



Pertemuan ke-4

KORELASI



KORELASI



- Untuk mengetahui hubungan variabel yang satu dengan yang lainnya, dinyatakan dengan koefisien korelasi $(-1, 0, 1) \approx -1 \leq r \leq 1$, untuk mengetahui antara 2 variabel yang saling berhubungan.
- Cara untuk menghitung korelasi ada 3 yaitu :
 - Korelasi Spearman Rank (rho), bisa disebut juga juga korelasi berjenjang.
 - Korelasi Pearson Product Moment (PPM)
 - Korelasi rank tes atau beda.



KORELASI SPEARMAN RANK



- Rumus cara ke-1 :

- Cara ke-2 :

- Cara ke-3 :



KORELASI SPEARMAN RANK (lanjutan)

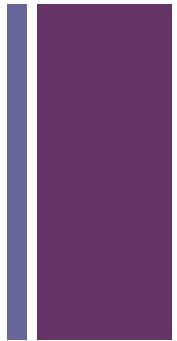


- Contoh : Cari korelasi antara variabel Motivasi Belajar (X) dengan variabel Prestasi Belajar (Y).

| Testee | X | Y | X' | Y' | X_1^2 | Y_1^2 | X'.Y' |
|----------|----|----|----|----|---------|---------|-------|
| A | 13 | 11 | | | | | |
| B | 12 | 14 | | | | | |
| C | 10 | 11 | | | | | |
| D | 10 | 7 | | | | | |
| E | 8 | 9 | | | | | |
| F | 6 | 11 | | | | | |
| G | 6 | 3 | | | | | |
| H | 5 | 7 | | | | | |
| I | 3 | 6 | | | | | |
| J | 2 | 1 | | | | | |
| Σ | | | | | | | |
| x | | | | | | | |



KORELASI SPEARMAN RANK (lanjutan)



- Contoh : Cari korelasi antara variabel Motivasi Belajar (X) dengan variabel Prestasi Belajar (Y).

| Testee | X | Y | X' | Y' | X_1^2 | Y_1^2 | X'.Y' |
|----------|-----|----|------|-----|----------------|----------------|----------------|
| A | 13 | 11 | 5,5 | 3 | 30,25 | 9 | 16,5 |
| B | 12 | 14 | 4,5 | 6 | 20,25 | 36 | 27,0 |
| C | 10 | 11 | 2,5 | 3 | 6,25 | 9 | 7,5 |
| D | 10 | 7 | 2,5 | -1 | 6,25 | 1 | -2,5 |
| E | 8 | 9 | 0,5 | 1 | 0,25 | 1 | 0,5 |
| F | 6 | 11 | -1,5 | 3 | 2,25 | 9 | -4,5 |
| G | 6 | 3 | -1,5 | -5 | 2,25 | 25 | 7,5 |
| H | 5 | 7 | -2,5 | -1 | 6,25 | 1 | 2,5 |
| I | 3 | 6 | -4,5 | -2 | 20,25 | 4 | 9,0 |
| J | 2 | 1 | -5,5 | -7 | 30,25 | 49 | 38,5 |
| Σ | 75 | 80 | 0,0 | 0,0 | 124,50 | 144 | 102,0 |
| x | 7,5 | 8 | | | ΣX_1^2 | ΣY_1^2 | $\Sigma X'.Y'$ |



KORELASI SPEARMAN RANK (lanjutan)



- Cara ke-1 :



KORELASI SPEARMAN RANK (lanjutan)



- Cara ke-2 :



KORELASI SPEARMAN RANK (lanjutan)

■ Cara ke-3

| Testee | X | Y | Rank X | Rank Y | X - Y (d) | (d ²) |
|--------|-----|----|--------|--------|-----------|-------------------|
| A | 13 | 11 | 1 | 3 | -2 | 4 |
| B | 12 | 14 | 2 | 1 | 1 | 1 |
| C | 10 | 11 | 3,5 | 3 | 0,5 | 0,25 |
| D | 10 | 7 | 3,5 | 6,5 | -3 | 9 |
| E | 8 | 9 | 5 | 5 | 0 | 0 |
| F | 6 | 11 | 6,5 | 3 | 3,5 | 12,25 |
| G | 6 | 3 | 6,5 | 9 | -2,5 | 6,25 |
| H | 5 | 7 | 8 | 6,5 | 1,5 | 2,25 |
| I | 3 | 6 | 9 | 8 | 1 | 1 |
| J | 2 | 1 | 10 | 10 | 0 | 0 |
| Σ | 75 | 80 | | | | 36 |
| x | 7,5 | 8 | | | | |



KORELASI SPEARMAN RANK (lanjutan)



- Cara ke-3 :



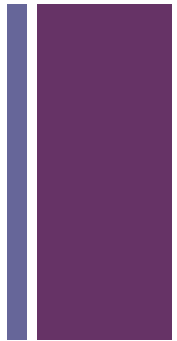
KORELASI PEARSON PRODUCT MOMEN (PPM)



- Rumus :



KORELASI PEARSON PRODUCT MOMEN (PPM) (Lanjutan)



- Dibawah ini hasil pengambilan data Power Tungkai dan Hasil Lompatan. Cari hubungan antara Power Tungkai (X) dengan Hasil Lompatan pada Lompat Jauh (Y)!

| No | X | Y | X ² | Y ² | XY |
|----|----|-----|----------------|----------------|----|
| 1 | 60 | 450 | | | |
| 2 | 70 | 475 | | | |
| 3 | 75 | 450 | | | |
| 4 | 65 | 470 | | | |
| 5 | 70 | 475 | | | |
| 6 | 60 | 455 | | | |
| 7 | 80 | 475 | | | |
| 8 | 75 | 470 | | | |
| 9 | 85 | 485 | | | |
| 10 | 90 | 480 | | | |



KORELASI PEARSON PRODUCT MOMEN (PPM) (Lanjutan)

| No | X | Y | X ² | Y ² | XY |
|----|-----|------|----------------|----------------|--------|
| 1 | 60 | 450 | 3600 | 202500 | 27000 |
| 2 | 70 | 475 | 4900 | 225625 | 33250 |
| 3 | 75 | 450 | 5625 | 202500 | 33750 |
| 4 | 65 | 470 | 4225 | 220900 | 30550 |
| 5 | 70 | 475 | 4900 | 225625 | 33250 |
| 6 | 60 | 455 | 3600 | 207025 | 27300 |
| 7 | 80 | 475 | 6400 | 225625 | 38000 |
| 8 | 75 | 470 | 5625 | 220900 | 35250 |
| 9 | 85 | 485 | 7225 | 235225 | 41225 |
| 10 | 90 | 480 | 8100 | 230400 | 43200 |
| Σ | 730 | 4685 | 54200 | 2196325 | 342775 |



KORELASI PEARSON PRODUCT MOMEN (PPM) (Lanjutan)



- Jawab :

+ Tugas

- Dibawah ini adalah data hasil pengukuran tinggi badan mahasiswa FPOK UPI angkatan 2007.

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 166 | 155 | 155 | 167 | 176 | 177 | 178 | 165 | 166 |
| 159 | 150 | 170 | 171 | 170 | 166 | 165 | 164 | 165 |
| 164 | 163 | 162 | 160 | 161 | 161 | 160 | 169 | 168 |
| 170 | 171 | 170 | 170 | 169 | 168 | 168 | 167 | 166 |
| 165 | 155 | 150 | 153 | 154 | 159 | 158 | 169 | 170 |
| 178 | 177 | 180 | 176 | 176 | 174 | 171 | 170 | 172 |
| 176 | 170 | 168 | 168 | 179 | 180 | 172 | 173 | 173 |
| 174 | 174 | 173 | 181 | 180 | 178 | 176 | 175 | 166 |

+ Tugas

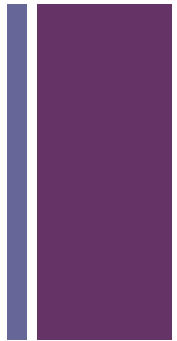


- Tentukan !
 - Kuartil 1, 2, 3.
 - Persentil ke 25, 40, 50, 75, 80.



Tentukan Z-Skor, T-Skor dan Rank dari data hasil ujian Softball dibawah ini!

| NO | Nama | O'Donell test | | | | | |
|----|------|---------------|---------------|-------------------|----------------|---------------|---------------------|
| | | Speed Throw | Throw & Catch | Fielding Fly Ball | Repetead Throw | Fungo Batting | Overhand Accuracy T |
| 1 | A | 0.924 | 18 | 16.7 | 28 | 32 | 23 |
| 2 | B | 0.894 | 18 | 16.7 | 28 | 36 | 16 |
| 3 | C | 0.993 | 16 | 14.9 | 26 | 30 | 13 |
| 4 | D | 0.909 | 20 | 18.6 | 30 | 40 | 20 |
| 5 | E | 0.906 | 17 | 15.8 | 27 | 30 | 24 |
| 6 | F | 0.924 | 18 | 16.7 | 28 | 32 | 22 |
| 7 | G | 0.951 | 17 | 15.8 | 27 | 20 | 22 |
| 8 | H | 0.975 | 20 | 18.6 | 30 | 24 | 24 |
| 9 | I | 0.858 | 14 | 13.0 | 24 | 18 | 23 |
| 10 | J | 1.002 | 20 | 18.6 | 30 | 22 | 18 |
| 11 | K | 0.918 | 13 | 12.1 | 23 | 14 | 19 |
| 12 | L | 0.990 | 18 | 16.7 | 28 | 18 | 21 |
| 13 | M | 0.870 | 19 | 17.7 | 29 | 12 | 24 |
| 14 | N | 1.059 | 20 | 18.6 | 30 | 22 | 24 |
| 15 | O | 0.921 | 17 | 15.8 | 27 | 22 | 23 |



+ ■ Berikut dibawah ini hasil pengukuran Motif berprestasi dengan Nilai Raport siswa SMA Ragunan Jakarta.

■ Hitung korelasi antara variabel X dan Y dengan cara KSR dan PPM!

| No. | Siswa | Motif Berprestasi (X) | Nilai Raport (Y) |
|-----|-------|-----------------------|------------------|
| 1 | A | 77 | 9 |
| 2 | B | 65 | 8,5 |
| 3 | C | 90 | 7 |
| 4 | D | 89 | 8 |
| 5 | E | 79 | 9 |
| 6 | F | 86 | 8 |
| 7 | G | 69 | 7 |
| 8 | H | 91 | 8 |
| 9 | I | 92 | 9 |
| 10 | J | 90 | 8,7 |
| 11 | K | 90 | 9,4 |
| 12 | L | 88 | 9,5 |
| 13 | M | 87 | 9 |
| 14 | N | 81 | 8 |
| 15 | O | 90 | 7 |
| 16 | P | 94 | 7,5 |
| 17 | Q | 87 | 7,3 |
| 18 | R | 88 | 7,9 |
| 19 | S | 89 | 8,6 |
| 20 | T | 83 | 9 |



See you next week