Logistic Regression

Alcohol Involved ~ Month + Hour + Day + Holiday + Age + Race + Gender

* High positive coefficients on Gender and Weekend Days indicate that these are important predictors of **alcohol-related** fatal accidents.

Logistic Regression Analysis of Fatal Drunk Driving Accidents

Independent Variable	Estimate	Std. Error	z value	Pr(>|z|)		Odds
SexMale	0.6401032978	0.0155054898	41.28237	< 2.22e-16	***	1.896677
DaySaturday	0.4239662621	0.0205434130	20.63758	< 2.22e-16	***	1.52801
DaySunday	0.4623897404	0.0211799378	21.83150	< 2.22e-16	***	1.587864
Age	-0.0247840557	0.0003615406	-68.55124	< 2.22e-16	***	0.975521
RaceWhite	-0.6535245394	0.0614571409	-10.63383	< 2.22e-16	***	0.520209
Holiday	-1.9033793246	0.1023639561	-18.59423	< 2.22e-16	***	0.149064
Month	-0.0129592912	0.0019862068	-6.52464	6.8164e-11	***	0.987124
Hour	-0.0141948811	0.0008712335	-16.29286	< 2.22e-16	***	0.985905

Note: The dependent variable in this analysis is alcohol involved coded so that 0 = no alcohol involved in fatal car crash and 1 = alcohol was involved

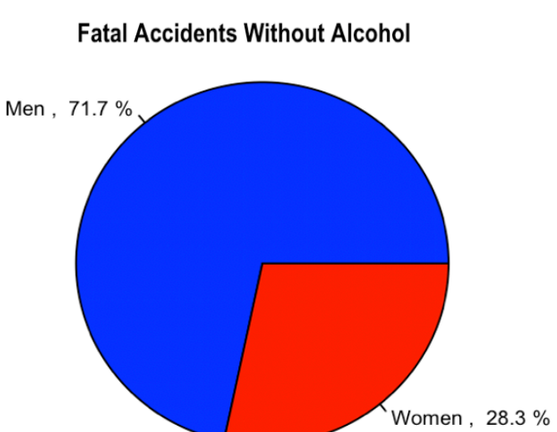
Confusion Matrix

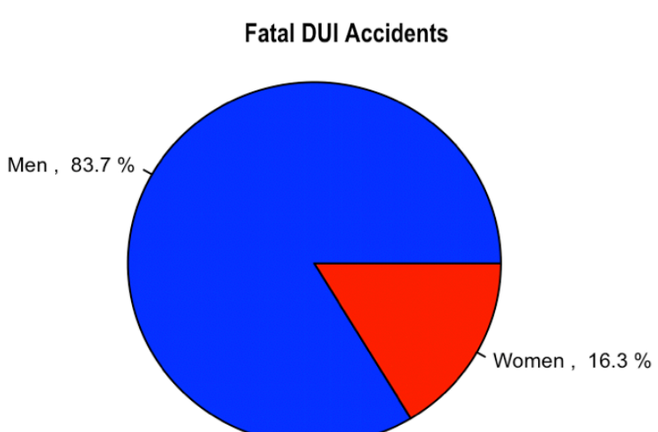
	Actual: No	Actual: Yes	
Predicted: No	23238	7817	31055
Predicted: Yes	2374	3226	5600
	25612	11043	36655

Mean 0-1 Loss: 0.2780248
Accuracy: 0.721975174

CV Score: 0.2780668134

Gender





Days of the Week