1. Mention the applications of t-distributions
2. A random sample of 10 boys hd the following I.Q's:

70	120	110	101	88	83	95	98	107	100

Do these data support the assumption of a population mean I.Q. of 100? Find a reasonable range in which most of the mean I.Q. values of a sample of 10 boys lie.

3. Below are given the gain in weights(in kgs) of pig fed on two diets A and B. Gain in weight.
   Diet A: 25, 32, 30, 34, 24, 14, 32, 24, 30, 31, 35, 29, 22
   Diet B: 44, 34, 22, 10, 47, 40, 30, 32, 35, 18, 21, 25, 29, 22.
   Test if the two diets differ significantly as regards their effect on increase in weight.
4. A random sample of 27 pairs of observations from a normal population gave a correlation coefficient of 0.6. Is this significant of correlation in teh population?
5. Pumpkins were grown under two experimental conditions. Two random samples of 11 and 9 pumpkins show the sample standard deviations of their weights as 0.8 and 0.5 respectively. Assuming that the weight distributions are normal, test the hypothesis that the true variances are equal against the alternative that they are not, at the 10% level of significance.