

```

data one;
  input salinity days uptake;
  cards;
0 14 2.2
0 14 3.3
0 21 5.0
0 21 5.7
0 28 13.2
0 28 12.4
6 14 3.7
6 14 4.5
6 21 5.9
6 21 7.2
6 28 9.4
6 28 11.0
12 14 2.8
12 14 3.4
12 21 4.5
12 21 5.9
12 28 7.6
12 28 8.3
;
proc glm;
  class salinity days;
  model uptake=salinity days salinity*days;
proc glm;
  model uptake=salinity salinity*salinity days days*days
           salinity*days salinity*days*days salinity*salinity*days
           salinity*salinity*days*days;
proc glm;
  model uptake=salinity days days*days salinity*days salinity*days*days / solution;
  estimate 'Intercept for day 14' intercept 1 days 14 days*days 196;
  estimate 'Intercept for day 21' intercept 1 days 21 days*days 441;
  estimate 'Intercept for day 28' intercept 1 days 28 days*days 784;
  estimate 'Slope for day 14' salinity 1 salinity*days 14 salinity*days*days 196;
  estimate 'Slope for day 21' salinity 1 salinity*days 21 salinity*days*days 441;
  estimate 'Slope for day 28' salinity 1 salinity*days 28 salinity*days*days 784;
  estimate 'Intercept for salinity 0' intercept 1 salinity 0;
  estimate 'Intercept for salinity 6' intercept 1 salinity 6;
  estimate 'Intercept for salinity 12' intercept 1 salinity 12;
  estimate 'Linear coefficient for salinity 0' days 1 salinity*days 0;
  estimate 'Linear coefficient for salinity 6' days 1 salinity*days 6;
  estimate 'Linear coefficient for salinity 12' days 1 salinity*days 12;
  estimate 'Quadratic coefficient for salinity 0' days*days 1 salinity*days*days 0;
  estimate 'Quadratic coefficient for salinity 6' days*days 1 salinity*days*days 6;
  estimate 'Quadratic coefficient for salinity 12' days*days 1 salinity*days*days 12;
  estimate 'Day 28 - Day 21 when salinity 6' days 7 days*days 343 salinity*days 42 salinity*days*days 2058;
  estimate 'Day 28 - Day 21 when salinity 12' days 7 days*days 343 salinity*days 84 salinity*days*days 4116;

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run;
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Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	179.7044444	22.4630556	40.27	<.0001
Error	9	5.0200000	0.5577778		
Corrected Total	17	184.7244444			

Source	DF	Type I SS	Mean Square	F Value	Pr > F
salinity	2	9.5077778	4.7538889	8.52	0.0084
days	2	151.9877778	75.9938889	136.24	<.0001
salinity*days	4	18.2088889	4.5522222	8.16	0.0046

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Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	179.7044444	22.4630556	40.27	<.0001
Error	9	5.0200000	0.5577778		
Corrected Total	17	184.7244444			

Source	DF	Type I SS	Mean Square	F Value	Pr > F
salinity	1	7.2075000	7.2075000	12.92	0.0058
salinity*salinity	1	2.3002778	2.3002778	4.12	0.0728
days	1	147.0000000	147.0000000	263.55	<.0001
days*days	1	4.9877778	4.9877778	8.94	0.0152
salinity*days	1	13.5200000	13.5200000	24.24	0.0008
salinity*days*days	1	2.9400000	2.9400000	5.27	0.0473
salinit*salinit*days	1	1.2150000	1.2150000	2.18	0.1741
salin*salin*days*days	1	0.5338889	0.5338889	0.96	0.3535

Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	12.10000000	5.51351874	2.19	0.0558
salinity	-2.16250000	2.34279497	-0.92	0.3801
salinity*salinity	0.10208333	0.18757372	0.54	0.5995
days	-1.36071429	0.55694950	-2.44	0.0372
days*days	0.04948980	0.01319973	3.75	0.0046
salinity*days	0.30833333	0.23665803	1.30	0.2250
salinity*days*days	-0.00884354	0.00560881	-1.58	0.1493
salinit*salinit*days	-0.01577381	0.01894781	-0.83	0.4267
salin*salin*days*days	0.00043934	0.00044906	0.98	0.3535

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	175.6552778	35.1310556	46.48	<.0001
Error	12	9.0691667	0.7557639		
Corrected Total	17	184.7244444			

Source	DF	Type I SS	Mean Square	F Value	Pr > F
salinity	1	7.2075000	7.2075000	9.54	0.0094
days	1	147.0000000	147.0000000	194.51	<.0001
days*days	1	4.9877778	4.9877778	6.60	0.0246
salinity*days	1	13.5200000	13.5200000	17.89	0.0012
salinity*days*days	1	2.9400000	2.9400000	3.89	0.0721

Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept for day 14	3.1416667	0.56116096	5.60	0.0001
Intercept for day 21	5.7750000	0.56116096	10.29	<.0001
Intercept for day 28	12.7416667	0.56116096	22.71	<.0001
Slope for day 14	0.0291667	0.07244557	0.40	0.6943
Slope for day 21	-0.0125000	0.07244557	-0.17	0.8659
Slope for day 28	-0.4041667	0.07244557	-5.58	0.0001
Intercept for salinity 0	10.8750000	5.85869240	1.86	0.0881
Intercept for salinity 6	5.2500000	3.70536242	1.42	0.1820
Intercept for salinity 12	-0.3750000	5.85869240	-0.06	0.9500
Linear coefficient for salinity 0	-1.1714286	0.59181730	-1.98	0.0712
Linear coefficient for salinity 6	-0.4571429	0.37429813	-1.22	0.2454
Linear coefficient for salinity 12	0.2571429	0.59181730	0.43	0.6716
Quadratic coefficient for salinity 0	0.0442177	0.01402610	3.15	0.0083
Quadratic coefficient for salinity 6	0.0227891	0.00887089	2.57	0.0246
Quadratic coefficient for salinity 12	0.0013605	0.01402610	0.10	0.9243
Day 28 - Day 21 when salinity 6	4.6166667	0.50191762	9.20	<.0001
Day 28 - Day 21 when salinity 12	2.2666667	0.79360144	2.86	0.0145

Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	10.87500000	5.85869240	1.86	0.0881
salinity	-0.93750000	0.75635394	-1.24	0.2389
days	-1.17142857	0.59181730	-1.98	0.0712
days*days	0.04421769	0.01402610	3.15	0.0083
salinity*days	0.11904762	0.07640329	1.56	0.1452
salinity*days*days	-0.00357143	0.00181076	-1.97	0.0721