

**Spearman correlation coefficient is 0.5567**

**For Metric 2 Branch Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.8437**

**Spearman correlation coefficient is 0.6938**

**Correlation analysis of project jfree package level (a total of 36 sets of data)**

**For Metric 1 Statement Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.9060**

**Spearman correlation coefficient is 0.8955**

**For Metric 2 Branch Coverage and Metric 3 Mutation Score**

**Pearson correlation coefficient is 0.9240**

**Spearman correlation coefficient is 0.9235**