

Homework 2: Guidance/Hints

- Replace age ≥ 200 with a FIXED value less than 2 using a FILLER node (although you can actually calculate to the decimal place how many years, this causes problems since the age field is defined as an integer)
- In your logistic regression model, don't include variables from which other variables are derived (e.g. you should not include the disposition variable since you have derived the admit variable from the disposition variable)

Homework 2: Guidance/Hints

- How to evaluate if one variable is “more important” than another with logistic regression:
 - Double click the model nugget and go to the Advanced tab →
 - Look at the Exp(B) column for Head and Toe (this tells us the odds ratio for the outcome for a given variable)
 - Recall that your outcome is being admitted
 - The referent category for Head=0 is Head=1
 - This means that NOT having a head injury is associated with an OR of 0.778 of being admitted*
 - Odds Ratios are symmetrical, so HAVING a head injury is associated with an odds of $1/0.778 = 1.29$ odds of being admitted

Admit

File

Edit

Generate

View

Insert

Format

Preview

Model

Summary

Advanced

Settings

Annotations

Output

Log

Case Processing

Model Fitting Info

Pseudo R-Square

Parameter Estimates

Parameter Estimates

Admit ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
1	Intercept	-5.223	.252	428.200	1	.000		
	weight	-.009	.000	1668.130	1	.000	.991	.992
	age	.036	.000	19763.865	1	.000	1.037	1.037
	[sex=1]	.181	.014	175.257	1	.000	1.199	1.232
	[sex=2]	0 ^b	.	.	0	.	.	.
	[race=0]	.063	.228	.077	1	.782	1.065	1.665
	[race=1]	-.023	.228	.010	1	.919	.977	1.527
	[race=2]	-.466	.229	4.142	1	.042	.628	.983
	[race=3]	-.070	.230	.093	1	.760	.932	1.464
	[race=4]	.024	.236	.010	1	.920	1.024	1.626
	[race=5]	.171	.259	.436	1	.509	1.187	1.972
	[race=6]	0 ^b	.	.	0	.	.	.
	[Head=0]	-.251	.017	229.517	1	.000	.778	.804
	[Head=1]	0 ^b	.	.	0	.	.	.
	[Toe=0]	1.680	.108	244.016	1	.000	5.368	6.628
	[Toe=1]	0 ^b	.	.	0	.	.	.

a. The reference category is: 0.

b. This parameter is set to zero because it is redundant.

OK

Cancel

Apply

Reset

* This output is opposite to Stata!

Homework 2: Guidance/Hints

- How to evaluate if one variable is “more important” than another with neural networks:
 - Double click the model nugget and go to the Model tab and Predictor Importance window
 - Predictors are listed in order of importance making it easier to interpret →

