

Titanic_Survival_Prediction

Creation Date: Saturday, 26 April 2025, 15:53:03

Author: imam9840hussain9840@gurunanakcollege.edu.in

Contents

Titanic_Survival_Prediction

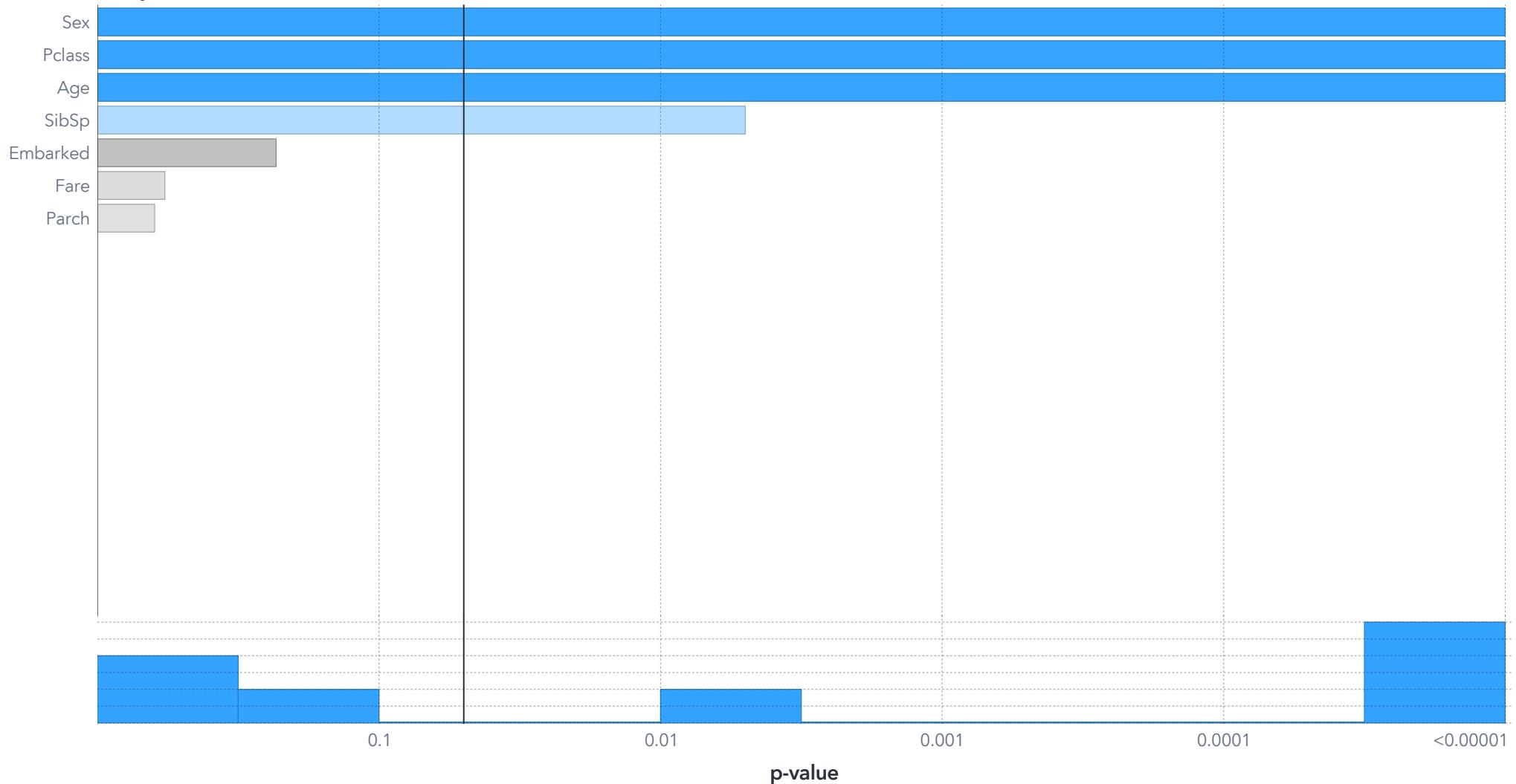
Logistic_Regression	1
Logistic Regression of Survived	1.1
Fit Summary	1.2
Scatter_Plot	2
Scatter Plot of Selected Measures	2.1
Expanded Pages	3
Residual Plot	3
Confusion Matrix	4
Logistic regression - Survived 1 Model Information	5
Logistic regression - Survived 1 Dimensions	6
Logistic regression - Survived 1 Response Profile	7
Logistic regression - Survived 1 Iteration History	8
Logistic regression - Survived 1 Convergence	9
Logistic regression - Survived 1 Fit Statistics	10
Logistic regression - Survived 1 Parameter Estimates	11
Logistic regression - Survived 1 Type III Test	12
Logistic regression - Survived 1 Odds Ratio	13
Logistic regression - Survived 1 Confusion Matrix	14
Logistic regression - Survived 1 Lift	15
Logistic regression - Survived 1 ROC	16
Logistic regression - Survived 1 Cutoff Statistics	17
Logistic regression - Survived 1 Misclassification	18
Logistic regression - Survived 1 Assessment Statistics	19
Logistic regression - Survived 1 Assessment Summary	20
Scatter - Age 1 Results	21

Logistic_Regression

Logistic Regression of Survived

Event: 1 Fit: KS (Younen) 0.5964 Observations: 712 of 891

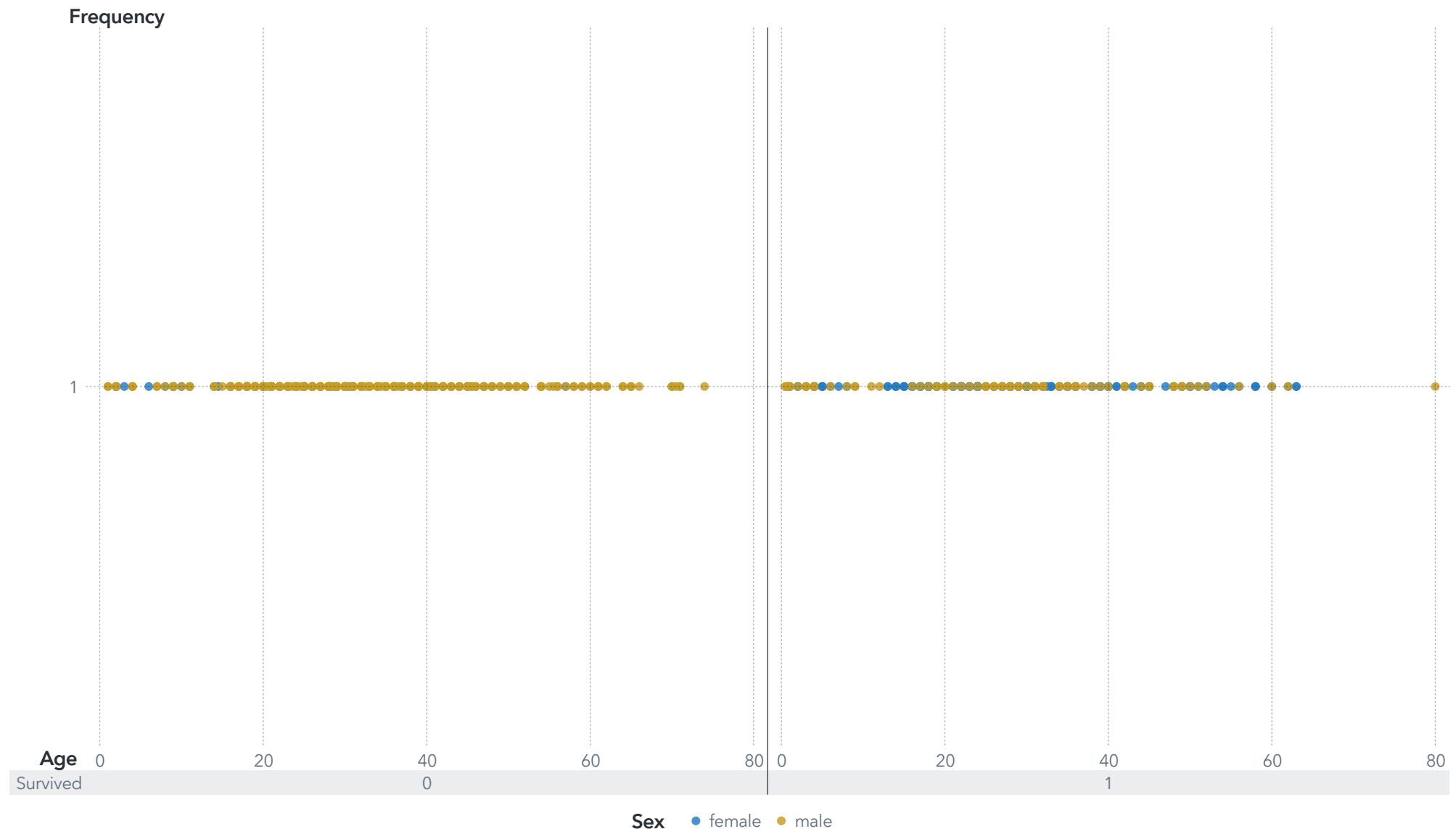
Fit Summary

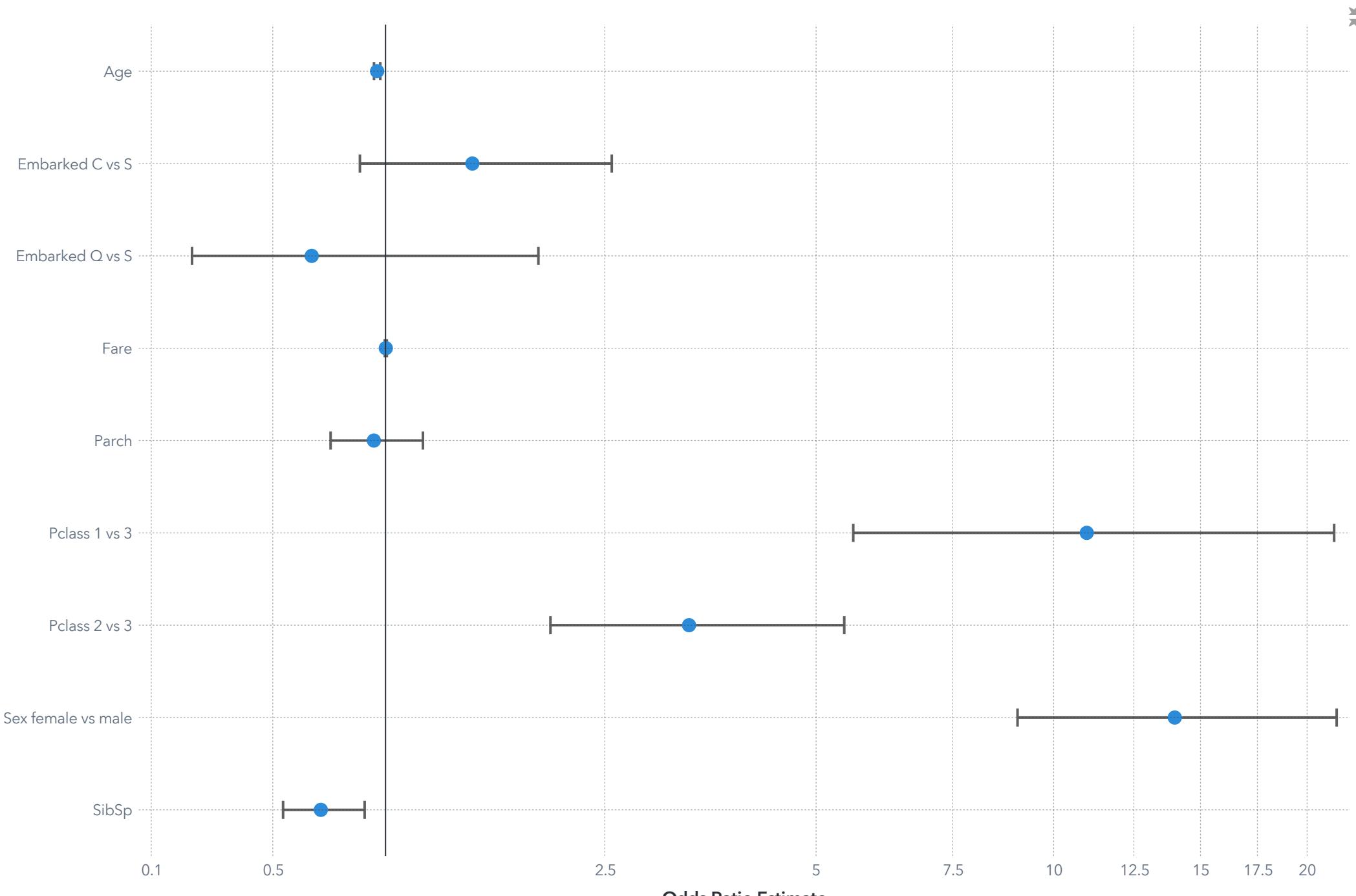


Scatter_Plot



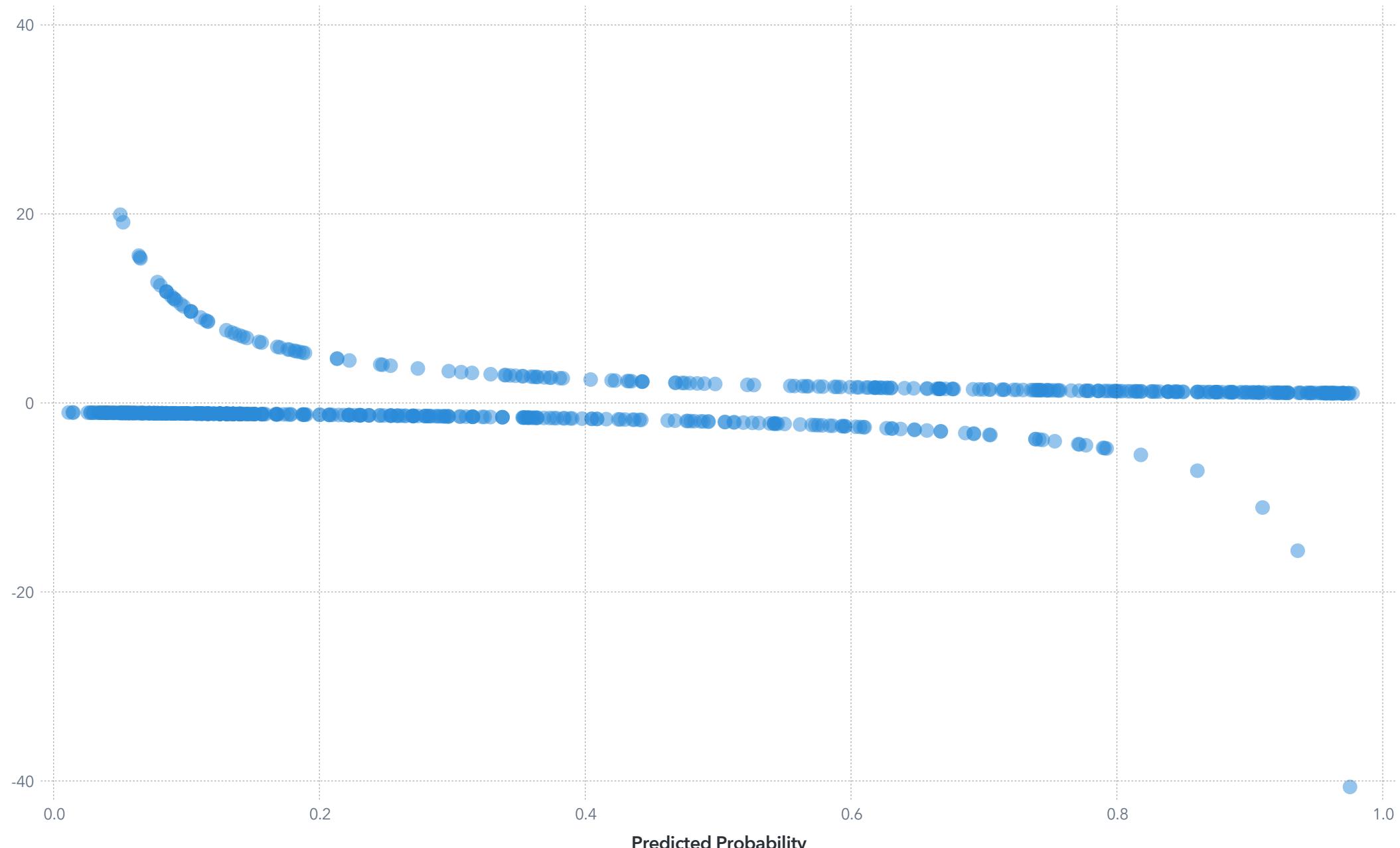
Scatter Plot of Selected Measures





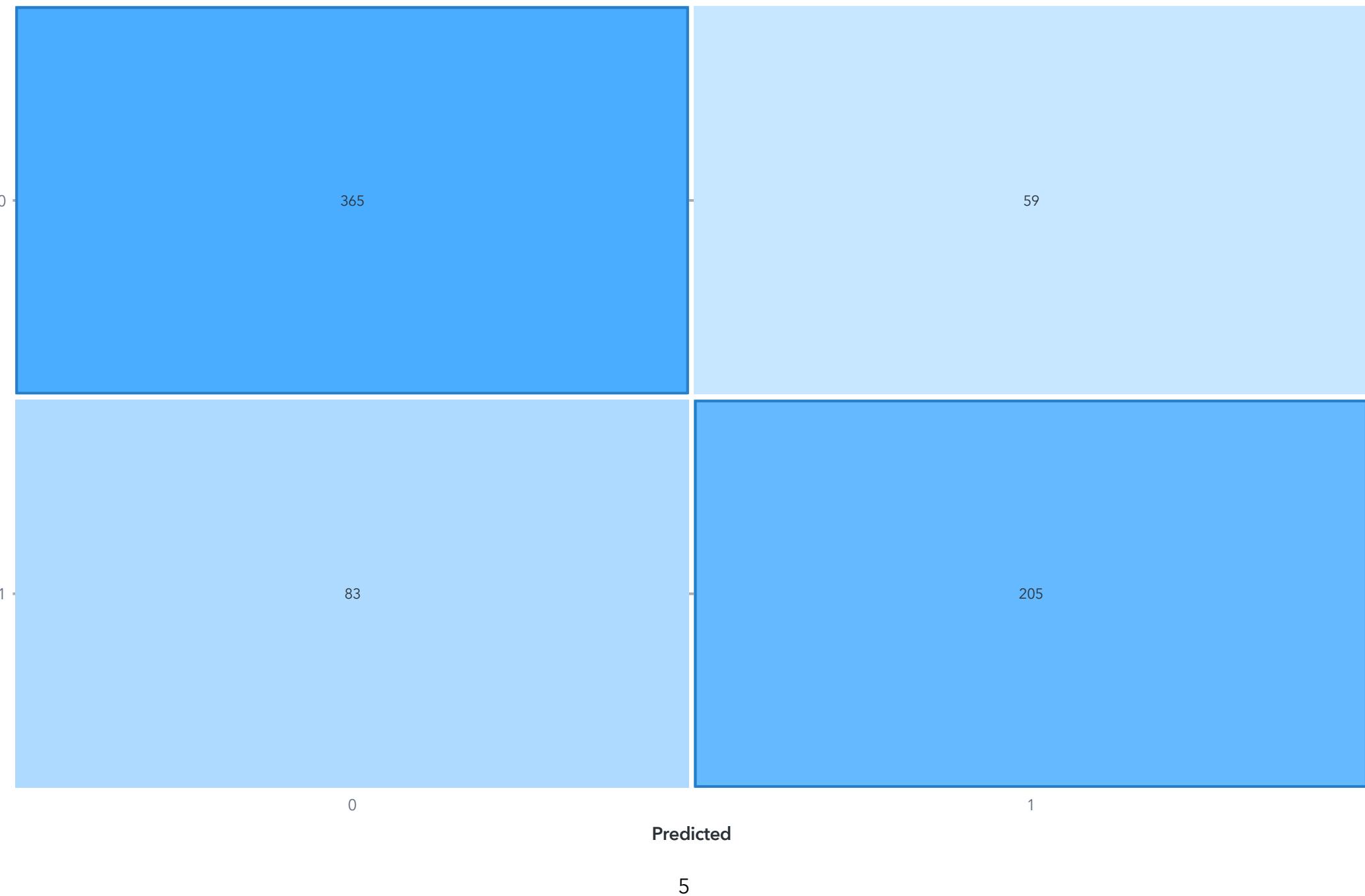
Residual Plot

Residual



Confusion Matrix

Observed



Logistic regression - Survived 1 Model Information



Description	Value
Data Source	CASUSER.TITANIC_DATASET
Response Variable	Survived
Distribution	Binary
Link Function	Logit
Optimization Technique	Newton-Raphson with Ridging

Logistic regression - Survived 1 Dimensions



Description	Value
Number of Model Effects	8
Number of Classification Effects	3
Number of Columns in X	13
Rank of Cross-product Matrix	10
Observations Read	891
Observations Used	712

Logistic regression - Survived 1 Response Profile



Ordered Value	Count	Survived
1	288	1
2	424	0

Logistic regression - Survived 1 Iteration History

Iteration	Evaluations	Objective	Change	Max Gradient
0	4	0.446	.	0.549732
1	2	0.444063	0.001937	0.020302
2	2	0.44406	2.344E-6	0.000118
3	2	0.44406	4.01E-11	3.774E-9

Logistic regression - Survived 1 Convergence

Reason	Status
Convergence criterion (GCONV=1E-6) satisfied.	0

Logistic regression - Survived 1 Fit Statistics



Statistic	Value
-2 Log Likelihood	632.3419
AIC	652.3419
AICC	652.6557
BIC	698.0227
Max-rescaled R-Square	0.499073
R-Square	0.369639

Logistic regression - Survived 1 Parameter Estimates

Parameter	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	-1.003	0.286459	12.25949	0.00046
Sex female	2.637859	0.223006	139.917	<0.00001
Sex male	0	.	.	.
Embarked C	0.402848	0.274556	2.152879	0.14230
Embarked Q	-0.42053	0.556371	0.571305	0.44974
Embarked S	0	.	.	.
Pclass 1	2.39522	0.343356	48.66317	<0.00001
Pclass 2	1.205583	0.249757	23.30012	<0.00001
Pclass 3	0	.	.	.
Age	-0.04331	0.008322	27.08084	<0.00001
SibSp	-0.36293	0.12929	7.879571	0.00500
Parch	-0.06037	0.123944	0.237204	0.62623
Fare	0.001451	0.002595	0.312511	0.57614

Logistic regression - Survived 1 Type III Test

Effect	DF	Chi-Square	Pr > ChiSq
Sex	1	139.917	<0.00001
Embarked	2	2.922527	0.23194
Pclass	2	53.05468	<0.00001
Age	1	27.08084	<0.00001
SibSp	1	7.879571	0.00500
Parch	1	0.237204	0.62623
Fare	1	0.312511	0.57614

Logistic regression - Survived 1 Odds Ratio

Description	Odds Ratio Estimate	Lower Confidence Level (95%) Value	Upper Confidence Level (95%) Value	p-value
Age	0.957616	0.942123	0.973364	<0.00001
Embarked C vs S	1.496079	0.873478	2.56246	0.14230
Embarked Q vs S	0.656697	0.220689	1.954112	0.44974
Fare	1.001452	0.996371	1.006558	0.57614
Parch	0.941421	0.738384	1.200287	0.62623
Pclass 1 vs 3	10.97061	5.597128	21.50286	<0.00001
Pclass 2 vs 3	3.338704	2.04637	5.447178	<0.00001
Sex female vs male	13.98324	9.032016	21.64864	<0.00001
SibSp	0.695638	0.539923	0.896263	0.00500

Logistic regression - Survived 1 Confusion Matrix

Predicted	Observed	Observations	Percentage
0	0	365	86.08%
1	0	59	13.92%
0	1	83	28.82%
1	1	205	71.18%

Logistic regression - Survived 1 Lift

Percentile	Observations	Events	Model	Best	Cumulative Model	Cumulative Best
5.00	36	35	2.4306	2.5000	2.4306	2.5000
10.00	36	34	2.3611	2.5000	2.3958	2.5000
15.00	36	35	2.4306	2.5000	2.4074	2.5000
20.00	36	30	2.0833	2.5000	2.3264	2.5000
25.00	36	27	1.8750	2.5000	2.2361	2.5000
30.00	36	25	1.7361	2.5000	2.1528	2.5000
35.00	36	17	1.1806	2.5000	2.0139	2.5000
40.00	36	13	0.9028	2.5000	1.8750	2.5000
45.00	36	14	0.9722	0.0000	1.7747	2.2222
50.00	36	11	0.7639	0.0000	1.6736	2.0000
55.00	36	3	0.2083	0.0000	1.5404	1.8182
60.00	36	7	0.4861	0.0000	1.4525	1.6667
65.00	36	9	0.6250	0.0000	1.3889	1.5385
70.00	36	4	0.2778	0.0000	1.3095	1.4286
75.00	36	2	0.1389	0.0000	1.2315	1.3333
80.00	36	6	0.4167	0.0000	1.1806	1.2500
85.00	36	9	0.6250	0.0000	1.1479	1.1765
90.00	36	3	0.2083	0.0000	1.0957	1.1111
95.00	36	4	0.2778	0.0000	1.0526	1.0526
100.00	28	0	0.0000	0.0000	1.0000	1.0000



Cutoff	Sensitivity	1 - Specificity	KS (Younen)
0.00	1.0000	1.000	
0.01	1.0000	1.000	
0.02	1.0000	0.993	
0.03	1.0000	0.981	
0.04	1.0000	0.955	
0.05	1.0000	0.927	
0.06	0.9931	0.873	
0.07	0.9826	0.840	
0.08	0.9792	0.797	
0.09	0.9618	0.757	
0.10	0.9444	0.712	
0.11	0.9340	0.672	
0.12	0.9201	0.623	
0.13	0.9167	0.566	
0.14	0.9097	0.519	
0.15	0.8993	0.476	
0.16	0.8924	0.450	
0.17	0.8889	0.436	
0.18	0.8785	0.427	
0.19	0.8611	0.415	
0.20	0.8611	0.413	
0.21	0.8611	0.399	
0.22	0.8542	0.394	
0.23	0.8507	0.380	
0.24	0.8507	0.363	
0.25	0.8438	0.356	
0.26	0.8403	0.340	
0.27	0.8403	0.330	
0.28	0.8368	0.309	



Cutoff	Sensitivity	1 - Specificity	KS (Younen)
0.29	0.8368	0.295	
0.30	0.8333	0.276	
0.31	0.8299	0.271	
0.32	0.8264	0.259	
0.33	0.8229	0.252	
0.34	0.8194	0.245	
0.35	0.8090	0.245	
0.36	0.7986	0.224	
0.37	0.7847	0.210	
0.38	0.7778	0.203	
0.39	0.7708	0.196	
0.40	0.7708	0.191	
0.41	0.7674	0.182	
0.42	0.7639	0.179	
0.43	0.7604	0.172	
0.44	0.7500	0.167	
0.45	0.7396	0.163	
0.46	0.7396	0.163	
0.47	0.7326	0.158	
0.48	0.7222	0.151	
0.49	0.7153	0.144	
0.50	0.7118	0.139	
0.51	0.7118	0.134	
0.52	0.7118	0.127	
0.53	0.7049	0.125	
0.54	0.7049	0.120	
0.55	0.7049	0.108	Yes
0.56	0.6979	0.106	
0.57	0.6875	0.104	



Cutoff	Sensitivity	1 - Specificity	KS (Younen)
0.58	0.6806	0.094	
0.59	0.6736	0.090	
0.60	0.6667	0.080	
0.61	0.6597	0.073	
0.62	0.6389	0.071	
0.63	0.6215	0.068	
0.64	0.6146	0.061	
0.65	0.6076	0.057	
0.66	0.6007	0.054	
0.67	0.5764	0.050	
0.68	0.5625	0.050	
0.69	0.5625	0.047	
0.70	0.5521	0.042	
0.71	0.5451	0.038	
0.72	0.5347	0.038	
0.73	0.5243	0.038	
0.74	0.5139	0.033	
0.75	0.4861	0.028	
0.76	0.4688	0.026	
0.77	0.4653	0.026	
0.78	0.4479	0.019	
0.79	0.4375	0.017	
0.80	0.4167	0.012	
0.81	0.4028	0.012	
0.82	0.3785	0.009	
0.83	0.3646	0.009	
0.84	0.3472	0.009	
0.85	0.3264	0.009	
0.86	0.3229	0.009	



Cutoff	Sensitivity	1 - Specificity	KS (Younen)
0.87	0.2986	0.007	
0.88	0.2743	0.007	
0.89	0.2500	0.007	
0.90	0.2326	0.007	
0.91	0.2049	0.005	
0.92	0.1840	0.005	
0.93	0.1458	0.005	
0.94	0.1354	0.002	
0.95	0.1111	0.002	
0.96	0.0764	0.002	
0.97	0.0278	0.002	
0.98	0.0000	0.000	
0.99	0.0000	0.000	



Cutoff	Accuracy	Sensitivity	Specificity	False Positive Rate	False Negative Rate	Kolmogorov-Smirnov (KS)	False Discovery Rate	F0.5 Score	F1 Score
0.00	0.4045	1.0000	0.0000	1.0000	0.0000	0.0000	0.5955	0.4592	0.5760
0.01	0.4045	1.0000	0.0000	1.0000	0.0000	0.0000	0.5955	0.4592	0.5760
0.02	0.4087	1.0000	0.0071	0.9929	0.0000	0.0071	0.5938	0.4609	0.5777
0.03	0.4157	1.0000	0.0189	0.9811	0.0000	0.0189	0.5909	0.4639	0.5806
0.04	0.4312	1.0000	0.0448	0.9552	0.0000	0.0448	0.5844	0.4706	0.5872
0.05	0.4480	1.0000	0.0731	0.9269	0.0000	0.0731	0.5771	0.4781	0.5944
0.06	0.4775	0.9931	0.1274	0.8726	0.0069	0.1204	0.5640	0.4911	0.6059
0.07	0.4930	0.9826	0.1604	0.8396	0.0174	0.1430	0.5571	0.4975	0.6106
0.08	0.5169	0.9792	0.2028	0.7972	0.0208	0.1820	0.5452	0.5094	0.6211
0.09	0.5337	0.9618	0.2429	0.7571	0.0382	0.2047	0.5368	0.5168	0.6253
0.10	0.5534	0.9444	0.2877	0.7123	0.0556	0.2322	0.5261	0.5263	0.6311
0.11	0.5730	0.9340	0.3278	0.6722	0.0660	0.2619	0.5144	0.5371	0.6390
0.12	0.5969	0.9201	0.3774	0.6226	0.0799	0.2975	0.4991	0.5512	0.6487
0.13	0.6292	0.9167	0.4340	0.5660	0.0833	0.3506	0.4762	0.5729	0.6667
0.14	0.6545	0.9097	0.4811	0.5189	0.0903	0.3909	0.4564	0.5912	0.6805
0.15	0.6756	0.8993	0.5236	0.4764	0.1007	0.4229	0.4382	0.6074	0.6916
0.16	0.6882	0.8924	0.5495	0.4505	0.1076	0.4419	0.4263	0.6178	0.6984
0.17	0.6952	0.8889	0.5637	0.4363	0.1111	0.4526	0.4195	0.6238	0.7023
0.18	0.6966	0.8785	0.5731	0.4269	0.1215	0.4516	0.4171	0.6250	0.7008
0.19	0.6966	0.8611	0.5849	0.4151	0.1389	0.4460	0.4151	0.6250	0.6966
0.20	0.6980	0.8611	0.5873	0.4127	0.1389	0.4484	0.4137	0.6263	0.6976
0.21	0.7065	0.8611	0.6014	0.3986	0.1389	0.4625	0.4053	0.6339	0.7035
0.22	0.7065	0.8542	0.6061	0.3939	0.1458	0.4603	0.4044	0.6340	0.7019
0.23	0.7135	0.8507	0.6203	0.3797	0.1493	0.4710	0.3966	0.6407	0.7061
0.24	0.7233	0.8507	0.6368	0.3632	0.1493	0.4875	0.3860	0.6502	0.7132
0.25	0.7247	0.8438	0.6439	0.3561	0.1563	0.4876	0.3832	0.6518	0.7126
0.26	0.7331	0.8403	0.6604	0.3396	0.1597	0.5007	0.3731	0.6605	0.7181
0.27	0.7388	0.8403	0.6698	0.3302	0.1597	0.5101	0.3665	0.6663	0.7224



Misclassification Rate (Event)
0.5955
0.5955
0.5913
0.5843
0.5688
0.5520
0.5225
0.5070
0.4831
0.4663
0.4466
0.4270
0.4031
0.3708
0.3455
0.3244
0.3118
0.3048
0.3034
0.3034
0.3020
0.2935
0.2935
0.2865
0.2767
0.2753
0.2669
0.2612



Cutoff	Accuracy	Sensitivity	Specificity	False Positive Rate	False Negative Rate	Kolmogorov-Smirnov (KS)	False Discovery Rate	F0.5 Score	F1 Score
0.28	0.7500	0.8368	0.6910	0.3090	0.1632	0.5278	0.3522	0.6785	0.7303
0.29	0.7584	0.8368	0.7052	0.2948	0.1632	0.5420	0.3415	0.6878	0.7370
0.30	0.7683	0.8333	0.7241	0.2759	0.1667	0.5574	0.3277	0.6993	0.7442
0.31	0.7697	0.8299	0.7288	0.2712	0.1701	0.5586	0.3249	0.7013	0.7445
0.32	0.7753	0.8264	0.7406	0.2594	0.1736	0.5670	0.3161	0.7083	0.7484
0.33	0.7781	0.8229	0.7476	0.2524	0.1771	0.5706	0.3110	0.7121	0.7500
0.34	0.7809	0.8194	0.7547	0.2453	0.1806	0.5742	0.3059	0.7160	0.7516
0.35	0.7767	0.8090	0.7547	0.2453	0.1910	0.5637	0.3086	0.7121	0.7456
0.36	0.7851	0.7986	0.7759	0.2241	0.2014	0.5746	0.2923	0.7242	0.7504
0.37	0.7879	0.7847	0.7901	0.2099	0.2153	0.5748	0.2825	0.7300	0.7496
0.38	0.7893	0.7778	0.7972	0.2028	0.2222	0.5749	0.2774	0.7330	0.7492
0.39	0.7907	0.7708	0.8042	0.1958	0.2292	0.5751	0.2721	0.7361	0.7487
0.40	0.7935	0.7708	0.8090	0.1910	0.2292	0.5798	0.2673	0.7400	0.7513
0.41	0.7978	0.7674	0.8184	0.1816	0.2326	0.5858	0.2584	0.7466	0.7543
0.42	0.7978	0.7639	0.8208	0.1792	0.2361	0.5846	0.2568	0.7473	0.7534
0.43	0.8006	0.7604	0.8278	0.1722	0.2396	0.5882	0.2500	0.7521	0.7552
0.44	0.7992	0.7500	0.8325	0.1675	0.2500	0.5825	0.2474	0.7521	0.7513
0.45	0.7978	0.7396	0.8373	0.1627	0.2604	0.5768	0.2447	0.7521	0.7474
0.46	0.7978	0.7396	0.8373	0.1627	0.2604	0.5768	0.2447	0.7521	0.7474
0.47	0.7978	0.7326	0.8420	0.1580	0.2674	0.5746	0.2410	0.7536	0.7456
0.48	0.7978	0.7222	0.8491	0.1509	0.2778	0.5713	0.2353	0.7558	0.7429
0.49	0.7992	0.7153	0.8561	0.1439	0.2847	0.5714	0.2285	0.7596	0.7423
0.50	0.8006	0.7118	0.8608	0.1392	0.2882	0.5727	0.2235	0.7626	0.7428
0.51	0.8034	0.7118	0.8656	0.1344	0.2882	0.5774	0.2176	0.7672	0.7455
0.52	0.8076	0.7118	0.8726	0.1274	0.2882	0.5844	0.2085	0.7742	0.7495
0.53	0.8062	0.7049	0.8750	0.1250	0.2951	0.5799	0.2070	0.7736	0.7463
0.54	0.8090	0.7049	0.8797	0.1203	0.2951	0.5846	0.2008	0.7784	0.7491
0.55	0.8160	0.7049	0.8915	0.1085	0.2951	0.5964	0.1847	0.7905	0.7561

**Misclassification Rate**

(Event)

0.2500

0.2416

0.2317

0.2303

0.2247

0.2219

0.2191

0.2233

0.2149

0.2121

0.2107

0.2093

0.2065

0.2022

0.2022

0.1994

0.2008

0.2022

0.2022

0.2022

0.2008

0.1994

0.1966

0.1924

0.1938

0.1910

0.1840



Cutoff	Accuracy	Sensitivity	Specificity	False Positive Rate	False Negative Rate	Kolmogorov-Smirnov (KS)	False Discovery Rate	F0.5 Score	F1 Score
0.56	0.8146	0.6979	0.8939	0.1061	0.3021	0.5918	0.1829	0.7901	0.7528
0.57	0.8118	0.6875	0.8962	0.1038	0.3125	0.5837	0.1818	0.7882	0.7472
0.58	0.8146	0.6806	0.9057	0.0943	0.3194	0.5862	0.1695	0.7955	0.7481
0.59	0.8146	0.6736	0.9104	0.0896	0.3264	0.5840	0.1638	0.7977	0.7462
0.60	0.8174	0.6667	0.9198	0.0802	0.3333	0.5865	0.1504	0.8054	0.7471
0.61	0.8188	0.6597	0.9269	0.0731	0.3403	0.5866	0.1403	0.8106	0.7466
0.62	0.8118	0.6389	0.9292	0.0708	0.3611	0.5681	0.1402	0.8042	0.7331
0.63	0.8062	0.6215	0.9316	0.0684	0.3785	0.5531	0.1394	0.7991	0.7218
0.64	0.8076	0.6146	0.9387	0.0613	0.3854	0.5533	0.1281	0.8045	0.7210
0.65	0.8076	0.6076	0.9434	0.0566	0.3924	0.5510	0.1206	0.8072	0.7187
0.66	0.8062	0.6007	0.9458	0.0542	0.3993	0.5464	0.1173	0.8069	0.7149
0.67	0.7992	0.5764	0.9505	0.0495	0.4236	0.5269	0.1123	0.8012	0.6989
0.68	0.7935	0.5625	0.9505	0.0495	0.4375	0.5130	0.1148	0.7941	0.6879
0.69	0.7949	0.5625	0.9528	0.0472	0.4375	0.5153	0.1099	0.7972	0.6894
0.70	0.7935	0.5521	0.9575	0.0425	0.4479	0.5096	0.1017	0.7982	0.6839
0.71	0.7935	0.5451	0.9623	0.0377	0.4549	0.5074	0.0925	0.8010	0.6811
0.72	0.7893	0.5347	0.9623	0.0377	0.4653	0.4970	0.0941	0.7955	0.6725
0.73	0.7851	0.5243	0.9623	0.0377	0.4757	0.4866	0.0958	0.7897	0.6637
0.74	0.7837	0.5139	0.9670	0.0330	0.4861	0.4809	0.0864	0.7906	0.6578
0.75	0.7753	0.4861	0.9717	0.0283	0.5139	0.4578	0.0789	0.7813	0.6364
0.76	0.7697	0.4688	0.9741	0.0259	0.5313	0.4428	0.0753	0.7741	0.6221
0.77	0.7683	0.4653	0.9741	0.0259	0.5347	0.4393	0.0759	0.7719	0.6189
0.78	0.7654	0.4479	0.9811	0.0189	0.5521	0.4290	0.0584	0.7715	0.6071
0.79	0.7626	0.4375	0.9835	0.0165	0.5625	0.4210	0.0526	0.7683	0.5986
0.80	0.7570	0.4167	0.9882	0.0118	0.5833	0.4049	0.0400	0.7614	0.5811
0.81	0.7514	0.4028	0.9882	0.0118	0.5972	0.3910	0.0413	0.7513	0.5672
0.82	0.7430	0.3785	0.9906	0.0094	0.6215	0.3690	0.0354	0.7365	0.5436
0.83	0.7374	0.3646	0.9906	0.0094	0.6354	0.3551	0.0367	0.7251	0.5290



Misclassification Rate (Event)
0.1854
0.1882
0.1854
0.1854
0.1826
0.1812
0.1882
0.1938
0.1924
0.1924
0.1938
0.2008
0.2065
0.2051
0.2065
0.2065
0.2107
0.2149
0.2163
0.2247
0.2303
0.2317
0.2346
0.2374
0.2430
0.2486
0.2570
0.2626



Cutoff	Accuracy	Sensitivity	Specificity	False Positive Rate	False Negative Rate	Kolmogorov-Smirnov (KS)	False Discovery Rate	F0.5 Score	F1 Score	
0.84	0.7303	0.3472	0.9906	0.0094	0.6528	0.3378	0.0385	0.7102	0.5102	
0.85	0.7219	0.3264	0.9906	0.0094	0.6736	0.3170	0.0408	0.6912	0.4870	
0.86	0.7205	0.3229	0.9906	0.0094	0.6771	0.3135	0.0412	0.6879	0.4831	
0.87	0.7121	0.2986	0.9929	0.0071	0.7014	0.2915	0.0337	0.6677	0.4562	
0.88	0.7022	0.2743	0.9929	0.0071	0.7257	0.2672	0.0366	0.6412	0.4270	
0.89	0.6924	0.2500	0.9929	0.0071	0.7500	0.2429	0.0400	0.6122	0.3967	
0.90	0.6854	0.2326	0.9929	0.0071	0.7674	0.2256	0.0429	0.5898	0.3743	
0.91	0.6756	0.2049	0.9953	0.0047	0.7951	0.2001	0.0328	0.5545	0.3381	
0.92	0.6671	0.1840	0.9953	0.0047	0.8160	0.1793	0.0364	0.5217	0.3090	
0.93	0.6517	0.1458	0.9953	0.0047	0.8542	0.1411	0.0455	0.4526	0.2530	
0.94	0.6489	0.1354	0.9976	0.0024	0.8646	0.1331	0.0250	0.4353	0.2378	
0.95	0.6390	0.1111	0.9976	0.0024	0.8889	0.1088	0.0303	0.3810	0.1994	
0.96	0.6250	0.0764	0.9976	0.0024	0.9236	0.0740	0.0435	0.2895	0.1415	
0.97	0.6053	0.0278	0.9976	0.0024	0.9722	0.0254	0.1111	0.1235	0.0539	
0.98	0.5955	0.0000	1.0000	0.0000	1.0000	0.0000	.	0.0000	0.0000	
0.99	0.5955	0.0000	1.0000	0.0000	1.0000	0.0000	.	0.0000	0.0000	

**Misclassification Rate
(Event)**

0.2697

0.2781

0.2795

0.2879

0.2978

0.3076

0.3146

0.3244

0.3329

0.3483

0.3511

0.3610

0.3750

0.3947

0.4045

0.4045

Logistic regression - Survived 1 Misclassification

Response	Event	Value	Observations
Correct	1	True Positive	205
Incorrect	1	False Negative	83
Correct	0	True Negative	365
Incorrect	0	False Positive	59

KS (Youden)	Misclassification Rate	Misclassification Rate (Event)	C Statistic	False Positive Rate	False Discovery Rate	F1 Score	Lift	Cumulative Lift	Cumulative % Events
0.5964	0.1994	0.1994	0.860	0.139	0.223	0.743	2.431	2.431	97.222



Cumulative % Captured	Gain	Gini	Gamma	Tau	Observations Used	Unused
12.153	1.431	0.721	0.726	0.348	712	179



Plot	Summary
Confusion Matrix	The confusion matrix plot displays the number of observations predicting each response level. A greater number of observations where the observed level and predicted level are the same indicates a better model. For this data, the percentages of each observed value that are correctly predicted are as follows: 0 - 86.08% and 1 - 71.18%.
Lift	The lift plot measures the ratio of percent captured response to the baseline percent response. This model has a lift of 2.4306 at the 5% quantile meaning there are about 2.43 times more events in that quantile than expected by random (5% of the total number of events).
Cumulative Lift	Cumulative lift measures the ratio of percent captured response to the baseline percent response, up to and including the specified quantile. This model has a cumulative lift of 2.3958 in the 10% quantile meaning there are about 2.40 times more events in the first 2 quantiles than expected by random (10% of the total number of events). Because this value is greater than 1, it is better to use your model to identify responders than no model.
ROC	The receiver operator characteristic (ROC) is a plot of sensitivity (the true positive rate) against 1-specificity (the false positive rate), which are both measures of classification based on the confusion matrix. These measures are calculated at various cutoff values. To help identify the best cutoff to use when scoring your data, the KS cutoff reference line is drawn at the value of 1-specificity where the greatest difference between sensitivity and 1-specificity is observed. The KS cutoff line is drawn at the cutoff value 0.55 where the 1-specificity value is 0.108 and the sensitivity value is 0.705.
Cutoff	Cutoff values range from 0 to 0.99, inclusive, in increments of 0.01. At each cutoff value, the predicted response classification is determined by whether the predicted probability of the response Survived being 1 is greater than or equal to the cutoff value. When the predicted probability of the event is greater than or equal to the cutoff value, then the predicted classification is 1, otherwise it is NOT 1. The cutoff plot shows how different model assessment statistics change as the prediction cutoff value changes. The model assessment statistics are based on the selected event for the model compared to non-events. You can interactively move the cutoff line to represent different prediction cutoff values. As you move the cutoff line, the model assessment statistics are updated. This allows you to choose a cutoff that best represents your particular problem and business objective. When the accuracy statistic is enabled, its value for the selected cutoff is always displayed.



Plot	Summary
Misclassification	<p>The misclassification plot is a visual representation of the accuracy of the prediction at the specified cutoff value, 0.50. The plot displays the number of true positives for events that are correctly classified, false positives for NOT events that are classified as events, false negatives for events that are classified as NOT events, and true negatives for NOT events that are classified as NOT events. True negatives include NOT event classifications that predict a different level from observed, as long as both are NOT events.</p> <p>The predicted response classification is determined by whether the predicted probability of the level 1 for the response Survived is greater than or equal to the cutoff value. When it is greater than or equal to the cutoff value, the predicted classification is an event, otherwise it is a NOT event.</p> <p>For this data, for the bar corresponding to the event level of Survived, 1, the segment of the bar colored as "Correct" corresponds to true positives.</p>

Age	Frequency	Sex	Survived
26	1	female	0
37	1	female	0
2	1	female	0
18	1	female	0
22	1	female	0
.	1	female	0
31	1	female	0
11	1	female	0
50	1	female	0
23	1	female	0
.	1	female	0
.	1	female	0
8	1	female	0
38	1	female	0
30.5	1	female	0
24	1	female	0
39	1	female	0
21	1	female	0
41	1	female	0
9	1	female	0
.	1	female	0
31	1	female	0
3	1	female	0
.	1	female	0
.	1	female	0
9	1	female	0
26	1	female	0
45	1	female	0
48	1	female	0

Age	Frequency	Sex	Survived
25	1	female	0
2	1	female	0
47	1	female	0
18	1	female	0
2	1	female	0
32	1	female	0
40	1	female	0
57	1	female	0
25	1	female	0
14	1	female	0
.	1	female	0
24	1	female	0
29	1	female	0
44	1	female	0
6	1	female	0
21	1	female	0
41	1	female	0
28	1	female	0
.	1	female	0
18	1	female	0
17	1	female	0
45	1	female	0
.	1	female	0
14.5	1	female	0
.	1	female	0
27	1	female	0
.	1	female	0
9	1	female	0
39	1	female	0

Age	Frequency	Sex	Survived
.	1	female	0
10	1	female	0
.	1	female	0
25	1	female	0
21	1	female	0
.	1	female	0
30	1	female	0
30	1	female	0
.	1	female	0
29	1	female	0
20	1	female	0
9	1	female	0
18	1	female	0
18	1	female	0
2	1	female	0
43	1	female	0
.	1	female	0
16	1	female	0
45	1	female	0
28	1	female	0
20	1	female	0
22	1	female	0
.	1	female	0
40.5	1	male	0
28.5	1	male	0
39	1	male	0
33	1	male	0
.	1	male	0
39	1	male	0

Age	Frequency	Sex	Survived
18	1	male	0
40	1	male	0
30	1	male	0
64	1	male	0
33	1	male	0
32	1	male	0
.	1	male	0
66	1	male	0
52	1	male	0
.	1	male	0
19	1	male	0
37	1	male	0
24	1	male	0
8	1	male	0
20	1	male	0
46	1	male	0
7	1	male	0
19	1	male	0
28	1	male	0
.	1	male	0
59	1	male	0
.	1	male	0
.	1	male	0
30	1	male	0
46	1	male	0
33	1	male	0
.	1	male	0
50	1	male	0
42	1	male	0

Age	Frequency	Sex	Survived
16	1	male	0
36	1	male	0
36	1	male	0
.	1	male	0
28	1	male	0
47	1	male	0
.	1	male	0
23	1	male	0
29	1	male	0
45	1	male	0
.	1	male	0
36	1	male	0
18	1	male	0
22	1	male	0
36	1	male	0
19	1	male	0
.	1	male	0
17	1	male	0
.	1	male	0
.	1	male	0
36	1	male	0
16	1	male	0
9	1	male	0
.	1	male	0
36	1	male	0
.	1	male	0
19	1	male	0
22	1	male	0
31	1	male	0

Age	Frequency	Sex	Survived
.	1	male	0
19	1	male	0
61	1	male	0
.	1	male	0
21	1	male	0
34	1	male	0
.	1	male	0
.	1	male	0
.	1	male	0
51	1	male	0
26	1	male	0
20	1	male	0
.	1	male	0
33	1	male	0
.	1	male	0
54	1	male	0
.	1	male	0
.	1	male	0
36	1	male	0
2	1	male	0
32	1	male	0
47	1	male	0
.	1	male	0
58	1	male	0
.	1	male	0
22	1	male	0
24	1	male	0
42	1	male	0
.	1	male	0

Age	Frequency	Sex	Survived
17	1	male	0
19	1	male	0
45.5	1	male	0
16	1	male	0
28	1	male	0
.	1	male	0
31	1	male	0
32	1	male	0
71	1	male	0
40.5	1	male	0
55.5	1	male	0
57	1	male	0
34	1	male	0
15	1	male	0
.	1	male	0
26	1	male	0
.	1	male	0
48	1	male	0
19	1	male	0
29	1	male	0
20	1	male	0
30	1	male	0
44	1	male	0
.	1	male	0
22	1	male	0
26	1	male	0
39	1	male	0
36	1	male	0
.	1	male	0

Age	Frequency	Sex	Survived
.	1	male	0
19	1	male	0
.	1	male	0
.	1	male	0
40	1	male	0
32	1	male	0
32	1	male	0
43	1	male	0
26	1	male	0
29	1	male	0
.	1	male	0
.	1	male	0
7	1	male	0
.	1	male	0
.	1	male	0
25	1	male	0
.	1	male	0
18	1	male	0
40	1	male	0
31	1	male	0
37	1	male	0
24	1	male	0
28	1	male	0
62	1	male	0
19	1	male	0
.	1	male	0
.	1	male	0
38	1	male	0
19	1	male	0

Age	Frequency	Sex	Survived
64	1	male	0
50	1	male	0
25	1	male	0
.	1	male	0
47	1	male	0
51	1	male	0
.	1	male	0
19	1	male	0
22	1	male	0
.	1	male	0
34	1	male	0
18	1	male	0
48	1	male	0
.	1	male	0
.	1	male	0
21	1	male	0
59	1	male	0
.	1	male	0
24	1	male	0
34	1	male	0
24	1	male	0
.	1	male	0
43	1	male	0
.	1	male	0
23	1	male	0
61	1	male	0
.	1	male	0
35	1	male	0
28	1	male	0

Age	Frequency	Sex	Survived
35	1	male	0
1	1	male	0
28	1	male	0
21	1	male	0
.	1	male	0
42	1	male	0
31	1	male	0
43	1	male	0
19	1	male	0
26	1	male	0
14	1	male	0
21	1	male	0
19	1	male	0
18	1	male	0
25	1	male	0
60	1	male	0
34.5	1	male	0
25	1	male	0
44	1	male	0
18	1	male	0
52	1	male	0
29	1	male	0
60	1	male	0
45	1	male	0
25	1	male	0
30.5	1	male	0
.	1	male	0
37	1	male	0
28	1	male	0

Age	Frequency	Sex	Survived
39	1	male	0
42	1	male	0
25	1	male	0
36	1	male	0
39	1	male	0
24	1	male	0
.	1	male	0
16	1	male	0
35	1	male	0
65	1	male	0
28	1	male	0
16	1	male	0
42	1	male	0
20	1	male	0
54	1	male	0
.	1	male	0
47	1	male	0
22	1	male	0
51	1	male	0
16	1	male	0
37	1	male	0
49	1	male	0
.	1	male	0
.	1	male	0
24	1	male	0
.	1	male	0
36.5	1	male	0
21	1	male	0
52	1	male	0

Age	Frequency	Sex	Survived
.	1	male	0
35	1	male	0
31	1	male	0
51	1	male	0
25	1	male	0
21	1	male	0
.	1	male	0
.	1	male	0
34	1	male	0
18	1	male	0
30	1	male	0
.	1	male	0
70	1	male	0
25	1	male	0
22	1	male	0
4	1	male	0
28	1	male	0
30	1	male	0
38	1	male	0
40	1	male	0
27	1	male	0
24	1	male	0
23	1	male	0
22	1	male	0
44	1	male	0
29	1	male	0
10	1	male	0
25	1	male	0
26	1	male	0

Age	Frequency	Sex	Survived
21	1	male	0
47	1	male	0
28	1	male	0
24.5	1	male	0
1	1	male	0
.	1	male	0
2	1	male	0
38	1	male	0
23	1	male	0
.	1	male	0
42	1	male	0
25	1	male	0
27	1	male	0
39	1	male	0
28	1	male	0
35	1	male	0
61	1	male	0
26	1	male	0
.	1	male	0
39	1	male	0
74	1	male	0
51	1	male	0
21	1	male	0
26	1	male	0
56	1	male	0
16	1	male	0
23	1	male	0
18	1	male	0
4	1	male	0

Age	Frequency	Sex	Survived
49	1	male	0
14	1	male	0
.	1	male	0
28	1	male	0
27	1	male	0
.	1	male	0
24	1	male	0
16	1	male	0
36	1	male	0
23	1	male	0
16	1	male	0
50	1	male	0
33	1	male	0
21	1	male	0
30	1	male	0
.	1	male	0
23.5	1	male	0
20	1	male	0
45	1	male	0
.	1	male	0
18	1	male	0
20	1	male	0
25	1	male	0
17	1	male	0
.	1	male	0
.	1	male	0
25	1	male	0
27	1	male	0
20	1	male	0

Age	Frequency	Sex	Survived
.	1	male	0
47	1	male	0
35	1	male	0
32	1	male	0
17	1	male	0
19	1	male	0
18	1	male	0
33	1	male	0
23	1	male	0
28.5	1	male	0
.	1	male	0
19	1	male	0
23	1	male	0
.	1	male	0
28	1	male	0
.	1	male	0
.	1	male	0
.	1	male	0
16	1	male	0
46	1	male	0
.	1	male	0
25	1	male	0
25	1	male	0
26	1	male	0
.	1	male	0
28	1	male	0
34	1	male	0
34	1	male	0
.	1	male	0

Age	Frequency	Sex	Survived
20	1	male	0
21	1	male	0
45.5	1	male	0
.	1	male	0
21	1	male	0
.	1	male	0
36	1	male	0
33	1	male	0
41	1	male	0
24	1	male	0
28	1	male	0
30	1	male	0
.	1	male	0
.	1	male	0
21	1	male	0
29	1	male	0
30	1	male	0
18	1	male	0
.	1	male	0
22	1	male	0
24	1	male	0
.	1	male	0
30	1	male	0
.	1	male	0
54	1	male	0
27	1	male	0
17	1	male	0
.	1	male	0
11	1	male	0

Age	Frequency	Sex	Survived
42	1	male	0
62	1	male	0
21	1	male	0
31	1	male	0
29	1	male	0
20	1	male	0
45	1	male	0
30	1	male	0
65	1	male	0
.	1	male	0
54	1	male	0
27	1	male	0
54	1	male	0
31	1	male	0
26	1	male	0
.	1	male	0
30	1	male	0
35	1	male	0
.	1	male	0
22	1	male	0
65	1	male	0
41	1	male	0
20.5	1	male	0
.	1	male	0
17	1	male	0
34	1	male	0
44	1	male	0
40	1	male	0
.	1	male	0

Age	Frequency	Sex	Survived
38	1	male	0
70	1	male	0
56	1	male	0
.	1	male	0
29	1	male	0
.	1	male	0
38	1	male	0
70.5	1	male	0
.	1	male	0
22	1	male	0
.	1	male	0
32.5	1	male	0
29	1	male	0
22	1	male	0
44	1	male	0
9	1	male	0
.	1	male	0
.	1	male	0
22	1	male	0
21	1	male	0
.	1	male	0
29	1	male	0
.	1	male	0
34	1	male	0
21	1	male	0
30	1	male	0
2	1	male	0
55	1	male	0
71	1	male	0

Age	Frequency	Sex	Survived
21	1	male	0
.	1	male	0
30	1	male	0
.	1	male	0
58	1	male	0
24	1	male	0
.	1	male	0
32	1	male	0
33	1	male	0
19	1	male	0
50	1	male	0
18	1	male	0
11	1	male	0
23	1	male	0
28	1	male	0
.	1	male	0
40	1	male	0
.	1	male	0
33	1	male	0
22	1	male	0
24	1	male	0
47	1	male	0
20	1	male	0
.	1	male	0
4	1	male	0
32	1	male	0
.	1	male	0
8	1	female	1
2	1	female	1

Age	Frequency	Sex	Survived
5	1	female	1
23	1	female	1
33	1	female	1
5	1	female	1
0.75	1	female	1
.	1	female	1
35	1	female	1
50	1	female	1
21	1	female	1
.	1	female	1
5	1	female	1
13	1	female	1
51	1	female	1
28	1	female	1
45	1	female	1
32	1	female	1
.	1	female	1
24	1	female	1
14	1	female	1
27	1	female	1
29	1	female	1
42	1	female	1
31	1	female	1
.	1	female	1
48	1	female	1
21	1	female	1
19	1	female	1
28	1	female	1
42	1	female	1

Age	Frequency	Sex	Survived
35	1	female	1
16	1	female	1
49	1	female	1
18	1	female	1
34	1	female	1
24	1	female	1
45	1	female	1
18	1	female	1
33	1	female	1
16	1	female	1
.	1	female	1
30	1	female	1
39	1	female	1
38	1	female	1
28	1	female	1
27	1	female	1
.	1	female	1
52	1	female	1
24	1	female	1
34	1	female	1
17	1	female	1
23	1	female	1
58	1	female	1
44	1	female	1
17	1	female	1
36	1	female	1
31	1	female	1
19	1	female	1
31	1	female	1

Age	Frequency	Sex	Survived
49	1	female	1
35	1	female	1
1	1	female	1
32	1	female	1
42	1	female	1
15	1	female	1
18	1	female	1
.	1	female	1
13	1	female	1
43	1	female	1
22	1	female	1
5	1	female	1
.	1	female	1
54	1	female	1
.	1	female	1
24	1	female	1
36	1	female	1
.	1	female	1
4	1	female	1
.	1	female	1
33	1	female	1
60	1	female	1
48	1	female	1
26	1	female	1
4	1	female	1
30	1	female	1
58	1	female	1
21	1	female	1
.	1	female	1

Age	Frequency	Sex	Survived
19	1	female	1
.	1	female	1
15	1	female	1
22	1	female	1
23	1	female	1
29	1	female	1
30	1	female	1
28	1	female	1
19	1	female	1
3	1	female	1
6	1	female	1
38	1	female	1
.	1	female	1
40	1	female	1
1	1	female	1
24	1	female	1
33	1	female	1
22	1	female	1
33	1	female	1
45	1	female	1
24	1	female	1
18	1	female	1
17	1	female	1
.	1	female	1
41	1	female	1
4	1	female	1
.	1	female	1
.	1	female	1
.	1	female	1

Age	Frequency	Sex	Survived
4	1	female	1
.	1	female	1
16	1	female	1
18	1	female	1
31	1	female	1
36	1	female	1
40	1	female	1
36	1	female	1
.	1	female	1
22	1	female	1
40	1	female	1
30	1	female	1
40	1	female	1
31	1	female	1
.	1	female	1
18	1	female	1
24	1	female	1
30	1	female	1
23	1	female	1
26	1	female	1
0.75	1	female	1
14	1	female	1
16	1	female	1
.	1	female	1
24	1	female	1
18	1	female	1
24	1	female	1
28	1	female	1
30	1	female	1

Age	Frequency	Sex	Survived
17	1	female	1
62	1	female	1
.	1	female	1
21	1	female	1
.	1	female	1
22	1	female	1
4	1	female	1
14	1	female	1
.	1	female	1
24	1	female	1
50	1	female	1
.	1	female	1
15	1	female	1
40	1	female	1
22	1	female	1
24	1	female	1
.	1	female	1
19	1	female	1
26	1	female	1
22	1	female	1
52	1	female	1
15	1	female	1
18	1	female	1
24	1	female	1
39	1	female	1
25	1	female	1
22	1	female	1
39	1	female	1
34	1	female	1

Age	Frequency	Sex	Survived
.	1	female	1
53	1	female	1
35	1	female	1
17	1	female	1
63	1	female	1
.	1	female	1
36	1	female	1
39	1	female	1
47	1	female	1
48	1	female	1
41	1	female	1
22	1	female	1
19	1	female	1
27	1	female	1
35	1	female	1
24	1	female	1
27	1	female	1
58	1	female	1
19	1	female	1
29	1	female	1
27	1	female	1
29	1	female	1
36	1	female	1
22	1	female	1
30	1	female	1
7	1	female	1
.	1	female	1
2	1	female	1
.	1	female	1

Age	Frequency	Sex	Survived
50	1	female	1
.	1	female	1
50	1	female	1
35	1	female	1
30	1	female	1
44	1	female	1
25	1	female	1
.	1	female	1
30	1	female	1
.	1	female	1
36	1	female	1
29	1	female	1
34	1	female	1
.	1	female	1
55	1	female	1
54	1	female	1
38	1	female	1
33	1	female	1
35	1	female	1
16	1	female	1
24	1	female	1
38	1	female	1
32.5	1	female	1
54	1	female	1
56	1	female	1
.	1	female	1
35	1	female	1
63	1	female	1
48	1	male	1

Age	Frequency	Sex	Survived
19	1	male	1
29	1	male	1
49	1	male	1
38	1	male	1
.	1	male	1
52	1	male	1
34	1	male	1
4	1	male	1
.	1	male	1
16	1	male	1
4	1	male	1
28	1	male	1
.	1	male	1
32	1	male	1
40	1	male	1
26	1	male	1
44	1	male	1
51	1	male	1
18	1	male	1
3	1	male	1
.	1	male	1
32	1	male	1
0.83	1	male	1
39	1	male	1
.	1	male	1
1	1	male	1
27	1	male	1
21	1	male	1
23	1	male	1

Age	Frequency	Sex	Survived
36	1	male	1
27	1	male	1
0.42	1	male	1
11	1	male	1
3	1	male	1
1	1	male	1
26	1	male	1
45	1	male	1
28	1	male	1
25	1	male	1
20	1	male	1
1	1	male	1
0.67	1	male	1
6	1	male	1
31	1	male	1
.	1	male	1
35	1	male	1
27	1	male	1
3	1	male	1
48	1	male	1
.	1	male	1
42	1	male	1
34	1	male	1
2	1	male	1
35	1	male	1
45	1	male	1
.	1	male	1
31	1	male	1
9	1	male	1

Age	Frequency	Sex	Survived
27	1	male	1
36	1	male	1
31	1	male	1
29	1	male	1
20	1	male	1
50	1	male	1
56	1	male	1
48	1	male	1
.	1	male	1
0.83	1	male	1
32	1	male	1
80	1	male	1
0.92	1	male	1
20	1	male	1
42	1	male	1
.	1	male	1
.	1	male	1
32	1	male	1
27	1	male	1
35	1	male	1
49	1	male	1
27	1	male	1
.	1	male	1
42	1	male	1
60	1	male	1
30	1	male	1
32	1	male	1
19	1	male	1
.	1	male	1

Age	Frequency	Sex	Survived
36	1	male	1
62	1	male	1
32	1	male	1
25	1	male	1
22	1	male	1
17	1	male	1
8	1	male	1
.	1	male	1
25	1	male	1
32	1	male	1
3	1	male	1
.	1	male	1
24	1	male	1
36	1	male	1
29	1	male	1
12	1	male	1
26	1	male	1
.	1	male	1
37	1	male	1
9	1	male	1
25	1	male	1