

ASSIGNMENT-4

1-The equations of two regression lines, obtained in a correlation analysis of 60 observations are:

$$5x = 6y + 24 \text{ and } 1000y = 768x - 3608.$$

What is the correlation coefficient? Show that the ratio of coefficient of variability of x to that of y is 5/24. What is the ratio of variances of x and y?

2- Fit a second degree parabola in the following data:

x:	0.0	1.0	2.0	3.0	4.0
y:	1.0	4.0	10.0	17.0	30.0

3-Obtain the cubic spline for the following data:

x:	0	1	2	3
y:	2	-6	-8	2

4- In a partially destroyed laboratory record of an analysis of a correlation data the following results only are eligible:

Variance of $x=9$

Regression equations: $8x-10y+66=0, 40x-18y=214$

What were-

- The mean values of x and y
- The standard deviation of y and the coefficient of correlation between x and y.

5- The following table gives age(x) in years of cars and annual maintenance cost(y) in hundred

rupees:

X:	1	3	5	7	9
Y:	15	18	21	23	22

Estimate the maintenance cost for a 4 year old car after finding the regression equation.