

**LOGISTIC MODEL (2): Bonus= Basement\_Area Fireplaces Lot\_Shape\_2**

Model Information		
Data Set	STAT1.AMESHousing3	
Response Variable	Bonus	Sale Price > \$175,000
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	300
Number of Observations Used	299

Response Profile		
Ordered Value	Bonus	Total Frequency
1	0	255
2	1	44

**Probability modeled is Bonus='1'.**

**Note:** 1 observation was deleted due to missing values for the response or explanatory variables.

Class Level Information			
Class	Value	Design Variables	
Fireplaces	0	0	0
	1	1	0
	2	0	1
Lot_Shape_2	Irregular	1	
	Regular	0	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	251.812	140.499
SC	255.513	159.001
-2 Log L	249.812	130.499

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Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	119.3133	4	<.0001
Score	91.7250	4	<.0001
Wald	49.8671	4	<.0001

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
Basement_Area	1	38.1356	<.0001
Fireplaces	2	5.2060	0.0741
Lot_Shape_2	1	16.9421	<.0001

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept		1	-11.0882	1.5384	51.9467	<.0001
Basement_Area		1	0.00744	0.00120	38.1356	<.0001
Fireplaces	1	1	0.8810	0.4658	3.5770	0.0586
Fireplaces	2	1	-0.7683	0.9654	0.6335	0.4261
Lot_Shape_2	Irregular	1	1.9025	0.4622	16.9421	<.0001

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	92.9	Somers' D	0.859
Percent Discordant	7.0	Gamma	0.860
Percent Tied	0.1	Tau-a	0.216
Pairs	11220	c	0.930

Odds Ratio Estimates and Profile-Likelihood Confidence Intervals				
Effect	Unit	Estimate	95% Confidence Limits	
Basement_Area	100.0	2.105	1.696	2.727
Fireplaces 1 vs 0	1.0000	2.413	0.973	6.127
Fireplaces 2 vs 0	1.0000	0.464	0.054	2.703
Lot_Shape_2 Irregular vs Regular	1.0000	6.703	2.786	17.301

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