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EKT 720 Assignment 7

Question 2

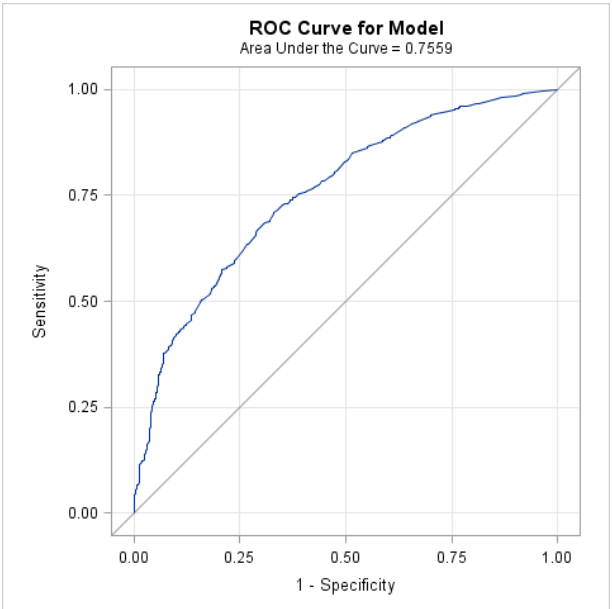
a) Partial program:

```
proc logistic data=sev.model outdesign=des1;
class  d3sc d8s gmesc nd5s q50b_7s q55as ;
model rq34_1s = d3sc d8s gmesc nd5s q50b_7s q55as/lackfit
outroc=sev.graph ;
run;
```

b) Relevant output:

B_new		err
intercept	2.6956287	1.277E-15
d3sc 10-11	-0.147744	
d3sc 12-13	0.132253	
d3s 14-15	0.1050745	
d8s 1	-1.339393	
d8s 2	0.0308078	
d8s 3	0.7276815	
gmesc High	0.2210477	
gmesc Low	-0.39982	
q55as 0	-0.413795	
q50b_7s 0	0.1013721	
nd5s 1	-0.182334	
nd5s 2	-0.200414	

c) Using the “lackfit” option in proc logistic, the following ROC curve was obtained:



d) The model measures the probability of being friends with someone who has HIV/AIDS. The explanatory variables include different age groups, races, level of media exposure to HIV/AIDS and other categorical variables that result in a binary response variable. Using the ROC curve, the probability of being friends with someone with HIV/AIDS is close to 1. The estimated parameters have a partial effect on the overall probability, holding all other parameters constant.