Univariate Analysis of Variance

Notes

Output Created		21-MAR-2016 11:11:43
Comments		
Input	Data	D:\Google Drive\ELEX_2016\CD\Bab 7\7.2.2.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	20
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		UNIANOVA Produk BY Hari Posisi Penerangan /CONTRAST(Hari)=Simple /CONTRAST(Posisi)=Simple /CONTRAST(Penerangan)=Simple /METHOD=SSTYPE(3) /INTERCEPT=EXCLUDE /POSTHOC=Hari Posisi Penerangan (DUNCAN LSD) /PLOT=PROFILE(Hari*Penerangan*Posisi) /CRITERIA=ALPHA(.05) /DESIGN=Hari Posisi Penerangan.
Resources	Processor Time	00:00:04.75
	Elapsed Time	00:00:01.87

Between-Subjects Factors

		Value Label	N
Hari	1	Senin	4
	2	Selasa	4
	3	Rabu	4
	4	Kamis	4
	5	Jumat	4
Posisi	1	Posisi 1	5
	2	Posisi 2	5
	3	Posisi 3	5
	4	Posisi 4	5
Penerangan	1	Perangkat 1	4
	2	Perangkat 2	4
	3	Perangkat 3	4
	4	Perangkat 4	4
	5	Perangkat 5	4

Tests of Between-Subjects Effects

Dependent Variable: Produk

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	1033.933[a]	12	86.161	29.882	.000
Hari	17.433	4	4.358	1.512	.286
Posisi	31.750	3	10.583	3.671	.063
Penerangan	169.433	4	42.358	14.691	.001
Error	23.067	8	2.883		
Total	1057.000	20			

a. R Squared = .978 (Adjusted R Squared = .945)

Custom Hypothesis Tests Index

1	Contrast Coefficients (L' Matrix)	Simple Contrast (reference category = 5) for Hari
	Transformation Coefficients (M Matrix)	Identity Matrix
	Contrast Results (K Matrix)	Zero Matrix
2	Contrast Coefficients (L' Matrix)	Simple Contrast (reference category = 4) for Posisi
	Transformation Coefficients (M Matrix)	Identity Matrix
	Contrast Results (K Matrix)	Zero Matrix
3	Contrast Coefficients (L' Matrix)	Simple Contrast (reference category = 5) for Penerangan
	Transformation Coefficients (M Matrix)	Identity Matrix
	Contrast Results (K Matrix)	Zero Matrix

Custom Hypothesis Tests #1

Contrast Results (K Matrix)

Hari Simple Contrast[a]			Dependent Variable: Produk
Level 1 vs. Level 5	Contrast Estimate		-1.333
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-1.333
	Std. Error		1.240
	Sig.		.314
	95% Confidence Interval for Difference	Lower Bound	-4.193
		Upper Bound	1.526
Level 2 vs. Level 5	Contrast Estimate		-1.933
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-1.933
	Std. Error		1.240
	Sig.		.158
	95% Confidence Interval for Difference	Lower Bound	-4.793
		Upper Bound	.926
Level 3 vs. Level 5	Contrast Estimate		-2.933
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-2.933
	Std. Error		1.240
	Sig.		.046
	95% Confidence Interval for Difference	Lower Bound	-5.793
		Upper Bound	-.074
Level 4 vs. Level 5	Contrast Estimate		-1.133
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-1.133
	Std. Error		1.240
	Sig.		.387
	95% Confidence Interval for Difference	Lower Bound	-3.993
		Upper Bound	1.726

a. Reference category = 5

Test Results

Dependent Variable: Produk

Source	Sum of Squares	df	Mean Square	F	Sig.
Contrast	17.433	4	4.358	1.512	.286
Error	23.067	8	2.883		

Custom Hypothesis Tests #2

Contrast Results (K Matrix)

Posisi Simple Contrast[a]			Dependent Variable: Produk
Level 1 vs. Level 4	Contrast Estimate		-2.800
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-2.800
	Std. Error		1.074
	Sig.		.031
	95% Confidence Interval for Difference	Lower Bound	-5.276
		Upper Bound	-.324
Level 2 vs. Level 4	Contrast Estimate		-.200
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-.200
	Std. Error		1.074
	Sig.		.857
	95% Confidence Interval for Difference	Lower Bound	-2.676
		Upper Bound	2.276
Level 3 vs. Level 4	Contrast Estimate		-2.400
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-2.400
	Std. Error		1.074
	Sig.		.056
	95% Confidence Interval for Difference	Lower Bound	-4.876
		Upper Bound	.076

a. Reference category = 4

Test Results

Dependent Variable: Produk

Source	Sum of Squares	df	Mean Square	F	Sig.
Contrast	31.750	3	10.583	3.671	.063
Error	23.067	8	2.883		

Custom Hypothesis Tests #3

Contrast Results (K Matrix)

Penerangan Simple Contrast[a]			Dependent Variable: Produk
Level 1 vs. Level 5	Contrast Estimate		-3.667
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-3.667
	Std. Error		1.240
	Sig.		.018
	95% Confidence Interval for Difference	Lower Bound	-6.526
		Upper Bound	-.807
Level 2 vs. Level 5	Contrast Estimate		1.600
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		1.600
	Std. Error		1.240
	Sig.		.233
	95% Confidence Interval for Difference	Lower Bound	-1.260
		Upper Bound	4.460
Level 3 vs. Level 5	Contrast Estimate		-4.200
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		-4.200
	Std. Error		1.240
	Sig.		.010
	95% Confidence Interval for Difference	Lower Bound	-7.060
		Upper Bound	-1.340
Level 4 vs. Level 5	Contrast Estimate		3.600
	Hypothesized Value		0
	Difference (Estimate - Hypothesized)		3.600
	Std. Error		1.240

Contrast Results (K Matrix)

Penerangan Simple Contrast[a]			Dependent Variable: Produk
	Sig.		.020
	95% Confidence Interval for Difference	Lower Bound	.740
		Upper Bound	6.460

a. Reference category = 5

Test Results

Dependent Variable: Produk

Source	Sum of Squares	df	Mean Square	F	Sig.
Contrast	169.433	4	42.358	14.691	.001
Error	23.067	8	2.883		

Post Hoc Tests

Hari

Multiple Comparisons

Dependent Variable: Produk

	(I) Hari	(J) Hari	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
LSD	Senin	Selasa	1.50	1.201	.247	-1.27	4.27
		Rabu	2.00	1.201	.134	-.77	4.77
		Kamis	-1.25	1.201	.328	-4.02	1.52
		Jumat	-2.25	1.201	.098	-5.02	.52
	Selasa	Senin	-1.50	1.201	.247	-4.27	1.27
		Rabu	.50	1.201	.688	-2.27	3.27
		Kamis	-2.75	1.201	.051	-5.52	.02
		Jumat	-3.75*	1.201	.014	-6.52	-.98
	Rabu	Senin	-2.00	1.201	.134	-4.77	.77
		Selasa	-.50	1.201	.688	-3.27	2.27
		Kamis	-3.25*	1.201	.027	-6.02	-.48
		Jumat	-4.25*	1.201	.008	-7.02	-1.48
	Kamis	Senin	1.25	1.201	.328	-1.52	4.02
		Selasa	2.75	1.201	.051	-.02	5.52
		Rabu	3.25*	1.201	.027	.48	6.02
		Jumat	-1.00	1.201	.429	-3.77	1.77
	Jumat	Senin	2.25	1.201	.098	-.52	5.02
		Selasa	3.75*	1.201	.014	.98	6.52
		Rabu	4.25*	1.201	.008	1.48	7.02
		Kamis	1.00	1.201	.429	-1.77	3.77

Based on observed means.
The error term is Mean Square(Error) = 2.883.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Produk

	Hari	N	Subset 1	Subset 2	Subset 3
Duncan[a,b]	Rabu	4	4.25		
	Selasa	4	4.75	4.75	
	Senin	4	6.25	6.25	6.25
	Kamis	4		7.50	7.50
	Jumat	4			8.50
	Sig.		.149	.059	.110

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 2.883.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = .05.

Posisi

Multiple Comparisons

Dependent Variable: Produk

	(I) Posisi	(J) Posisi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
LSD	Posisi 1	Posisi 2	-2.60*	1.074	.042	-5.08	-.12
		Posisi 3	-.40	1.074	.719	-2.88	2.08
		Posisi 4	-2.80*	1.074	.031	-5.28	-.32
	Posisi 2	Posisi 1	2.60*	1.074	.042	.12	5.08
		Posisi 3	2.20	1.074	.075	-.28	4.68
		Posisi 4	-.20	1.074	.857	-2.68	2.28
	Posisi 3	Posisi 1	.40	1.074	.719	-2.08	2.88
		Posisi 2	-2.20	1.074	.075	-4.68	.28
		Posisi 4	-2.40	1.074	.056	-4.88	.08
	Posisi 4	Posisi 1	2.80*	1.074	.031	.32	5.28
		Posisi 2	.20	1.074	.857	-2.28	2.68
		Posisi 3	2.40	1.074	.056	-.08	4.88

Based on observed means.
The error term is Mean Square(Error) = 2.883.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Produk

	Posisi	N	Subset 1	Subset 2
Duncan[a,b]	Posisi 1	5	4.80	
	Posisi 3	5	5.20	5.20
	Posisi 2	5		7.40
	Posisi 4	5		7.60
	Sig.		.719	.064

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 2.883.

a. Uses Harmonic Mean Sample Size = 5.000.

b. Alpha = .05.

Penerangan

Multiple Comparisons

Dependent Variable: Produk

	(I) Penerangan	(J) Penerangan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
LSD	Perangkat 1	Perangkat 2	-6.00*	1.201	.001	-8.77	-3.23
		Perangkat 3	.25	1.201	.840	-2.52	3.02
		Perangkat 4	-7.75*	1.201	.000	-10.52	-4.98
		Perangkat 5	-4.00*	1.201	.010	-6.77	-1.23
	Perangkat 2	Perangkat 1	6.00*	1.201	.001	3.23	8.77
		Perangkat 3	6.25*	1.201	.001	3.48	9.02
		Perangkat 4	-1.75	1.201	.183	-4.52	1.02
		Perangkat 5	2.00	1.201	.134	-.77	4.77
	Perangkat 3	Perangkat 1	-.25	1.201	.840	-3.02	2.52
		Perangkat 2	-6.25*	1.201	.001	-9.02	-3.48
		Perangkat 4	-8.00*	1.201	.000	-10.77	-5.23
		Perangkat 5	-4.25*	1.201	.008	-7.02	-1.48
	Perangkat 4	Perangkat 1	7.75*	1.201	.000	4.98	10.52
		Perangkat 2	1.75	1.201	.183	-1.02	4.52
		Perangkat 3	8.00*	1.201	.000	5.23	10.77
		Perangkat 5	3.75*	1.201	.014	.98	6.52

Multiple Comparisons

Dependent Variable: Produk

(I) Penerangan	(J) Penerangan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Perangkat 5	Perangkat 1	4.00*	1.201	.010	1.23	6.77
	Perangkat 2	-2.00	1.201	.134	-4.77	.77
	Perangkat 3	4.25*	1.201	.008	1.48	7.02
	Perangkat 4	-3.75*	1.201	.014	-6.52	-.98

Based on observed means.
The error term is Mean Square(Error) = 2.883.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Produk

	Penerangan	N	Subset 1	Subset 2	Subset 3
Duncan[a,b]	Perangkat 3	4	2.50		
	Perangkat 1	4	2.75		
	Perangkat 5	4		6.75	
	Perangkat 2	4		8.75	8.75
	Perangkat 4	4			10.50
	Sig.		.840	.134	.183

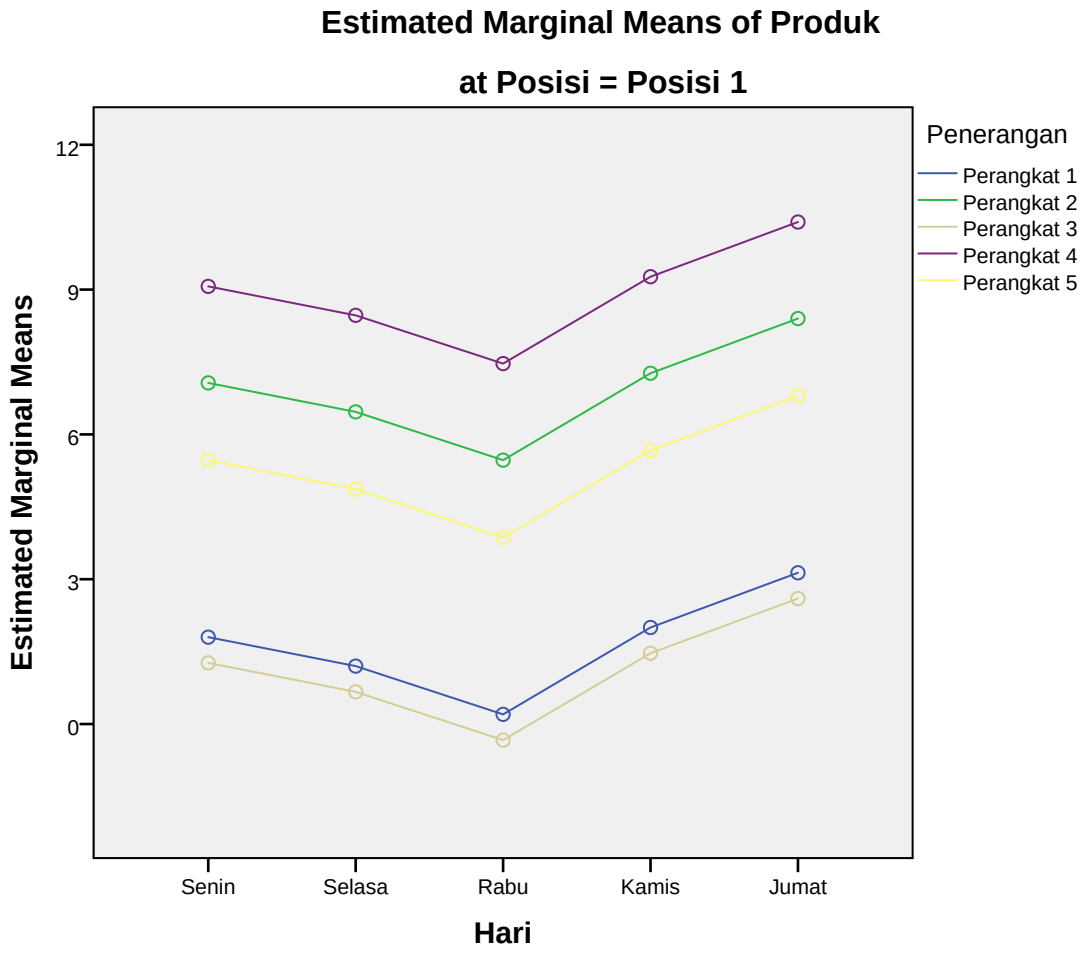
Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 2.883.

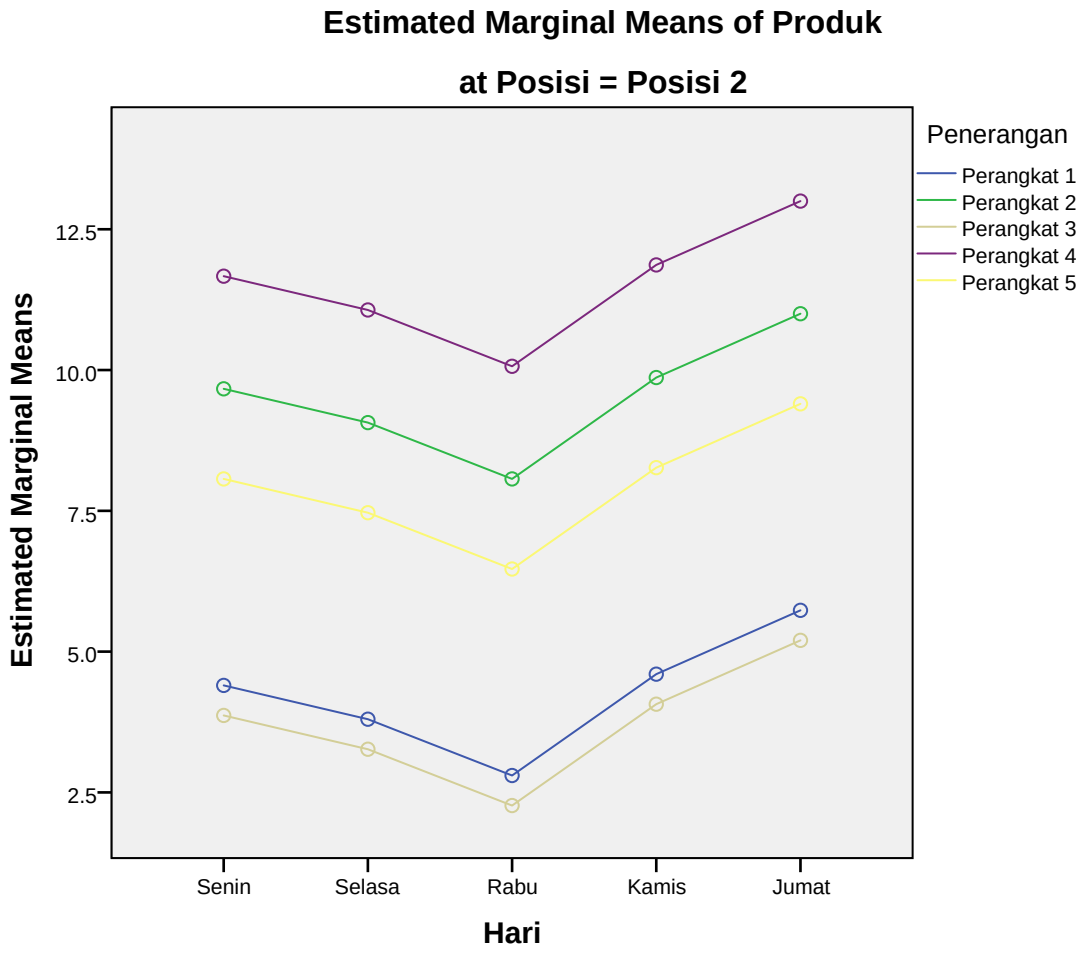
a. Uses Harmonic Mean Sample Size = 4.000.

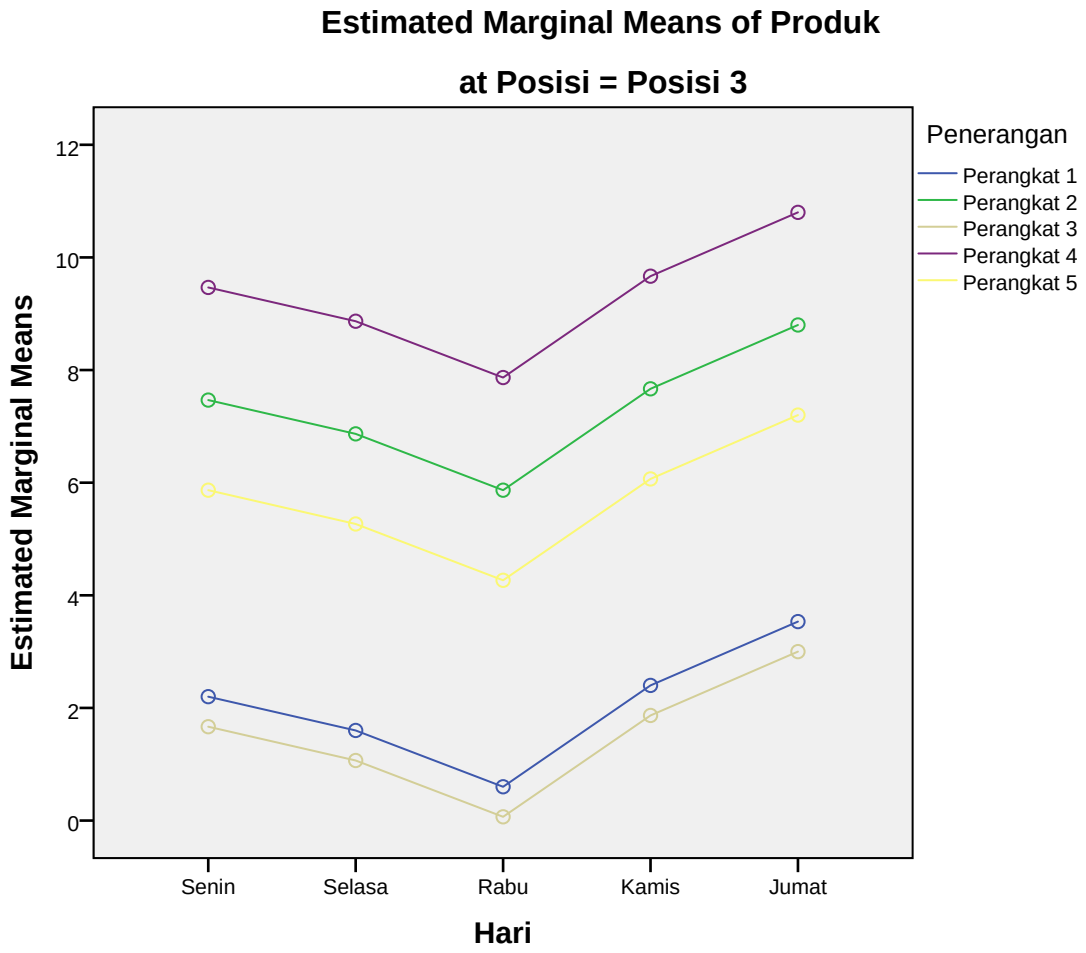
b. Alpha = .05.

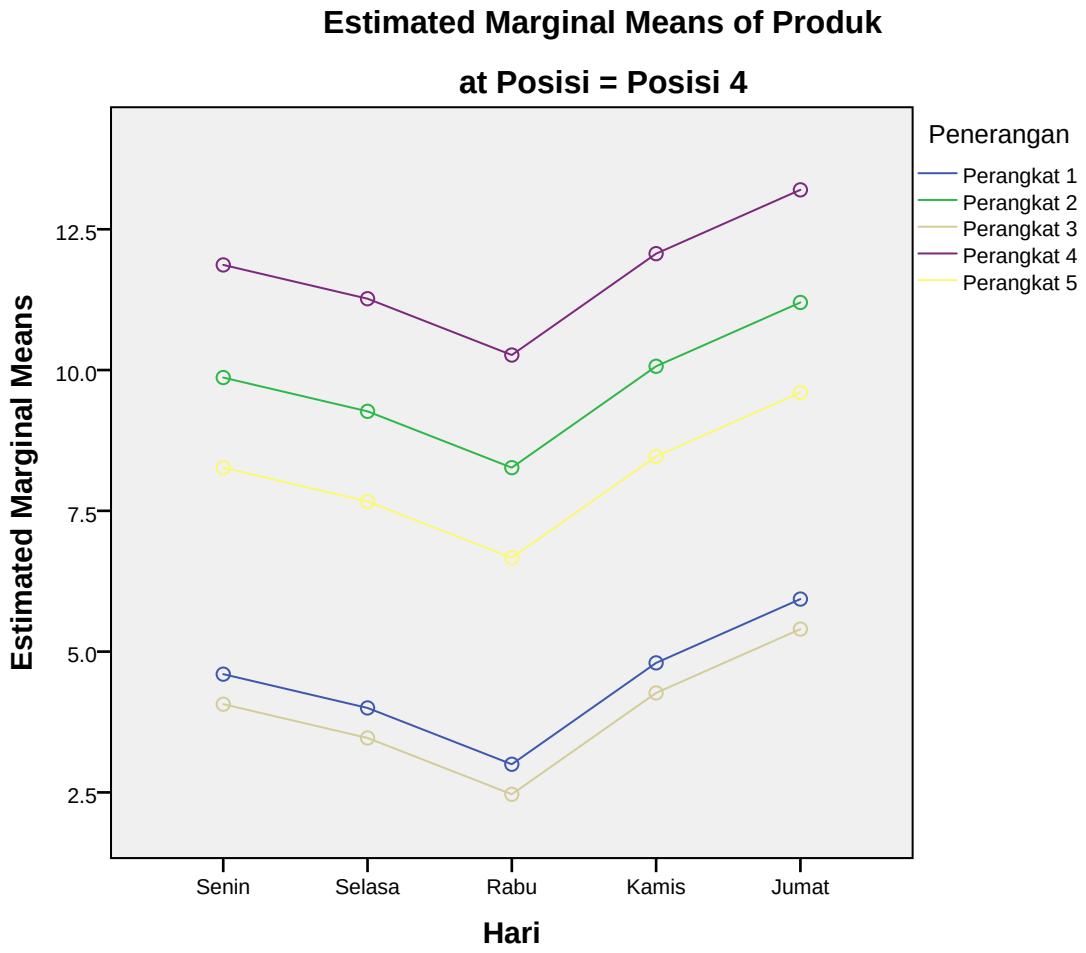
Profile Plots

Hari * Penerangan * Posisi


Estimated Marginal Means of Produk
at Posisi = Posisi 1
Estimated Marginal Means
12
9
6
3
0
Senin
Selasa
Rabu
Kamis
Jumat
Hari
Penerangan
Perangkat 1
Perangkat 2
Perangkat 3
Perangkat 4
Perangkat 5


Estimated Marginal Means of Produk
at Posisi = Posisi 2
Penerangan
Perangkat 1
Perangkat 2
Perangkat 3
Perangkat 4
Perangkat 5
Estimated Marginal Means
12.5
10.0
7.5
5.0
2.5
Senin
Selasa
Rabu
Kamis
Jumat
Hari


Estimated Marginal Means of Produk
at Posisi = Posisi 3
Estimated Marginal Means
12
10
8
6
4
2
0
Senin
Selasa
Rabu
Kamis
Jumat
Hari
Penerangan
Perangkat 1
Perangkat 2
Perangkat 3
Perangkat 4
Perangkat 5


Estimated Marginal Means of Produk
at Posisi = Posisi 4
Penerangan
Perangkat 1
Perangkat 2
Perangkat 3
Perangkat 4
Perangkat 5
Estimated Marginal Means
12.5
10.0
7.5
5.0
2.5
Senin
Selasa
Rabu
Kamis
Jumat
Hari