**Principal Component Analysis**

Following are the scores of 10 students on run (x1, second per 100 feet), long-jump (x2, feet), spot-jump (x3, feet) and broad-jump (x4, feet):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | x1 | x2 | x3 | x4 |
| 1  2  3  4  5  6  7  8  9  10 | 14.0  14.1  13.5  13.0  14.5  15.0  16.1  17.0  15.5  14.6 | 18.5  17.0  19.2  20.1  15.2  16.8  18.5  19.3  20.5  22.3 | 4.5  4.1  4.2  5.0  5.5  6.0  5.2  5.9  5.1  5.5 | 4.5  5.1  4.9  5.2  5.3  5.1  4.2  4.3  5.1  5.2 |

Find the required number of principal components to capture at least 90% of the variability of the given data set.