1. The placement test occurs first and course final exam occurs at last. Hence placement test is independent variable and course grade is dependent
2. Scatter diagram

Conclusion: The graph shows a moderate degree of positive correlation between placement text score and course grade. It means that that placement test score is not good enough to predict course grade. There are other factors that may influence the course grade. The graph also shows some outliers

1. The Karl’s Pearson coffecient

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.N | Course Grade(Y) | Placement Test Score(X) | X^2 | Y^2 | XY |
| 1 | 50 | 53 | 2809 | 2500 | 2650 |
| 2 | 31 | 41 | 1681 | 961 | 1271 |
| 3 | 35 | 61 | 3721 | 1225 | 2135 |
| 4 | 40 | 56 | 3136 | 1600 | 2240 |
| 5 | 55 | 68 | 4624 | 3025 | 3740 |
| 6 | 65 | 46 | 2116 | 4225 | 2990 |
| 7 | 25 | 36 | 1296 | 625 | 900 |
| 8 | 60 | 70 | 4900 | 3600 | 4200 |
| 9 | 90 | 79 | 6241 | 8100 | 7110 |
| 10 | 35 | 59 | 3481 | 1225 | 2065 |
| 11 | 90 | 64 | 4096 | 8100 | 5760 |
| 12 | 80 | 91 | 8281 | 6400 | 7280 |
| 13 | 58 | 48 | 2304 | 3364 | 2784 |
| 14 | 60 | 71 | 5041 | 3600 | 4260 |
| 15 | 62 | 73 | 5329 | 3844 | 4526 |
| 16 | 40 | 47 | 2209 | 1600 | 1880 |
| 17 | 55 | 53 | 2809 | 3025 | 2915 |
| 18 | 50 | 68 | 4624 | 2500 | 3400 |
| 19 | 65 | 57 | 3249 | 4225 | 3705 |
| 20 | 50 | 79 | 6241 | 2500 | 3950 |
|  | 1096 | 1220 | 78188 | 66244 | 69761 |

Now,

rxy  = 0.601844149

Conclusion: There is moderate degree of positive correlation between placement test score and grade score