Let,

X=The selling price (in hundred thousands)

Y=The list price (in hundred thousands)

given that,

significance level, α =0.05

sample size, n=10

1)

The Pearson's correlation coefficient, r=0.988

Explaination:

By using excel function =CORREL()

2)

**Claim:** Is to test that, is there sufficient evidence to conclude that there is a linear correlation between two variables.

To test:

H0: ρ=0  vs

H1: ρ≠0

Test statistic:

T= {r\sqrt{n-2}}/{\sqrt{1-r^2}}

Where,

n= sample size

r=correlation coefficient

t=

{0.988\sqrt{10-2}}/{\sqrt{1-(0.988)^2}}

Explaination:

Where, t follows t with n-2 degrees of freedom

hence degrees of freedom=8

**Decision rule:**

We reject H0 at α% level of significance level if,

P-value<α

here , P-value < α i.e. 0.0000<0.05

Therefore, we reject H0 at 5% level of significance.

**Ans: Reject Ho**

**Conclusion: There is sufficient evidence to conclude that there is a linear correlation between two variables.**

**1)The Pearson's correlation coefficient, r=0.988**

**2) From the scatterplot we seen that all the points are scattered along a straight line with uphill direction .Hence there is positive linear relationship between two variables.**

**3) p-value=0.0000**

**4) There is sufficient evidence to conclude that there is a linear correlation between two variables.**