SAS Output for Problem 2

Model Information	
Data Set	WORK.PERSONALITY
Response Variable (Events)	yes
Response Variable (Trials)	total
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	16
Number of Observations Used	16
Sum of Frequencies Read	1050
Sum of Frequencies Used	1050

Response Profile		
Ordered Value	Binary Outcome	Total Frequency
1	Event	97
2	Nonevent	953

Class Level Information		
Class	Value	Design Variables
EI	E	1
	I	0
SN	N	0
	S	1
TF	F	0
	T	1
JP	J	1
	P	0

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

Deviance and Pearson Goodness-of-Fit Statistics				
Criterion	Value	DF	Value/DF	Pr > ChiSq
Deviance	11.1491	11	1.0136	0.4309
Pearson	10.9755	11	0.9978	0.4453

Model Fit Statistics			
		Intercept and Covariates	
Criterion	Intercept Only	Log Likelihood	Full Log Likelihood
AIC	648.825	637.487	73.990
SC	653.782	662.269	98.773
-2 Log L	646.825	627.487	63.990

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	19.3389	4	0.0007
Score	19.5339	4	0.0006
Wald	18.9146	4	0.0008

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
EI	1	6.5422	0.0105
SN	1	3.3641	0.0666
TF	1	9.7067	0.0018
JP	1	0.7967	0.3721

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept		1	-2.4668	0.2429	103.0994	<.0001
EI	E	1	0.5550	0.2170	6.5422	0.0105
SN	S	1	-0.4292	0.2340	3.3641	0.0666
TF	T	1	0.6873	0.2206	9.7067	0.0018
JP	J	1	-0.2022	0.2266	0.7967	0.3721

SAS Output for Problem 3

(DG,DS,GS) using GENMOD

The GENMOD Procedure

Model Information	
Data Set	WORK.SMOKE_DEPRESS
Distribution	Poisson
Link Function	Log
Dependent Variable	count

Number of Observations Read	8
Number of Observations Used	8

Class Level Information		
Class	Value	Design Variables
smoke	yes	1
	no	0
gender	female	1
	male	0
depress	yes	1
	no	0

Analysis Of Maximum Likelihood Parameter Estimates								
Parameter			DF	Estimate	Standard Error	Wald 95% Confidence Limits		Wald Chi-Square	Pr > ChiSq
Intercept			1	6.0380	0.0485	5.9429	6.1332	15473.4	<.0001
smoke	yes		1	0.7497	0.0587	0.6346	0.8648	163.00	<.0001
gender	female		1	0.7315	0.0589	0.6161	0.8470	154.29	<.0001
depress	yes		1	-3.9671	0.2032	-4.3653	-3.5690	381.31	<.0001
smoke*gender	yes	female	1	-0.7834	0.0753	-0.9310	-0.6359	108.27	<.0001
smoke*depress	yes	yes	1	0.9187	0.1706	0.5843	1.2530	29.00	<.0001
gender*depress	female	yes	1	0.9369	0.1706	0.6026	1.2712	30.18	<.0001
Scale			0	1.0000	0.0000	1.0000	1.0000		

Note: The scale parameter was held fixed.

(DGS) using GENMOD

The GENMOD Procedure

Model Information	
Data Set	WORK.SMOKE_DEPRESS
Distribution	Poisson
Link Function	Log
Dependent Variable	count

Number of Observations Read	8
Number of Observations Used	8

Class Level Information		
Class	Value	Design Variables
smoke	yes	1
	no	0
gender	female	1
	male	0
depress	yes	1
	no	0

Analysis Of Maximum Likelihood Parameter Estimates										
Parameter				DF	Estimate	Standard Error	Wald 95% Confidence Limits		Wald Chi-Square	Pr > ChiSq
Intercept				1	6.0331	0.0490	5.9371	6.1291	15178.0	<.0001
smoke	yes			1	0.7570	0.0594	0.6407	0.8733	162.67	<.0001
gender	female			1	0.7388	0.0595	0.6222	0.8555	154.05	<.0001
smoke*gender	yes	female		1	-0.7955	0.0765	-0.9456	-0.6455	108.02	<.0001
depress	yes			1	-3.7305	0.3200	-4.3577	-3.1033	135.91	<.0001
smoke*depress	yes	yes		1	0.6293	0.3585	-0.0734	1.3319	3.08	0.0792
gender*depress	female	yes		1	0.6474	0.3585	-0.0553	1.3502	3.26	0.0709
smoke*gender*depress	yes	female	yes	1	0.3648	0.4068	-0.4325	1.1620	0.80	0.3699
Scale				0	1.0000	0.0000	1.0000	1.0000		

Note: The scale parameter was held fixed.