PARUL UNIVERSITY
FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF APPLIED SCIENCE AND HUMANITIES
4th SEMESTER B.TECH PROGRAMME
PROBABILITY, STATISTICS AND NUMERICAL METHODS (203191251)

Tutorial 1: Correlation and Regression

1. Find the correlation coefficient between the length and weight:

Length in inches	3	4	6	7	10
Weight in kilo gram	9	11	14	15	16

2. Find the correlation coefficient:

x	300	350	400	450	500	550	600	650	700
y	800	900	1000	1100	1200	1300	1400	1500	1600

3. Two judges have given ranks to ten students for their honesty. Find the rank correlation coefficient.

1st judge	3	5	8	4	7	10	2	1	6	9
2nd judge	6	4	9	8	1	2	3	10	5	7

4. Ten competitors in a beauty contest are ranked by three judges in the following order. Use rank correlation coefficient to determine which of the two judges have similar approach.

1st judge	1	6	5	10	3	2	4	9	7	8
2nd judge	3	5	8	4	7	10	2	1	6	9
3rd judge	6	4	9	8	1	2	3	10	5	7

5. Compute spearman's rank correlation for the following observation :

Candidate	1	2	3	4	5	6	7	8
Judge X	20	22	28	23	30	30	23	24
Judge Y	28	24	24	25	26	27	32	30

6. Find the coefficient of rank correlation.

X	35	40	42	43	40	53	54	49	41	55
Y	102	101	97	98	38	101	97	92	95	95

7. The following table shows the ages(X) and blood pressure(Y) of 8 persons.

X	52	63	45	36	72	65	47	25
Y	62	53	51	25	79	43	60	33

Obtain the regression Y on X. Find the expected blood pressure of a person who is 49 years old.

8. You are given the following data. Find regression coefficients .

	X	Y
Arithmetic Mean	36	85
Standard Deviation	11	8
Correlation between X and Y	0.66	