

APPENDIXES

CALCULATION OF CORRELATION AND REGRESSION
BETWEEN LISTENING I AND SPEAKING I

NO.	X	Y	X ²	Y ²	XY
1	63.5	69.0	4032.25	4761.00	4381.50
2	70.0	79.5	4900.00	6320.25	5565.00
3	68.5	66.0	4692.25	4356.00	4521.00
4	85.8	82.5	7361.64	6806.25	7078.50
5	75.0	75.0	5625.00	5625.00	5625.00
6	83.9	84.0	7039.21	7056.00	7047.60
7	95.3	90.0	9082.09	8100.00	8577.00
8	79.0	88.5	6241.00	7832.25	6991.50
9	81.8	84.0	6691.24	7056.00	6871.20
10	87.0	90.0	7569.00	8100.00	7830.00
11	81.3	69.0	6609.69	4761.00	5609.70
12	73.0	78.0	5329.00	6084.00	5694.00
13	79.8	67.5	6368.04	4556.25	5386.50
14	71.0	79.5	5041.00	6320.25	5644.50
15	80.0	89.0	6400.00	7921.00	7120.00
16	88.0	77.0	7744.00	5929.00	6776.00
17	91.3	83.5	8335.69	6972.25	7623.55
18	88.8	78.0	7885.44	6084.00	6926.40
19	88.5	87.0	7832.25	7569.00	7699.50
20	76.5	88.5	5852.25	7832.25	6770.25
21	92.5	92.0	8556.25	8464.00	8510.00
22	90.8	87.0	8244.64	7569.00	7899.60
23	88.3	92.0	7796.89	8464.00	8123.60
24	90.5	82.5	8190.25	6806.25	7466.25
25	80.8	85.5	6528.64	7310.25	6908.40
26	83.5	81.0	6972.25	6561.00	6763.50
27	79.5	83.5	6320.25	6972.25	6638.25
28	95.0	81.0	9025.00	6561.00	7695.00
29	65.3	82.5	4264.09	6806.25	5387.25
30	88.5	78.0	7832.25	6084.00	6903.00
31	73.5	78.0	5402.25	6084.00	5733.00
32	74.5	86.0	5550.25	7396.00	6407.00
33	75.0	73.5	5625.00	5402.25	5512.50
34	52.5	63.0	2756.25	3969.00	3307.50
35	82.8	81.0	6855.84	6561.00	6706.80
36	74.0	89.0	5476.00	7921.00	6586.00
37	68.0	70.5	4624.00	4970.25	4794.00
38	86.0	73.5	7396.00	5402.25	6321.00
39	88.3	75.0	7796.89	5625.00	6622.50
40	98.0	90.0	9604.00	8100.00	8820.00
41	85.8	75.5	7361.64	5700.25	6477.90
42	80.5	69.0	6480.25	4761.00	5554.50
43	89.5	72.0	8010.25	5184.00	6444.00
44	63.5	79.5	4032.25	6320.25	5048.25
45	74.0	70.5	5476.00	4970.25	5217.00
46	96.0	73.5	9216.00	5402.25	7056.00
47	90.5	75.5	8190.25	5700.25	6832.75
48	68.5	72.0	4692.25	5184.00	4932.00
49	82.3	87.0	6773.29	7569.00	7160.10
50	91.0	73.5	8281.00	5402.25	6688.50

51	79.0	75.0	6241.00	5625.00	5925.00
52	63.5	73.5	4032.25	5402.25	4667.25
53	73.3	75.0	5372.89	5625.00	5497.50
54	84.8	70.5	7191.04	4970.25	5978.40
55	87.5	70.5	7656.25	4970.25	6168.75
56	63.5	69.0	4032.25	4761.00	4381.50
57	91.8	81.0	8427.24	6561.00	7435.80
58	90.5	73.5	8190.25	5402.25	6631.75
59	62.5	79.5	3906.25	6320.25	4968.75
60	94.8	84.0	8987.04	7056.00	7963.20
61	85.8	76.5	7361.64	5852.25	6563.70
62	87.5	76.5	7656.25	5852.25	6693.75
63	80.5	70.5	6480.25	4970.25	5675.25
64	84.8	76.5	7191.04	5852.25	6487.20
65	57.0	78.0	3249.00	6084.00	4446.00
66	92.8	79.5	8611.84	6320.25	7377.60
67	86.5	70.5	7482.25	4970.25	6098.25
68	92.0	85.5	8464.00	7310.25	7866.00
69	62.5	63.0	3906.25	3969.00	3937.50
70	90.3	79.5	8154.09	6320.25	7178.85
71	83.8	79.5	7022.44	6320.25	6662.10
72	68.5	88.5	4692.25	7832.25	6062.25
73	92.5	67.5	8556.25	4556.25	6243.75
74	74.8	77.0	5595.04	5929.00	5759.60
75	59.5	69.0	3540.25	4761.00	4105.50
76	85.5	72.0	7310.25	5184.00	6156.00
77	83.5	84.0	6972.25	7056.00	7014.00
78	71.5	75.0	5112.25	5625.00	5362.50
79	62.0	72.0	3844.00	5184.00	4464.00
80	71.0	72.0	5041.00	5184.00	5112.00
81	78.0	73.5	6084.00	5402.25	5733.00
82	87.0	78.0	7569.00	6084.00	6786.00
83	61.0	63.0	3721.00	3969.00	3843.00
84	83.3	81.0	6938.89	6561.00	6747.30
85	94.3	82.5	8892.49	6806.25	7779.75
86	78.0	81.0	6084.00	6561.00	6318.00
87	76.5	72.0	5852.25	5184.00	5508.00
88	87.3	70.5	7621.29	4970.25	6154.65
89	68.8	84.0	4733.44	7056.00	5779.20
90	66.3	64.5	4395.69	4160.25	4276.35
91	94.3	87.0	8892.49	7569.00	8204.10
92	73.8	81.0	5446.44	6561.00	5977.80
93	79.0	76.5	6241.00	5852.25	6043.50
94	81.0	75.0	6561.00	5625.00	6075.00
95	93.3	75.0	8704.89	5625.00	6997.50
96	77.0	70.5	5929.00	4970.25	5428.50
97	85.3	79.5	7276.09	6320.25	6781.35
98	88.0	76.5	7744.00	5852.25	6732.00
99	81.5	84.0	6642.25	7056.00	6846.00
100	67.0	66.0	4489.00	4356.00	4422.00
101	72.3	73.5	5227.29	5402.25	5314.05

JUMLAH 8093.4 7836.5 659285.76 613033.25 630905.60
n = 101

X = LISTENING I

Y = SPEAKING I

Calculation:

$$b = \frac{n(xy) - \{x\} \cdot \{y\}}{n(x^2) - (\{x\})^2} = 0.274293$$

$$a = \frac{\{y\} \cdot x^2 - \{x\} \cdot \{xy\}}{n(x^2) - (\{x\})^2} = 55.60924$$

$$r = \frac{n(xy) - \{x\} \cdot \{y\}}{\sqrt{n(x^2 - (\{x\})^2) \cdot n(y^2 - (\{y\})^2)}} = 0.401756$$

Linear regression equation: $Y = a + b X$

is : $Y = 55.60924 + 0.274293 X$.

and $r = 0.401756$

Coefficient of determination = 16.14%

=====

TEST OF CORELATION SIGNIFICANCE:

1. Hypothesis formulation:

$H_0 : r = 0$; there is no corelation between X and Y.

$H_a : r \neq 0$; there is a correlation between X and Y.

2. $n = 101$, 5% significance level, $r_{\text{tabel}} = 0.195$

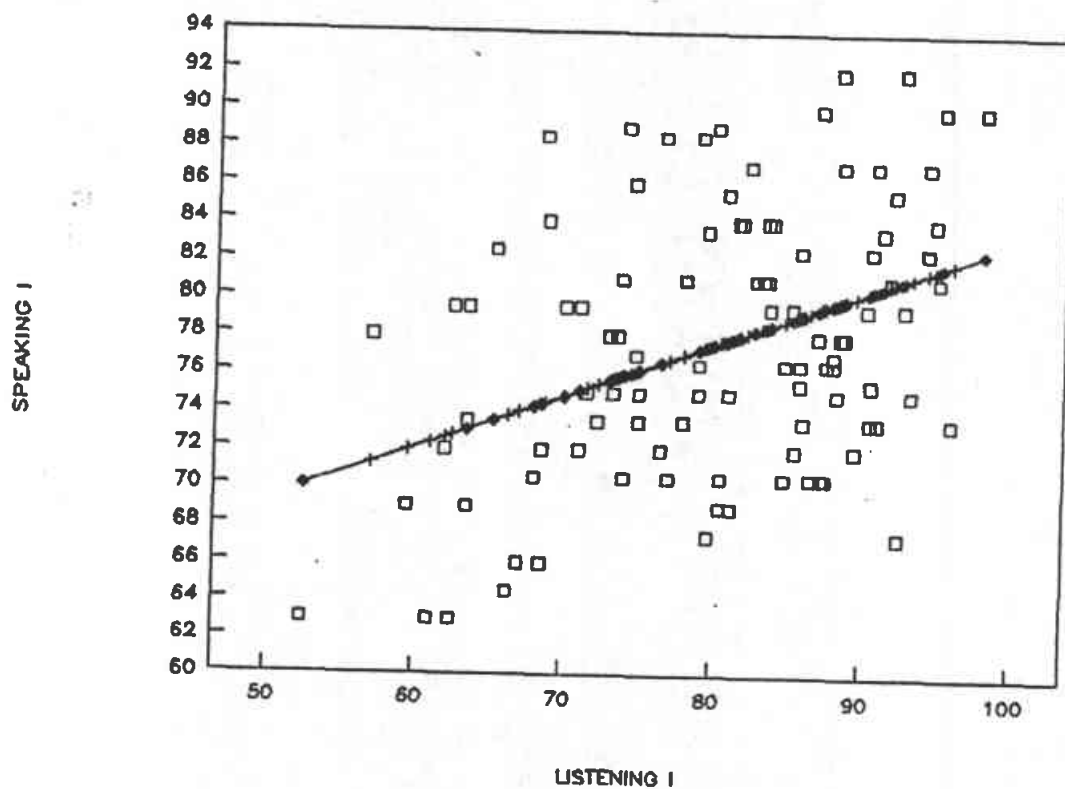
H_0 is rejected if $r_{\text{calculation}} > r_{\text{tabel}}$.

3. Conclusion:

Since $r_{\text{calculation}} = 0.4017 > r_{\text{tabel}}$, H_0 is rejected.

So there is a significant correlation between X and Y.

REGRESSION LINE (For predicting y and x)



CALCULATION OF CORRELATION AND REGRESSION
BETWEEN LISTENING II AND SPEAKING II

NO.	X	Y	X ²	Y ²	XY
1	56.0	69.0	3136.00	4761.00	3864.00
2	63.5	81.0	4032.25	6561.00	5143.50
3	66.0	60.0	4356.00	3600.00	3960.00
4	85.0	78.0	7225.00	6084.00	6630.00
5	66.0	66.0	4356.00	4356.00	4356.00
6	78.5	76.5	6162.25	5852.25	6005.25
7	87.0	76.5	7569.00	5852.25	6655.50
8	88.0	75.0	7744.00	5625.00	6600.00
9	93.5	76.5	8742.25	5852.25	7152.75
10	97.0	85.5	9409.00	7310.25	8293.50
11	62.0	67.5	3844.00	4556.25	4185.00
12	62.5	67.5	3906.25	4556.25	4218.75
13	67.0	60.0	4489.00	3600.00	4020.00
14	57.0	81.0	3249.00	6561.00	4617.00
15	83.5	81.0	6972.25	6561.00	6763.50
16	84.5	73.5	7140.25	5402.25	6210.75
17	81.0	79.5	6561.00	6320.25	6439.50
18	89.5	73.5	8010.25	5402.25	6578.25
19	85.0	85.5	7225.00	7310.25	7267.50
20	87.0	79.5	7569.00	6320.25	6916.50
21	88.5	82.5	7832.25	6806.25	7301.25
22	86.5	76.5	7482.25	5852.25	6617.25
23	88.0	82.5	7744.00	6806.25	7260.00
24	90.0	81.0	8100.00	6561.00	7290.00
25	85.5	81.0	7310.25	6561.00	6925.50
26	70.5	81.0	4970.25	6561.00	5710.50
27	70.0	66.0	4900.00	4356.00	4620.00
28	88.0	78.0	7744.00	6084.00	6864.00
29	82.5	78.0	6806.25	6084.00	6435.00
30	88.0	81.0	7744.00	6561.00	7128.00
31	78.5	81.0	6162.25	6561.00	6358.50
32	76.5	75.0	5852.25	5625.00	5737.50
33	68.5	67.5	4692.25	4556.25	4623.75
34	68.0	63.0	4624.00	3969.00	4284.00
35	89.5	82.5	8010.25	6806.25	7383.75
36	76.0	76.5	5776.00	5852.25	5814.00
37	65.0	61.5	4225.00	3782.25	3997.50
38	78.0	67.5	6084.00	4556.25	5265.00
39	82.5	67.5	6806.25	4556.25	5568.75
40	96.5	85.5	9312.25	7310.25	8250.75
41	91.5	79.5	8372.25	6320.25	7274.25
42	73.5	70.5	5402.25	4970.25	5181.75
43	73.5	78.0	5402.25	6084.00	5733.00
44	72.5	82.5	5256.25	6806.25	5981.25
45	80.0	67.5	6400.00	4556.25	5400.00
46	76.5	81.0	5852.25	6561.00	6196.50
47	80.0	67.5	6400.00	4556.25	5400.00
48	53.5	63.0	2862.25	3969.00	3370.50
49	73.5	79.5	5402.25	6320.25	5843.25
50	71.5	78.0	5112.25	6084.00	5577.00

51	62.0	73.5	3844.00	5402.25	4557.00
52	55.0	78.0	3025.00	6084.00	4290.00
53	68.0	73.5	4624.00	5402.25	4998.00
54	65.0	78.0	4225.00	6084.00	5070.00
55	74.0	69.0	5476.00	4761.00	5106.00
56	72.0	64.5	5184.00	4160.25	4644.00
57	87.0	79.5	7569.00	6320.25	6916.50
58	80.5	73.5	6480.25	5402.25	5916.75
59	76.5	81.0	5852.25	6561.00	6196.50
60	82.0	67.5	6724.00	4556.25	5535.00
61	73.0	69.0	5329.00	4761.00	5037.00
62	73.0	70.5	5329.00	4970.25	5146.50
63	78.0	79.5	6084.00	6320.25	6201.00
64	72.0	73.5	5184.00	5402.25	5292.00
65	65.0	60.0	4225.00	3600.00	3900.00
66	82.5	81.0	6806.25	6561.00	6682.50
67	62.5	79.5	3906.25	6320.25	4968.75
68	74.0	79.5	5476.00	6320.25	5883.00
69	73.0	70.5	5329.00	4970.25	5146.50
70	73.5	80.0	5402.25	6400.00	5880.00
71	81.0	80.0	6561.00	6400.00	6480.00
72	69.5	84.0	4830.25	7056.00	5838.00
73	82.0	85.5	6724.00	7310.25	7011.00
74	91.0	76.5	8281.00	5852.25	6961.50
75	53.0	60.0	2809.00	3600.00	3180.00
76	64.5	73.5	4160.25	5402.25	4740.75
77	78.0	81.0	6084.00	6561.00	6318.00
78	72.5	79.5	5256.25	6320.25	5763.75
79	69.5	67.5	4830.25	4556.25	4691.25
80	62.5	73.5	3906.25	5402.25	4593.75
81	69.0	67.5	4761.00	4556.25	4657.50
82	81.0	87.0	6561.00	7569.00	7047.00
83	45.0	70.5	2025.00	4970.25	3172.50
84	81.0	84.0	6561.00	7056.00	6804.00
85	81.0	82.5	6561.00	6806.25	6682.50
86	60.5	70.5	3660.25	4970.25	4265.25
87	54.0	63.0	2916.00	3969.00	3402.00
88	75.5	66.0	5700.25	4356.00	4983.00
89	64.0	81.0	4096.00	6561.00	5184.00
90	52.0	61.5	2704.00	3782.25	3198.00
91	88.0	84.0	7744.00	7056.00	7392.00
92	58.5	64.5	3422.25	4160.25	3773.25
93	79.0	79.5	6241.00	6320.25	6280.50
94	50.5	63.0	2550.25	3969.00	3181.50
95	88.0	76.5	7744.00	5852.25	6732.00
96	49.0	63.0	2401.00	3969.00	3087.00
97	88.0	85.5	7744.00	7310.25	7524.00
98	76.0	79.5	5776.00	6320.25	6042.00
99	79.5	81.0	6320.25	6561.00	6439.50
100	63.0	73.5	3969.00	5402.25	4630.50
101	69.5	76.5	4830.25	5852.25	5316.75

JUMLAH 7526.0 7556.5 574141.50 570667.25 568009.50

n = 101

X = LISTENING II

Y = SPEAKING II

Calculation:

$$b = \frac{n\{xy - \{x.\{y}{n\{x^2 - (\{x)^2} = 0.370091$$

$$a = \frac{\{y.\{x^2 - \{x.\{xy}{n\{x^2 - (\{x)^2} = 47.23954$$

$$r = \frac{n\{xy - \{x.\{y}{\sqrt{n\{x^2 - (\{x)^2 \cdot n\{y^2 - (\{y)^2}} = 0.586443$$

Linear regression equation: $Y = a + b X$

is : $Y = 47.23954 + 0.370091 X$

and $r = 0.586443$

Coefficient of determination = 34.39%

=====

TEST OF CORELATION SIGNIFICANCE:

1. Hypothesis formulation:

$H_0 : r = 0$; there is no corelation between X and Y.

$H_a : r \neq 0$; there is a correlation between X and Y.

2. $n = 101$, 5% significance level, $r_{\text{tabel}} = 0.195$

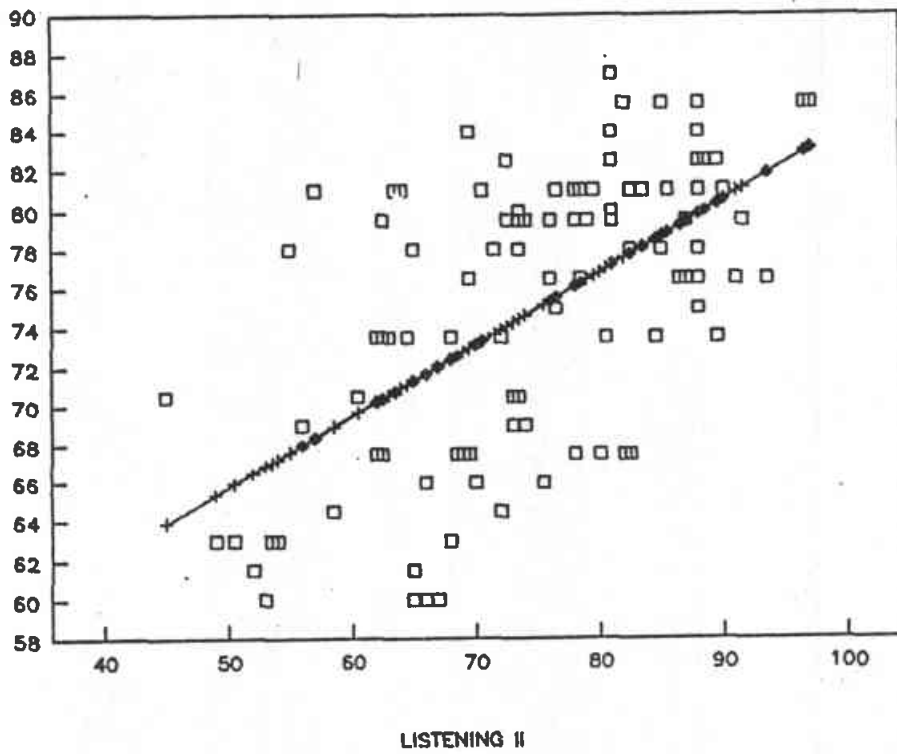
H_0 is rejected if $r_{\text{calculation}} > r_{\text{tabel}}$.

3. Conclusion:

Since $r_{\text{calculation}} = 0.5864 > r_{\text{tabel}}$, H_0 is rejected.

So, there is a significant correlation between X and Y.

REGRESSION LINE (For predicting y and x)



CALCULATION OF CORRELATION AND REGRESSION
BETWEEN LISTENING III AND SPEAKING III

NO.	X	Y	X ²	Y ²	XY
1	62.5	70.5	3906.25	4970.25	4406.25
2	65.5	81.0	4290.25	6561.00	5305.50
3	57.5	70.5	3306.25	4970.25	4053.75
4	89.5	78.0	8010.25	6084.00	6981.00
5	70.0	75.0	4900.00	5625.00	5250.00
6	66.5	75.0	4422.25	5625.00	4987.50
7	89.0	82.5	7921.00	6806.25	7342.50
8	87.0	81.0	7569.00	6561.00	7047.00
9	92.0	84.0	8464.00	7056.00	7728.00
10	92.0	87.0	8464.00	7569.00	8004.00
11	65.5	61.5	4290.25	3782.25	4028.25
12	59.5	70.5	3540.25	4970.25	4194.75
13	58.5	66.0	3422.25	4356.00	3861.00
14	51.5	73.5	2652.25	5402.25	3785.25
15	88.5	81.0	7832.25	6561.00	7168.50
16	87.0	75.0	7569.00	5625.00	6525.00
17	76.0	75.0	5776.00	5625.00	5700.00
18	76.5	72.0	5852.25	5184.00	5508.00
19	84.5	84.0	7140.25	7056.00	7098.00
20	82.3	72.0	6773.29	5184.00	5925.60
21	89.5	82.5	8010.25	6806.25	7383.75
22	80.5	73.5	6480.25	5402.25	5916.75
23	89.8	81.0	8064.04	6561.00	7273.80
24	88.0	82.5	7744.00	6806.25	7260.00
25	85.8	84.0	7361.64	7056.00	7207.20
26	75.0	72.0	5625.00	5184.00	5400.00
27	81.0	67.5	6561.00	4556.25	5467.50
28	81.0	70.5	6561.00	4970.25	5710.50
29	87.0	81.0	7569.00	6561.00	7047.00
30	79.0	81.0	6241.00	6561.00	6399.00
31	83.0	81.0	6889.00	6561.00	6723.00
32	77.5	66.0	6006.25	4356.00	5115.00
33	75.0	73.5	5625.00	5402.25	5512.50
34	65.5	70.5	4290.25	4970.25	4617.75
35	84.8	76.5	7191.04	5852.25	6487.20
36	85.0	76.5	7225.00	5852.25	6502.50
37	57.0	55.5	3249.00	3080.25	3163.50
38	77.0	76.5	5929.00	5852.25	5890.50
39	81.5	72.0	6642.25	5184.00	5868.00
40	92.3	82.5	8519.29	6806.25	7614.75
41	92.3	73.5	8519.29	5402.25	6784.05
42	69.5	70.5	4830.25	4970.25	4899.75
43	79.5	73.5	6320.25	5402.25	5843.25
44	57.5	72.0	3306.25	5184.00	4140.00
45	73.5	75.0	5402.25	5625.00	5512.50
46	76.5	72.5	5852.25	5256.25	5546.25
47	81.0	73.5	6561.00	5402.25	5953.50
48	69.0	61.5	4761.00	3782.25	4243.50
49	77.0	79.5	5929.00	6320.25	6121.50
50	76.0	72.0	5776.00	5184.00	5472.00

51	72.5	75.0	5256.25	5625.00	5437.50
52	61.0	73.5	3721.00	5402.25	4483.50
53	64.5	76.5	4160.25	5852.25	4934.25
54	63.5	73.5	4032.25	5402.25	4667.25
55	70.0	79.5	4900.00	6320.25	5565.00
56	64.0	63.0	4096.00	3969.00	4032.00
57	88.0	79.5	7744.00	6320.25	6996.00
58	75.5	75.0	5700.25	5625.00	5662.50
59	61.0	72.0	3721.00	5184.00	4392.00
60	89.3	67.5	7974.49	4556.25	6027.75
61	68.0	81.0	4624.00	6561.00	5508.00
62	79.8	66.0	6368.04	4356.00	5266.80
63	79.0	81.0	6241.00	6561.00	6399.00
64	71.0	72.0	5041.00	5184.00	5112.00
65	62.0	73.5	3844.00	5402.25	4557.00
66	80.5	78.0	6480.25	6084.00	6279.00
67	63.5	79.5	4032.25	6320.25	5048.25
68	85.0	82.5	7225.00	6806.25	7012.50
69	72.5	72.0	5256.25	5184.00	5220.00
70	82.5	64.5	6806.25	4160.25	5321.25
71	83.5	66.0	6972.25	4356.00	5511.00
72	79.3	76.5	6288.49	5852.25	6066.45
73	77.5	79.5	6006.25	6320.25	6161.25
74	95.0	82.5	9025.00	6806.25	7837.50
75	53.0	73.5	2809.00	5402.25	3895.50
76	71.5	79.5	5112.25	6320.25	5684.25
77	83.0	84.0	6889.00	7056.00	6972.00
78	80.5	79.5	6480.25	6320.25	6399.75
79	79.5	66.0	6320.25	4356.00	5247.00
80	67.0	70.5	4489.00	4970.25	4723.50
81	68.5	76.5	4692.25	5852.25	5240.25
82	78.0	81.0	6084.00	6561.00	6318.00
83	47.0	70.5	2209.00	4970.25	3313.50
84	73.8	82.5	5446.44	6806.25	6088.50
85	87.8	84.0	7708.84	7056.00	7375.20
86	73.0	75.0	5329.00	5625.00	5475.00
87	59.5	55.5	3540.25	3080.25	3302.25
88	67.0	64.5	4489.00	4160.25	4321.50
89	65.5	82.5	4290.25	6806.25	5403.75
90	67.0	55.5	4489.00	3080.25	3718.50
91	82.5	76.5	6806.25	5852.25	6311.25
92	57.0	69.0	3249.00	4761.00	3933.00
93	83.5	84.0	6972.25	7056.00	7014.00
94	52.5	54.0	2756.25	2916.00	2835.00
95	80.5	72.0	6480.25	5184.00	5796.00
96	71.0	60.0	5041.00	3600.00	4260.00
97	88.0	82.5	7744.00	6806.25	7260.00
98	77.0	81.0	5929.00	6561.00	6237.00
99	72.8	84.0	5299.84	7056.00	6115.20
100	67.5	70.5	4556.25	4970.25	4758.75
101	80.0	79.5	6400.00	6320.25	6360.00

JUMLAH 7590.6 7527.5 582269.48 566199.25 569832.75
n = 101

X = LISTENING III
Y = SPEAKING III

Calculation:

$$b = \frac{n\{xy - \{x.\{y}{n\{x^2 - (\{x)^2}} = 0.348039$$

$$a = \frac{\{y.\{x^2 - \{x.\{xy}{n\{x^2 - (\{x)^2}} = 48.37298$$

$$r = \frac{n\{xy - \{x.\{y}{\sqrt{n\{x^2 - (\{x)^2} \cdot n\{y^2 - (\{y)^2}} = 0.525499$$

Linear regression equation: $Y = a + b X$

is : $Y = 48.37298 + 0.348039 X$

and $r = 0.525499$

Coefficient of determination = 27.61%

TEST OF CORELATION SIGNIFICANCE:

1. Hypothesys formulation:

$H_0 : r = 0$; there is no corelation between X and Y.

$H_a : r \neq 0$; there is a correlation between X and Y.

2. $n = 101$, 5% significance level, $r_{\text{tabel}} = 0.195$

H_0 is rejected if $r_{\text{calculation}} > r_{\text{tabel}}$.

3. Conclusion:

Since $r_{\text{calculation}} = 0.5254 > r_{\text{tabel}}$, H_0 is rejected.

So there is a significant correlation between X and Y.

REGRESSION LINE (For predicting y and x)

