#Forwards

Call:

glm(formula = Viability ~ BST + Ability\_RKS.System + Ability\_Huge.Power +

Sp.Def + Type\_Normal + Ability\_Zen.Mode + Ability\_Regenerator +

Speed + Ability\_Unaware + Type\_Steel + Ability\_Poison.Heal +

Ability\_Anticipation + Type\_Poison + Ability\_Infiltrator +

Ability\_Stance.Change + Ability\_Mirror.Armor + Ability\_Torrent +

Ability\_Swarm + Ability\_Embody.Aspect + Ability\_Zero.to.Hero +

Ability\_Slow.Start + Ability\_Dry.Skin + Ability\_Pastel.Veil +

Type\_Fairy + Sp.Atk + Ability\_Cursed.Body + Ability\_Ripen +

Ability\_Volt.Absrob + Ability\_Natural.Cure + Ability\_Clear.Body +

Ability\_Purifying.Salt + Ability\_Anger.Point + Ability\_Hospitality +

Ability\_Opportunist + Ability\_Toxic.Chain + Type\_Fighting +

Type\_Water + Ability\_Mega.Launcher + Type\_Ground + Type\_Dark +

Ability\_Weak.Armor + Ability\_Grassy.Surge + Ability\_Battle.Armor +

Type\_Fire + Ability\_Magic.Bounce + Ability\_Damp + Ability\_Drizzle +

Ability\_Justified + Ability\_Honey.Gather + Ability\_Hyper.Cutter +

Ability\_Tinted.Lens + Ability\_Steam.Engine + Ability\_Power.Construct +

Ability\_Sand.Stream + Ability\_Compound.Eyes + Ability\_Static +

Ability\_Schooling + Ability\_Libero + Ability\_Contrary + Ability\_Poison.Touch +

Ability\_Quick.Draw + Ability\_Adaptability + Ability\_Sand.Rush +

Ability\_Scrappy + Ability\_Propeller.Tail + Ability\_Snow.Warning +

Ability\_Storm.Drain + Ability\_Swift.Swim + Ability\_Aftermath +

Ability\_Filter + Ability\_Inner.Focus + Ability\_Multiscale +

Ability\_Protosynthesis + Ability\_Truant + Ability\_Magic.Guard +

Ability\_Wonder.Skin + Ability\_Overcoat + Ability\_Strong.Jaw +

Type\_Ghost + Ability\_Mind.s.Eye + Ability\_White.Smoke + Ability\_Sweet.Veil +

Ability\_Immunity, family = "binomial", data = dat)

Deviance Residuals:

Min 1Q Median 3Q Max

-3.2226 -0.1729 -0.0084 0.0000 5.0370

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -2.828e+01 2.324e+00 -12.173 < 2e-16 \*\*\*

BST 4.889e-02 4.608e-03 10.610 < 2e-16 \*\*\*

Ability\_RKS.System1 -2.065e+01 2.360e+03 -0.009 0.993018

Ability\_Huge.Power1 8.532e+00 3.311e+00 2.576 0.009982 \*\*

Sp.Def -8.017e-03 6.846e-03 -1.171 0.241562

Type\_Normal1 2.316e-01 5.970e-01 0.388 0.698015

Ability\_Zen.Mode1 2.230e+01 5.068e+03 0.004 0.996490

Ability\_Regenerator1 3.828e+00 8.037e-01 4.763 1.90e-06 \*\*\*

Speed 2.543e-02 5.887e-03 4.319 1.56e-05 \*\*\*

Ability\_Unaware1 4.132e+00 1.351e+00 3.058 0.002230 \*\*

Type\_Steel1 2.449e+00 5.547e-01 4.415 1.01e-05 \*\*\*

Ability\_Poison.Heal1 8.576e+00 1.202e+01 0.713 0.475681

Ability\_Anticipation1 5.242e+00 1.770e+00 2.961 0.003066 \*\*

Type\_Poison1 3.759e+00 5.734e-01 6.556 5.53e-11 \*\*\*

Ability\_Infiltrator1 -1.766e+00 1.454e+00 -1.215 0.224480

Ability\_Stance.Change1 2.103e+01 7.355e+03 0.003 0.997718

Ability\_Mirror.Armor1 2.121e+01 7.604e+03 0.003 0.997774

Ability\_Torrent1 1.082e+00 8.114e-01 1.333 0.182515

Ability\_Swarm1 2.634e+00 7.730e-01 3.407 0.000657 \*\*\*

Ability\_Embody.Aspect1 1.960e+01 5.250e+03 0.004 0.997021

Ability\_Zero.to.Hero1 2.125e+01 6.340e+03 0.003 0.997325

Ability\_Slow.Start1 -2.315e+01 5.838e+03 -0.004 0.996836

Ability\_Dry.Skin1 -2.079e+01 2.531e+03 -0.008 0.993445

Ability\_Pastel.Veil1 -2.261e+01 6.502e+03 -0.003 0.997226

Type\_Fairy1 2.176e+00 5.669e-01 3.838 0.000124 \*\*\*

Sp.Atk -1.946e-02 6.252e-03 -3.112 0.001858 \*\*

Ability\_Cursed.Body1 2.737e+00 1.311e+00 2.088 0.036839 \*

Ability\_Ripen1 5.761e+00 1.181e+00 4.877 1.08e-06 \*\*\*

Ability\_Volt.Absrob1 3.149e+00 1.447e+00 2.177 0.029495 \*

Ability\_Natural.Cure1 -2.388e+00 1.349e+00 -1.771 0.076633 .

Ability\_Clear.Body1 -4.204e+00 1.405e+00 -2.992 0.002773 \*\*

Ability\_Purifying.Salt1 1.209e+01 4.215e+00 2.867 0.004144 \*\*

Ability\_Anger.Point1 -1.922e+01 2.429e+03 -0.008 0.993687

Ability\_Hospitality1 8.178e+00 7.111e+00 1.150 0.250144

Ability\_Opportunist1 2.411e+01 1.075e+04 0.002 0.998211

Ability\_Toxic.Chain1 -5.338e+00 1.564e+00 -3.414 0.000640 \*\*\*

Type\_Fighting1 2.768e+00 5.516e-01 5.019 5.20e-07 \*\*\*

Type\_Water1 2.183e+00 5.177e-01 4.217 2.47e-05 \*\*\*

Ability\_Mega.Launcher1 -2.102e+01 4.639e+03 -0.005 0.996385

Type\_Ground1 1.613e+00 5.614e-01 2.873 0.004062 \*\*

Type\_Dark1 1.829e+00 4.716e-01 3.878 0.000105 \*\*\*

Ability\_Weak.Armor1 3.480e+00 9.232e-01 3.770 0.000163 \*\*\*

Ability\_Grassy.Surge1 4.973e+00 2.457e+00 2.024 0.042975 \*

Ability\_Battle.Armor1 -1.895e+01 2.318e+03 -0.008 0.993480

Type\_Fire1 8.425e-01 4.989e-01 1.689 0.091303 .

Ability\_Magic.Bounce1 3.243e+00 1.325e+00 2.448 0.014351 \*

Ability\_Damp1 -2.691e+00 1.511e+00 -1.781 0.074902 .

Ability\_Drizzle1 5.235e+00 1.687e+00 3.103 0.001913 \*\*

Ability\_Justified1 -2.732e+00 1.198e+00 -2.281 0.022565 \*

Ability\_Honey.Gather1 4.401e+00 5.220e+00 0.843 0.399132

Ability\_Hyper.Cutter1 1.666e+00 1.135e+00 1.468 0.142175

Ability\_Tinted.Lens1 3.388e+00 1.215e+00 2.789 0.005292 \*\*

Ability\_Steam.Engine1 3.984e+00 1.523e+00 2.616 0.008892 \*\*

Ability\_Power.Construct1 1.993e+01 5.062e+03 0.004 0.996859

Ability\_Sand.Stream1 -4.288e+00 2.707e+00 -1.584 0.113231

Ability\_Compound.Eyes1 3.305e+00 1.657e+00 1.994 0.046134 \*

Ability\_Static1 3.229e+00 1.048e+00 3.081 0.002060 \*\*

Ability\_Schooling1 -1.933e+01 5.347e+03 -0.004 0.997115

Ability\_Libero1 3.586e+00 2.686e+00 1.335 0.181916

Ability\_Contrary1 2.907e+00 1.618e+00 1.796 0.072509 .

Ability\_Poison.Touch1 -3.288e+00 1.876e+00 -1.753 0.079672 .

Ability\_Quick.Draw1 -2.108e+01 1.075e+04 -0.002 0.998436

Ability\_Adaptability1 2.068e+00 9.566e-01 2.162 0.030646 \*

Ability\_Sand.Rush1 1.654e+00 1.345e+00 1.230 0.218854

Ability\_Scrappy1 -2.897e+00 2.036e+00 -1.423 0.154881

Ability\_Propeller.Tail1 8.544e+00 1.262e+01 0.677 0.498525

Ability\_Snow.Warning1 -1.767e+01 2.870e+03 -0.006 0.995086

Ability\_Storm.Drain1 2.972e+00 1.405e+00 2.115 0.034466 \*

Ability\_Swift.Swim1 -2.540e+00 1.053e+00 -2.411 0.015911 \*

Ability\_Aftermath1 -2.856e+00 1.385e+00 -2.062 0.039230 \*

Ability\_Filter1 -2.977e+00 1.982e+00 -1.502 0.133165

Ability\_Inner.Focus1 -2.193e+00 8.637e-01 -2.539 0.011105 \*

Ability\_Multiscale1 2.042e+01 6.499e+03 0.003 0.997493

Ability\_Protosynthesis1 -1.637e+00 8.992e-01 -1.820 0.068685 .

Ability\_Truant1 -3.394e+00 1.934e+00 -1.754 0.079349 .

Ability\_Magic.Guard1 5.351e+00 1.813e+00 2.951 0.003168 \*\*

Ability\_Wonder.Skin1 -2.150e+01 3.339e+03 -0.006 0.994862

Ability\_Overcoat1 -1.544e+00 1.029e+00 -1.501 0.133383

Ability\_Strong.Jaw1 2.252e+00 1.145e+00 1.967 0.049236 \*

Type\_Ghost1 1.069e+00 5.817e-01 1.838 0.066080 .

Ability\_Mind.s.Eye1 2.070e+01 1.075e+04 0.002 0.998464

Ability\_White.Smoke1 2.373e+00 1.397e+00 1.699 0.089397 .

Ability\_Sweet.Veil1 2.180e+00 1.250e+00 1.744 0.081111 .

Ability\_Immunity1 2.250e+00 1.342e+00 1.676 0.093654 .

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1386.42 on 1265 degrees of freedom

Residual deviance: 408.98 on 1182 degrees of freedom

AIC: 576.98

Number of Fisher Scoring iterations: 18

OR SE 95% CI, lower 95% CI, upper p value

BST 1.050101e+00 4.838605e-03 1.040660e+00 1.059627e+00 2.691113e-26

Ability\_RKS.System1 1.070862e-09 2.527512e-06 0.000000e+00 Inf 9.930177e-01

Ability\_Huge.Power1 5.072636e+03 1.679739e+04 7.701713e+00 3.341028e+06 9.981827e-03

Sp.Def 9.920147e-01 6.791413e-03 9.787926e-01 1.005415e+00 2.415616e-01

Type\_Normal1 1.260674e+00 7.526551e-01 3.912134e-01 4.062489e+00 6.980150e-01

Ability\_Zen.Mode1 4.824357e+09 2.444954e+13 0.000000e+00 Inf 9.964896e-01

Ability\_Regenerator1 4.599129e+01 3.696361e+01 9.518255e+00 2.222255e+02 1.902816e-06

Speed 1.025755e+00 6.038850e-03 1.013987e+00 1.037660e+00 1.564795e-05

Ability\_Unaware1 6.227868e+01 8.415220e+01 4.407364e+00 8.800349e+02 2.230461e-03

Type\_Steel1 1.157467e+01 6.420301e+00 3.902649e+00 3.432873e+01 1.011086e-05

Ability\_Poison.Heal1 5.301301e+03 6.373838e+04 3.092075e-07 9.088972e+13 4.756814e-01

Ability\_Anticipation1 1.889722e+02 3.345161e+02 5.883188e+00 6.069925e+03 3.065978e-03

Type\_Poison1 4.291473e+01 2.460778e+01 1.394819e+01 1.320367e+02 5.531452e-11

Ability\_Infiltrator1 1.710087e-01 2.486277e-01 9.896129e-03 2.955091e+00 2.244801e-01

Ability\_Stance.Change1 1.364144e+09 1.003381e+13 0.000000e+00 Inf 9.977183e-01

Ability\_Mirror.Armor1 1.629423e+09 1.239052e+13 0.000000e+00 Inf 9.977744e-01

Ability\_Torrent1 2.949456e+00 2.393152e+00 6.012949e-01 1.446759e+01 1.825152e-01

Ability\_Swarm1 1.392398e+01 1.076348e+01 3.060339e+00 6.335155e+01 6.569937e-04

Ability\_Embody.Aspect1 3.257939e+08 1.710332e+12 0.000000e+00 Inf 9.970208e-01

Ability\_Zero.to.Hero1 1.700881e+09 1.078329e+13 0.000000e+00 Inf 9.973251e-01

Ability\_Slow.Start1 8.830402e-11 5.155404e-07 0.000000e+00 Inf 9.968362e-01

Ability\_Dry.Skin1 9.339642e-10 2.363756e-06 0.000000e+00 Inf 9.934453e-01

Ability\_Pastel.Veil1 1.515606e-10 9.855158e-07 0.000000e+00 Inf 9.972256e-01

Type\_Fairy1 8.809908e+00 4.993950e+00 2.900431e+00 2.675964e+01 1.237885e-04

Sp.Atk 9.807315e-01 6.131416e-03 9.687875e-01 9.928228e-01 1.857547e-03

Ability\_Cursed.Body1 1.543921e+01 2.024179e+01 1.182076e+00 2.016530e+02 3.683853e-02

Ability\_Ripen1 3.176401e+02 3.752411e+02 3.136002e+01 3.217320e+03 1.079331e-06

Ability\_Volt.Absrob1 2.330962e+01 3.371859e+01 1.368446e+00 3.970478e+02 2.949493e-02

Ability\_Natural.Cure1 9.180360e-02 1.238228e-01 6.527946e-03 1.291050e+00 7.663282e-02

Ability\_Clear.Body1 1.493547e-02 2.098656e-02 9.509416e-04 2.345762e-01 2.772788e-03

Ability\_Purifying.Salt1 1.772669e+05 7.472394e+05 4.576439e+01 6.866377e+08 4.143689e-03

Ability\_Anger.Point1 4.496124e-09 1.092253e-05 0.000000e+00 Inf 9.936874e-01

Ability\_Hospitality1 3.560793e+03 2.532107e+04 3.151999e-03 4.022604e+09 2.501439e-01

Ability\_Opportunist1 2.962519e+10 3.185897e+14 0.000000e+00 Inf 9.982110e-01

Ability\_Toxic.Chain1 4.805260e-03 7.513202e-03 2.243012e-04 1.029443e-01 6.399733e-04

Type\_Fighting1 1.593087e+01 8.787019e+00 5.404313e+00 4.696110e+01 5.198097e-07

Type\_Water1 8.876694e+00 4.595619e+00 3.217877e+00 2.448686e+01 2.471188e-05

Ability\_Mega.Launcher1 7.439609e-10 3.451563e-06 0.000000e+00 Inf 9.963852e-01

Type\_Ground1 5.017893e+00 2.816900e+00 1.669865e+00 1.507861e+01 4.061564e-03

Type\_Dark1 6.228458e+00 2.937468e+00 2.471363e+00 1.569729e+01 1.051494e-04

Ability\_Weak.Armor1 3.247381e+01 2.998005e+01 5.317385e+00 1.983209e+02 1.632873e-04

Ability\_Grassy.Surge1 1.445047e+02 3.550813e+02 1.170264e+00 1.784350e+04 4.297525e-02

Ability\_Battle.Armor1 5.910390e-09 1.370306e-05 0.000000e+00 Inf 9.934798e-01

Type\_Fire1 2.322075e+00 1.158533e+00 8.733606e-01 6.173892e+00 9.130282e-02

Ability\_Magic.Bounce1 2.561797e+01 3.393584e+01 1.909711e+00 3.436543e+02 1.435144e-02

Ability\_Damp1 6.778874e-02 1.024353e-01 3.506797e-03 1.310402e+00 7.490187e-02

Ability\_Drizzle1 1.876434e+02 3.165010e+02 6.880156e+00 5.117621e+03 1.913147e-03

Ability\_Justified1 6.508700e-02 7.796647e-02 6.220945e-03 6.809766e-01 2.256503e-02

Ability\_Honey.Gather1 8.156838e+01 4.257946e+02 2.938800e-03 2.263985e+06 3.991317e-01

Ability\_Hyper.Cutter1 5.288740e+00 6.001618e+00 5.720259e-01 4.889773e+01 1.421747e-01

Ability\_Tinted.Lens1 2.961159e+01 3.597727e+01 2.737002e+00 3.203674e+02 5.292391e-03

Ability\_Steam.Engine1 5.372932e+01 8.181985e+01 2.716366e+00 1.062758e+03 8.891987e-03

Ability\_Power.Construct1 4.502891e+08 2.279332e+12 0.000000e+00 Inf 9.968593e-01

Ability\_Sand.Stream1 1.373155e-02 3.717667e-02 6.810573e-05 2.768568e+00 1.132314e-01

Ability\_Compound.Eyes1 2.725193e+01 4.516736e+01 1.058316e+00 7.017446e+02 4.613442e-02

Ability\_Static1 2.525647e+01 2.646701e+01 3.238718e+00 1.969574e+02 2.060355e-03

Ability\_Schooling1 4.011899e-09 2.145096e-05 0.000000e+00 Inf 9.971149e-01

Ability\_Libero1 3.608151e+01 9.692302e+01 1.865377e-01 6.979155e+03 1.819164e-01

Ability\_Contrary1 1.829429e+01 2.960839e+01 7.668113e-01 4.364581e+02 7.250897e-02

Ability\_Poison.Touch1 3.733873e-02 7.004447e-02 9.448733e-04 1.475521e+00 7.967189e-02

Ability\_Quick.Draw1 6.999648e-10 7.527431e-06 0.000000e+00 Inf 9.984360e-01

Ability\_Adaptability1 7.908135e+00 7.565193e+00 1.212790e+00 5.156590e+01 3.064649e-02

Ability\_Sand.Rush1 5.226710e+00 7.029912e+00 3.744247e-01 7.296126e+01 2.188544e-01

Ability\_Scrappy1 5.520586e-02 1.124175e-01 1.020132e-03 2.987543e+00 1.548806e-01

Ability\_Propeller.Tail1 5.136819e+03 6.484804e+04 9.225454e-08 2.860229e+14 4.985250e-01

Ability\_Snow.Warning1 2.113778e-08 6.065497e-05 0.000000e+00 Inf 9.950862e-01

Ability\_Storm.Drain1 1.952862e+01 2.744607e+01 1.242709e+00 3.068836e+02 3.446623e-02

Ability\_Swift.Swim1 7.889412e-02 8.310586e-02 1.000926e-02 6.218525e-01 1.591142e-02

Ability\_Aftermath1 5.748772e-02 7.963818e-02 3.805389e-03 8.684626e-01 3.922977e-02

Ability\_Filter1 5.094347e-02 1.009900e-01 1.046336e-03 2.480309e+00 1.331646e-01

Ability\_Inner.Focus1 1.115568e-01 9.634993e-02 2.052705e-02 6.062698e-01 1.110501e-02

Ability\_Multiscale1 7.373868e+08 4.792106e+12 0.000000e+00 Inf 9.974931e-01

Ability\_Protosynthesis1 1.945772e-01 1.749581e-01 3.339767e-02 1.133620e+00 6.868531e-02

Ability\_Truant1 3.358773e-02 6.496714e-02 7.581278e-04 1.488055e+00 7.934935e-02

Ability\_Magic.Guard1 2.109178e+02 3.824945e+02 6.032253e+00 7.374745e+03 3.168032e-03

Ability\_Wonder.Skin1 4.595054e-10 1.534133e-06 0.000000e+00 Inf 9.948617e-01

Ability\_Overcoat1 2.134318e-01 2.196241e-01 2.840285e-02 1.603823e+00 1.333833e-01

Ability\_Strong.Jaw1 9.503471e+00 1.088133e+01 1.007556e+00 8.963864e+01 4.923645e-02

Type\_Ghost1 2.912753e+00 1.694353e+00 9.314477e-01 9.108543e+00 6.607978e-02

Ability\_Mind.s.Eye1 9.760401e+08 1.049635e+13 0.000000e+00 Inf 9.984643e-01

Ability\_White.Smoke1 1.073286e+01 1.499622e+01 6.940566e-01 1.659724e+02 8.939692e-02

Ability\_Sweet.Veil1 8.843344e+00 1.105072e+01 7.637435e-01 1.023966e+02 8.111064e-02

Ability\_Immunity1 9.492400e+00 1.274291e+01 6.834316e-01 1.318430e+02 9.365448e-02

> err

[1] 0.1282051

>

> table(yhat.class, dat.test$Viability)

yhat.class 0 1

0 320 4

1 61 122

>

> sen(dat.test$Viability, yhat.class)

[1] 0.968254

> spe(dat.test$Viability, yhat.class)

[1] 0.839895

#Backwards

> summary(obj2)

Call:

glm(formula = Viability ~ HP + Attack + Defense + Sp.Atk + Sp.Def +

Speed + Type\_Dark + Type\_Fairy + Type\_Fighting + Type\_Flying +

Type\_Ghost + Type\_Ground + Type\_Poison + Type\_Steel + Type\_Water +

Ability\_Zen.Mode + Ability\_Adaptability + Ability\_Anger.Point +

Ability\_Shell.Armor + Ability\_Regenerator + Ability\_Anticipation +

Ability\_Overcoat + Ability\_Dry.Skin + Ability\_Gluttony +

Ability\_Thick.Fat + Ability\_Power.Construct + Ability\_Rattled +

Ability\_Swift.Swim + Ability\_Weak.Armor + Ability\_Super.Luck +

Ability\_Intimidate + Ability\_Iron.Fist + Ability\_Libero +

Ability\_Magician + Ability\_Unaware + Ability\_Bulletproof +

Ability\_Soundproof + Ability\_Pickup + Ability\_Plus + Ability\_Chlorophyll +

Ability\_Healer + Ability\_Run.Away + Ability\_Hustle + Ability\_Insomnia +

Ability\_Klutz + Ability\_Infiltrator + Ability\_Own.Tempo +

Ability\_Clear.Body + Ability\_Ice.Body + Ability\_Cursed.Body +

Ability\_Competitive + Ability\_Compound.Eyes + Ability\_Shed.Skin +

Ability\_Tinted.Lens + Ability\_Swarm + Ability\_Contrary +

Ability\_Curious.Medicine + Ability\_Lightning.Rod + Ability\_Magic.Guard +

Ability\_Wonder.Skin + Ability\_Technician + Ability\_Skill.Link +

Ability\_Damp + Ability\_Strong.Jaw + Ability\_Inner.Focus +

Ability\_Dragon.s.Maw + Ability\_Drizzle + Ability\_Sand.Veil +

Ability\_Scrappy + Ability\_Poison.Heal + Ability\_Static +

Ability\_Embody.Aspect + Ability\_Vital.Spirit + Ability\_White.Smoke +

Ability\_Symbiosis + Ability\_Natural.Cure + Ability\_Steadfast +

Ability\_No.Guard + Ability\_Magic.Bounce + Ability\_Hydration +

Ability\_Sweet.Veil + Ability\_Hospitality + Ability\_Huge.Power +

Ability\_Moxie + Ability\_Immunity + Ability\_Snow.Cloak + Ability\_Sand.Rush +

Ability\_Stakeout + Ability\_Justified + Ability\_Guard.Dog +

Ability\_Heavy.Metal + Ability\_Misty.Surge + Ability\_Magnet.Pull +

Ability\_Mega.Launcher + Ability\_Mind.s.Eye + Ability\_Minus +

Ability\_Volt.Absorb + Ability\_Opportunist + Ability\_Slow.Start +

Ability\_Grassy.Surge + Ability\_Mirror.Armor + Ability\_Prism.Armor +

Ability\_Protosynthesis + Ability\_Punk.Rock + Ability\_Purifying.Salt +

Ability\_Ripen + Ability\_RKS.System + Ability\_Pastel.Veil +

Ability\_Sand.Force + Ability\_Sand.Spit + Ability\_Sand.Stream +

Ability\_Schooling + Ability\_Stance.Change + Ability\_Steam.Engine +

Ability\_Truant + Ability\_Propeller.Tail + Ability\_Tablets.of.Ruin +

Ability\_Thermal.Exchange + Ability\_Toxic.Chain + Ability\_Toxic.Debris +

Ability\_Zero.to.Hero, family = "binomial", data = dat)

Deviance Residuals:

Min 1Q Median 3Q Max

-3.4755 -0.0523 -0.0005 0.0000 4.7467

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -3.800e+01 3.822e+00 -9.942 < 2e-16 \*\*\*

HP 6.184e-02 9.139e-03 6.766 1.32e-11 \*\*\*

Attack 6.646e-02 9.659e-03 6.881 5.96e-12 \*\*\*

Defense 4.248e-02 8.195e-03 5.183 2.18e-07 \*\*\*

Sp.Atk 3.946e-02 6.920e-03 5.703 1.18e-08 \*\*\*

Sp.Def 8.113e-02 1.191e-02 6.814 9.51e-12 \*\*\*

Speed 9.805e-02 1.095e-02 8.955 < 2e-16 \*\*\*

Type\_Dark1 2.688e+00 5.977e-01 4.497 6.88e-06 \*\*\*

Type\_Fairy1 3.022e+00 7.508e-01 4.025 5.69e-05 \*\*\*

Type\_Fighting1 3.690e+00 7.515e-01 4.910 9.11e-07 \*\*\*

Type\_Flying1 1.098e+00 5.423e-01 2.024 0.042927 \*

Type\_Ghost1 1.668e+00 6.972e-01 2.392 0.016753 \*

Type\_Ground1 2.783e+00 7.671e-01 3.628 0.000285 \*\*\*

Type\_Poison1 2.747e+00 6.346e-01 4.329 1.50e-05 \*\*\*

Type\_Steel1 3.677e+00 8.230e-01 4.467 7.92e-06 \*\*\*

Type\_Water1 4.058e+00 6.551e-01 6.194 5.85e-10 \*\*\*

Ability\_Zen.Mode1 2.536e+01 8.345e+03 0.003 0.997575

Ability\_Adaptability1 2.726e+00 1.067e+00 2.555 0.010615 \*

Ability\_Anger.Point1 -2.213e+01 3.480e+03 -0.006 0.994926

Ability\_Shell.Armor1 2.196e+00 9.006e-01 2.438 0.014763 \*

Ability\_Regenerator1 6.767e+00 1.277e+00 5.301 1.15e-07 \*\*\*

Ability\_Anticipation1 6.756e+00 1.794e+00 3.767 0.000166 \*\*\*

Ability\_Overcoat1 -2.842e+00 1.165e+00 -2.438 0.014760 \*

Ability\_Dry.Skin1 -2.482e+01 4.217e+03 -0.006 0.995303

Ability\_Gluttony1 -7.140e+00 2.075e+00 -3.441 0.000579 \*\*\*

Ability\_Thick.Fat1 3.634e+00 1.231e+00 2.952 0.003155 \*\*

Ability\_Power.Construct1 2.074e+01 8.485e+03 0.002 0.998050

Ability\_Rattled1 -1.753e+01 2.290e+03 -0.008 0.993891

Ability\_Swift.Swim1 -4.690e+00 1.357e+00 -3.457 0.000546 \*\*\*

Ability\_Weak.Armor1 4.208e+00 9.550e-01 4.407 1.05e-05 \*\*\*

Ability\_Super.Luck1 -2.160e+01 3.681e+03 -0.006 0.995317

Ability\_Intimidate1 1.939e+00 9.965e-01 1.945 0.051729 .

Ability\_Iron.Fist1 2.797e+00 1.365e+00 2.049 0.040461 \*

Ability\_Libero1 6.007e+00 4.149e+00 1.448 0.147655

Ability\_Magician1 -4.894e+00 3.465e+00 -1.412 0.157863

Ability\_Unaware1 5.973e+00 1.473e+00 4.055 5.02e-05 \*\*\*

Ability\_Bulletproof1 7.952e+00 3.154e+00 2.521 0.011694 \*

Ability\_Soundproof1 -6.615e+00 3.017e+00 -2.192 0.028345 \*

Ability\_Pickup1 1.285e+01 2.177e+00 5.903 3.57e-09 \*\*\*

Ability\_Plus1 -2.334e+01 2.343e+03 -0.010 0.992052

Ability\_Chlorophyll1 2.304e+00 1.065e+00 2.163 0.030572 \*

Ability\_Healer1 2.534e+00 1.567e+00 1.617 0.105789

Ability\_Run.Away1 3.973e+00 1.348e+00 2.948 0.003200 \*\*

Ability\_Hustle1 3.539e+00 1.265e+00 2.798 0.005145 \*\*

Ability\_Insomnia1 -1.118e+01 2.273e+00 -4.919 8.68e-07 \*\*\*

Ability\_Klutz1 -2.294e+01 3.047e+03 -0.008 0.993991

Ability\_Infiltrator1 -2.512e+00 1.736e+00 -1.447 0.147941

Ability\_Own.Tempo1 -3.332e+00 1.479e+00 -2.252 0.024320 \*

Ability\_Clear.Body1 -5.362e+00 1.708e+00 -3.140 0.001690 \*\*

Ability\_Ice.Body1 -1.997e+01 2.760e+03 -0.007 0.994226

Ability\_Cursed.Body1 4.298e+00 1.714e+00 2.508 0.012135 \*

Ability\_Competitive1 -2.412e+00 1.472e+00 -1.638 0.101346

Ability\_Compound.Eyes1 4.361e+00 1.855e+00 2.351 0.018731 \*

Ability\_Shed.Skin1 -1.924e+01 2.384e+03 -0.008 0.993561

Ability\_Tinted.Lens1 4.257e+00 1.366e+00 3.116 0.001835 \*\*

Ability\_Swarm1 3.649e+00 8.964e-01 4.070 4.70e-05 \*\*\*

Ability\_Contrary1 4.506e+00 2.250e+00 2.002 0.045250 \*

Ability\_Curious.Medicine1 2.259e+01 1.773e+04 0.001 0.998984

Ability\_Lightning.Rod1 -2.901e+00 1.671e+00 -1.736 0.082505 .

Ability\_Magic.Guard1 5.594e+00 1.874e+00 2.986 0.002829 \*\*

Ability\_Wonder.Skin1 -2.306e+01 5.680e+03 -0.004 0.996760

Ability\_Technician1 2.870e+00 1.387e+00 2.070 0.038484 \*

Ability\_Skill.Link1 -2.815e+01 3.540e+03 -0.008 0.993657

Ability\_Damp1 -4.089e+00 1.597e+00 -2.561 0.010447 \*

Ability\_Strong.Jaw1 4.181e+00 1.619e+00 2.583 0.009793 \*\*

Ability\_Inner.Focus1 -1.628e+00 9.130e-01 -1.783 0.074594 .

Ability\_Dragon.s.Maw1 2.158e+01 1.773e+04 0.001 0.999029

Ability\_Drizzle1 5.767e+00 1.742e+00 3.310 0.000931 \*\*\*

Ability\_Sand.Veil1 -3.418e+00 1.685e+00 -2.029 0.042475 \*

Ability\_Scrappy1 -4.403e+00 1.993e+00 -2.208 0.027211 \*

Ability\_Poison.Heal1 1.169e+01 3.031e+01 0.386 0.699600

Ability\_Static1 7.265e+00 1.397e+00 5.198 2.01e-07 \*\*\*

Ability\_Embody.Aspect1 2.078e+01 8.544e+03 0.002 0.998059

Ability\_Vital.Spirit1 -2.149e+00 1.527e+00 -1.407 0.159371

Ability\_White.Smoke1 4.170e+00 1.515e+00 2.754 0.005896 \*\*

Ability\_Symbiosis1 -1.993e+01 6.677e+03 -0.003 0.997618

Ability\_Natural.Cure1 -2.883e+00 1.227e+00 -2.351 0.018737 \*

Ability\_Steadfast1 -4.504e+00 1.814e+00 -2.483 0.013016 \*

Ability\_No.Guard1 5.456e+00 1.754e+00 3.110 0.001868 \*\*

Ability\_Magic.Bounce1 3.745e+00 1.470e+00 2.548 0.010828 \*

Ability\_Hydration1 -3.697e+00 1.310e+00 -2.823 0.004760 \*\*

Ability\_Sweet.Veil1 3.376e+00 1.164e+00 2.899 0.003740 \*\*

Ability\_Hospitality1 1.104e+01 1.243e+01 0.888 0.374340

Ability\_Huge.Power1 5.237e+00 4.507e+00 1.162 0.245276

Ability\_Moxie1 -2.942e+00 1.457e+00 -2.020 0.043408 \*

Ability\_Immunity1 6.366e+00 1.846e+00 3.448 0.000565 \*\*\*

Ability\_Snow.Cloak1 -2.190e+00 1.521e+00 -1.440 0.149938

Ability\_Sand.Rush1 3.306e+00 1.802e+00 1.834 0.066608 .

Ability\_Stakeout1 -5.552e+01 6.046e+03 -0.009 0.992674

Ability\_Justified1 -4.261e+00 1.458e+00 -2.922 0.003479 \*\*

Ability\_Guard.Dog1 3.837e+01 4.827e+03 0.008 0.993659

Ability\_Heavy.Metal1 2.014e+00 1.238e+00 1.626 0.103856

Ability\_Misty.Surge1 2.183e+01 1.099e+04 0.002 0.998416

Ability\_Magnet.Pull1 -1.918e+01 3.814e+03 -0.005 0.995988

Ability\_Mega.Launcher1 -2.409e+01 7.697e+03 -0.003 0.997503

Ability\_Mind.s.Eye1 2.335e+01 1.773e+04 0.001 0.998949

Ability\_Minus1 -2.334e+01 2.343e+03 -0.010 0.992052

Ability\_Volt.Absorb1 -2.415e+01 3.407e+03 -0.007 0.994343

Ability\_Opportunist1 2.701e+01 1.773e+04 0.002 0.998785

Ability\_Slow.Start1 -2.529e+01 9.422e+03 -0.003 0.997858

Ability\_Grassy.Surge1 7.095e+00 3.503e+00 2.026 0.042792 \*

Ability\_Mirror.Armor1 2.193e+01 1.254e+04 0.002 0.998604

Ability\_Prism.Armor1 1.971e+01 8.452e+03 0.002 0.998139

Ability\_Protosynthesis1 -2.802e+00 1.060e+00 -2.642 0.008230 \*\*

Ability\_Punk.Rock1 2.407e+01 2.343e+03 0.010 0.991804

Ability\_Purifying.Salt1 1.691e+01 6.890e+00 2.455 0.014095 \*

Ability\_Ripen1 1.168e+01 2.543e+00 4.595 4.33e-06 \*\*\*

Ability\_RKS.System1 -2.192e+01 3.886e+03 -0.006 0.995498

Ability\_Pastel.Veil1 -2.890e+01 1.078e+04 -0.003 0.997860

Ability\_Sand.Force1 3.413e+00 2.159e+00 1.581 0.113880

Ability\_Sand.Spit1 2.580e+01 2.384e+03 0.011 0.991366

Ability\_Sand.Stream1 -5.520e+00 3.527e+00 -1.565 0.117581

Ability\_Schooling1 -2.226e+01 8.859e+03 -0.003 0.997995

Ability\_Stance.Change1 2.195e+01 1.156e+04 0.002 0.998485

Ability\_Steam.Engine1 7.372e+00 1.669e+00 4.417 1.00e-05 \*\*\*

Ability\_Truant1 -4.954e+00 1.695e+00 -2.923 0.003467 \*\*

Ability\_Propeller.Tail1 1.206e+01 3.288e+01 0.367 0.713852

Ability\_Tablets.of.Ruin1 -2.197e+01 1.773e+04 -0.001 0.999011

Ability\_Thermal.Exchange1 2.451e+01 2.760e+03 0.009 0.992915

Ability\_Toxic.Chain1 -2.534e+01 3.170e+03 -0.008 0.993621

Ability\_Toxic.Debris1 7.896e+00 1.055e+01 0.748 0.454223

Ability\_Zero.to.Hero1 2.263e+01 1.042e+04 0.002 0.998268

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1386.42 on 1265 degrees of freedom

Residual deviance: 330.21 on 1144 degrees of freedom

AIC: 574.21

Number of Fisher Scoring iterations: 19

> get.or(summary(obj2))

OR SE 95% CI, lower 95% CI, upper p value

HP 1.063788e+00 9.721914e-03 1.044903e+00 1.083014e+00 1.321774e-11

Attack 1.068721e+00 1.032326e-02 1.048678e+00 1.089147e+00 5.962592e-12

Defense 1.043391e+00 8.550423e-03 1.026767e+00 1.060285e+00 2.180059e-07

Sp.Atk 1.040252e+00 7.198373e-03 1.026238e+00 1.054456e+00 1.178243e-08

Sp.Def 1.084512e+00 1.291319e-02 1.059496e+00 1.110119e+00 9.510284e-12

Speed 1.103019e+00 1.207710e-02 1.079600e+00 1.126945e+00 3.393799e-19

Type\_Dark1 1.470567e+01 8.789840e+00 4.557290e+00 4.745294e+01 6.875827e-06

Type\_Fairy1 2.053287e+01 1.541561e+01 4.713972e+00 8.943597e+01 5.692728e-05

Type\_Fighting1 4.003586e+01 3.008614e+01 9.178852e+00 1.746264e+02 9.107042e-07

Type\_Flying1 2.997631e+00 1.625584e+00 1.035572e+00 8.677125e+00 4.292690e-02

Type\_Ghost1 5.299907e+00 3.694936e+00 1.351562e+00 2.078262e+01 1.675300e-02

Type\_Ground1 1.616676e+01 1.240071e+01 3.595083e+00 7.270046e+01 2.854811e-04

Type\_Poison1 1.560225e+01 9.901723e+00 4.497651e+00 5.412388e+01 1.496980e-05

Type\_Steel1 3.951958e+01 3.252657e+01 7.874653e+00 1.983322e+02 7.921853e-06

Type\_Water1 5.785217e+01 3.789815e+01 1.602173e+01 2.088959e+02 5.849236e-10

Ability\_Zen.Mode1 1.035746e+11 8.643401e+14 0.000000e+00 Inf 9.975750e-01

Ability\_Adaptability1 1.527025e+01 1.629091e+01 1.886907e+00 1.235782e+02 1.061504e-02

Ability\_Anger.Point1 2.442048e-10 8.499380e-07 0.000000e+00 Inf 9.949261e-01

Ability\_Shell.Armor1 8.986891e+00 8.093493e+00 1.538250e+00 5.250396e+01 1.476281e-02

Ability\_Regenerator1 8.689273e+02 1.109189e+03 7.119039e+01 1.060585e+04 1.149170e-07

Ability\_Anticipation1 8.588222e+02 1.540360e+03 2.553942e+01 2.887989e+04 1.655268e-04

Ability\_Overcoat1 5.832530e-02 6.797768e-02 5.940024e-03 5.726981e-01 1.476003e-02

Ability\_Dry.Skin1 1.656287e-11 6.983869e-08 0.000000e+00 Inf 9.953027e-01

Ability\_Gluttony1 7.925140e-04 1.644501e-03 1.357459e-05 4.626869e-02 5.794904e-04

Ability\_Thick.Fat1 3.784637e+01 4.658110e+01 3.391329e+00 4.223558e+02 3.155327e-03

Ability\_Power.Construct1 1.014189e+09 8.605646e+12 0.000000e+00 Inf 9.980500e-01

Ability\_Rattled1 2.432962e-08 5.570498e-05 0.000000e+00 Inf 9.938906e-01

Ability\_Swift.Swim1 9.182249e-03 1.245746e-02 6.428837e-04 1.311492e-01 5.456187e-04

Ability\_Weak.Armor1 6.722942e+01 6.420252e+01 1.034384e+01 4.369551e+02 1.050507e-05

Ability\_Super.Luck1 4.149452e-10 1.527343e-06 0.000000e+00 Inf 9.953172e-01

Ability\_Intimidate1 6.948772e+00 6.924410e+00 9.855776e-01 4.899202e+01 5.172861e-02

Ability\_Iron.Fist1 1.639866e+01 2.238658e+01 1.129258e+00 2.381352e+02 4.046114e-02

Ability\_Libero1 4.062885e+02 1.685656e+03 1.194735e-01 1.381648e+06 1.476552e-01

Ability\_Magician1 7.490434e-03 2.595715e-02 8.409603e-06 6.671730e+00 1.578632e-01

Ability\_Unaware1 3.928536e+02 5.787464e+02 2.189034e+01 7.050321e+03 5.018268e-05

Ability\_Bulletproof1 2.842164e+03 8.964502e+03 5.873058e+00 1.375415e+06 1.169370e-02

Ability\_Soundproof1 1.340419e-03 4.044093e-03 3.623546e-06 4.958464e-01 2.834535e-02

Ability\_Pickup1 3.807170e+05 8.287507e+05 5.341870e+03 2.713383e+07 3.568824e-09

Ability\_Plus1 7.269919e-11 1.703660e-07 0.000000e+00 Inf 9.920518e-01

Ability\_Chlorophyll1 1.000945e+01 1.066171e+01 1.240912e+00 8.073836e+01 3.057154e-02

Ability\_Healer1 1.261012e+01 1.976016e+01 5.846279e-01 2.719938e+02 1.057891e-01

Ability\_Run.Away1 5.313185e+01 7.160417e+01 3.786313e+00 7.455784e+02 3.199548e-03

Ability\_Hustle1 3.444613e+01 4.357653e+01 2.886136e+00 4.111158e+02 5.145157e-03

Ability\_Insomnia1 1.394754e-05 3.169792e-05 1.621858e-07 1.199451e-03 8.678597e-07

Ability\_Klutz1 1.084671e-10 3.304813e-07 0.000000e+00 Inf 9.939915e-01

Ability\_Infiltrator1 8.113151e-02 1.408423e-01 2.700998e-03 2.436996e+00 1.479410e-01

Ability\_Own.Tempo1 3.573787e-02 5.286867e-02 1.967465e-03 6.491578e-01 2.431983e-02

Ability\_Clear.Body1 4.691665e-03 8.011885e-03 1.650985e-04 1.333248e-01 1.690028e-03

Ability\_Ice.Body1 2.120476e-09 5.851874e-06 0.000000e+00 Inf 9.942258e-01

Ability\_Cursed.Body1 7.358210e+01 1.261006e+02 2.558784e+00 2.115976e+03 1.213484e-02

Ability\_Competitive1 8.960695e-02 1.319371e-01 5.000735e-03 1.605645e+00 1.013461e-01

Ability\_Compound.Eyes1 7.833010e+01 1.453063e+02 2.064936e+00 2.971329e+03 1.873097e-02

Ability\_Shed.Skin1 4.397837e-09 1.048522e-05 0.000000e+00 Inf 9.935605e-01

Ability\_Tinted.Lens1 7.059118e+01 9.644859e+01 4.850153e+00 1.027414e+03 1.835406e-03

Ability\_Swarm1 3.842120e+01 3.444213e+01 6.630153e+00 2.226477e+02 4.698693e-05

Ability\_Contrary1 9.052942e+01 2.037113e+02 1.100012e+00 7.450442e+03 4.524981e-02

Ability\_Curious.Medicine1 6.441237e+09 1.142055e+14 0.000000e+00 Inf 9.989836e-01

Ability\_Lightning.Rod1 5.497716e-02 9.184856e-02 2.080212e-03 1.452972e+00 8.250474e-02

Ability\_Magic.Guard1 2.688060e+02 5.036206e+02 6.833968e+00 1.057316e+04 2.828605e-03

Ability\_Wonder.Skin1 9.620393e-11 5.464080e-07 0.000000e+00 Inf 9.967599e-01

Ability\_Technician1 1.763733e+01 2.445789e+01 1.164292e+00 2.671800e+02 3.848445e-02

Ability\_Skill.Link1 5.964464e-13 2.111699e-09 0.000000e+00 Inf 9.936566e-01

Ability\_Damp1 1.675063e-02 2.675039e-02 7.322859e-04 3.831611e-01 1.044733e-02

Ability\_Strong.Jaw1 6.544639e+01 1.059394e+02 2.741753e+00 1.562223e+03 9.793190e-03

Ability\_Inner.Focus1 1.963437e-01 1.792674e-01 3.279787e-02 1.175407e+00 7.459364e-02

Ability\_Dragon.s.Maw1 2.365664e+09 4.194410e+13 0.000000e+00 Inf 9.990287e-01

Ability\_Drizzle1 3.196327e+02 5.568294e+02 1.051430e+01 9.716773e+03 9.313340e-04

Ability\_Sand.Veil1 3.278060e-02 5.522444e-02 1.206771e-03 8.904493e-01 4.247484e-02

Ability\_Scrappy1 1.224563e-02 2.441154e-02 2.461040e-04 6.093171e-01 2.721076e-02

Ability\_Poison.Heal1 1.198740e+05 3.632992e+06 1.912330e-21 7.514272e+30 6.995996e-01

Ability\_Static1 1.428755e+03 1.996633e+03 9.234936e+01 2.210453e+04 2.010265e-07

Ability\_Embody.Aspect1 1.058816e+09 9.046178e+12 0.000000e+00 Inf 9.980593e-01

Ability\_Vital.Spirit1 1.165791e-01 1.780501e-01 5.842366e-03 2.326229e+00 1.593715e-01

Ability\_White.Smoke1 6.472932e+01 9.803271e+01 3.326246e+00 1.259644e+03 5.895795e-03

Ability\_Symbiosis1 2.206481e-09 1.473234e-05 0.000000e+00 Inf 9.976181e-01

Ability\_Natural.Cure1 5.595239e-02 6.862808e-02 5.055713e-03 6.192341e-01 1.873744e-02

Ability\_Steadfast1 1.106271e-02 2.006515e-02 3.162150e-04 3.870263e-01 1.301605e-02

Ability\_No.Guard1 2.342653e+02 4.109600e+02 7.524664e+00 7.293377e+03 1.868222e-03

Ability\_Magic.Bounce1 4.231853e+01 6.219754e+01 2.373994e+00 7.543651e+02 1.082771e-02

Ability\_Hydration1 2.478749e-02 3.246741e-02 1.902405e-03 3.229700e-01 4.760319e-03

Ability\_Sweet.Veil1 2.925628e+01 3.406745e+01 2.985645e+00 2.866817e+02 3.739899e-03

Ability\_Hospitality1 6.232913e+04 7.745907e+05 1.646064e-06 2.360128e+15 3.743404e-01

Ability\_Huge.Power1 1.881459e+02 8.480591e+02 2.739949e-02 1.291954e+06 2.452755e-01

Ability\_Moxie1 5.276940e-02 7.685954e-02 3.038033e-03 9.165832e-01 4.340768e-02

Ability\_Immunity1 5.816883e+02 1.073961e+03 1.560024e+01 2.168949e+04 5.648102e-04

Ability\_Snow.Cloak1 1.118613e-01 1.701903e-01 5.670581e-03 2.206644e+00 1.499378e-01

Ability\_Sand.Rush1 2.727096e+01 4.914810e+01 7.973583e-01 9.327118e+02 6.660765e-02

Ability\_Stakeout1 7.755377e-25 4.689243e-21 0.000000e+00 Inf 9.926742e-01

Ability\_Justified1 1.410439e-02 2.056948e-02 8.090650e-04 2.458810e-01 3.478691e-03

Ability\_Guard.Dog1 4.591031e+16 2.216268e+20 0.000000e+00 Inf 9.936589e-01

Ability\_Heavy.Metal1 7.491816e+00 9.276149e+00 6.616893e-01 8.482427e+01 1.038560e-01

Ability\_Misty.Surge1 3.021423e+09 3.321977e+13 0.000000e+00 Inf 9.984159e-01

Ability\_Magnet.Pull1 4.685148e-09 1.786964e-05 0.000000e+00 Inf 9.959879e-01

Ability\_Mega.Launcher1 3.463449e-11 2.665876e-07 0.000000e+00 Inf 9.975032e-01

Ability\_Mind.s.Eye1 1.381372e+10 2.449223e+14 0.000000e+00 Inf 9.989493e-01

Ability\_Minus1 7.269919e-11 1.703660e-07 0.000000e+00 Inf 9.920518e-01

Ability\_Volt.Absorb1 3.235740e-11 1.102425e-07 0.000000e+00 Inf 9.943434e-01

Ability\_Opportunist1 5.367679e+11 9.517093e+15 0.000000e+00 Inf 9.987846e-01

Ability\_Slow.Start1 1.034979e-11 9.751975e-08 0.000000e+00 Inf 9.978581e-01

Ability\_Grassy.Surge1 1.206509e+03 4.226006e+03 1.259071e+00 1.156142e+06 4.279197e-02

Ability\_Mirror.Armor1 3.358209e+09 4.210276e+13 0.000000e+00 Inf 9.986041e-01

Ability\_Prism.Armor1 3.631449e+08 3.069281e+12 0.000000e+00 Inf 9.981393e-01

Ability\_Protosynthesis1 6.069236e-02 6.435488e-02 7.595669e-03 4.849556e-01 8.230248e-03

Ability\_Punk.Rock1 2.851287e+10 6.681815e+13 0.000000e+00 Inf 9.918037e-01

Ability\_Purifying.Salt1 2.218170e+07 1.528408e+08 3.026050e+01 1.625974e+13 1.409502e-02

Ability\_Ripen1 1.185969e+05 3.015565e+05 8.123101e+02 1.731509e+07 4.329352e-06

Ability\_RKS.System1 3.010386e-10 1.169699e-06 0.000000e+00 Inf 9.954980e-01

Ability\_Pastel.Veil1 2.811429e-13 3.029540e-09 0.000000e+00 Inf 9.978601e-01

Ability\_Sand.Force1 3.035910e+01 6.554015e+01 4.412546e-01 2.088760e+03 1.138795e-01

Ability\_Sand.Spit1 1.603299e+11 3.822549e+14 0.000000e+00 Inf 9.913658e-01

Ability\_Sand.Stream1 4.004832e-03 1.412626e-02 3.982341e-06 4.027450e+00 1.175813e-01

Ability\_Schooling1 2.146546e-10 1.901589e-06 0.000000e+00 Inf 9.979949e-01

Ability\_Stance.Change1 3.411619e+09 3.943064e+13 0.000000e+00 Inf 9.984847e-01

Ability\_Steam.Engine1 1.590135e+03 2.653666e+03 6.038406e+01 4.187411e+04 9.998402e-06

Ability\_Truant1 7.052475e-03 1.195364e-02 2.544439e-04 1.954749e-01 3.466638e-03

Ability\_Propeller.Tail1 1.719695e+05 5.653592e+06 1.785389e-23 1.656418e+33 7.138517e-01

Ability\_Tablets.of.Ruin1 2.874397e-10 5.096411e-06 0.000000e+00 Inf 9.990113e-01

Ability\_Thermal.Exchange1 4.393831e+10 1.212576e+14 0.000000e+00 Inf 9.929150e-01

Ability\_Toxic.Chain1 9.846126e-12 3.121059e-08 0.000000e+00 Inf 9.936207e-01

Ability\_Toxic.Debris1 2.687092e+03 2.835119e+04 2.807736e-06 2.571632e+12 4.542226e-01

Ability\_Zero.to.Hero1 6.711973e+09 6.996050e+13 0.000000e+00 Inf 9.982679e-01

|  |
| --- |
| > err  [1] 0.1025641  >  > table(yhat2.class, dat.test$Viability)    yhat2.class 0 1  0 330 1  1 51 125  >  > sen(dat.test$Viability, yhat2.class)  [1] 0.9920635  > spe(dat.test$Viability, yhat2.class)  [1] 0.8661417 |
|  |
| |  | | --- | |  | |

# Stepwise

> summary(obj3)

Call:

glm(formula = Viability ~ BST + Ability\_RKS.System + Ability\_Huge.Power +

Ability\_Zen.Mode + Ability\_Regenerator + Speed + Ability\_Unaware +

Type\_Steel + Ability\_Poison.Heal + Ability\_Anticipation +

Type\_Poison + Ability\_Stance.Change + Ability\_Mirror.Armor +

Ability\_Swarm + Ability\_Embody.Aspect + Ability\_Zero.to.Hero +

Ability\_Slow.Start + Ability\_Dry.Skin + Ability\_Pastel.Veil +

Type\_Fairy + Sp.Atk + Ability\_Cursed.Body + Ability\_Ripen +

Ability\_Volt.Absrob + Ability\_Natural.Cure + Ability\_Clear.Body +

Ability\_Purifying.Salt + Ability\_Anger.Point + Ability\_Hospitality +

Ability\_Opportunist + Ability\_Toxic.Chain + Type\_Fighting +

Type\_Water + Ability\_Mega.Launcher + Type\_Ground + Type\_Dark +

Ability\_Weak.Armor + Ability\_Grassy.Surge + Ability\_Battle.Armor +

Type\_Fire + Ability\_Magic.Bounce + Ability\_Damp + Ability\_Drizzle +

Ability\_Justified + Ability\_Hyper.Cutter + Ability\_Tinted.Lens +

Ability\_Steam.Engine + Ability\_Power.Construct + Ability\_Sand.Stream +

Ability\_Compound.Eyes + Ability\_Static + Ability\_Schooling +

Ability\_Libero + Ability\_Poison.Touch + Ability\_Inner.Focus +

Ability\_Scrappy + Ability\_Multiscale + Ability\_Protosynthesis +

Ability\_Snow.Warning + Ability\_Adaptability + Ability\_Quick.Draw +

Ability\_Aftermath + Ability\_Wonder.Skin + Ability\_Magic.Guard +

Ability\_Overcoat + Ability\_Mind.s.Eye + Ability\_Tablets.of.Ruin +

Ability\_Truant + Ability\_Propeller.Tail + Ability\_Swift.Swim +

Ability\_Strong.Jaw + Ability\_Hydration + Defense + Ability\_Pickup +

Ability\_Insomnia + Ability\_Oblivious + Ability\_Magician +

Type\_Ghost + Ability\_Marvel.Scale + Ability\_Contrary + Ability\_Hustle +

Ability\_Super.Luck + Ability\_Thick.Fat + Ability\_Sweet.Veil +

Ability\_Skill.Link + Ability\_Quick.Feet + Ability\_Cheek.Pouch +

Ability\_Volt.Absorb, family = "binomial", data = dat)

Deviance Residuals:

Min 1Q Median 3Q Max

-3.1849 -0.1440 -0.0044 0.0000 4.3035

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) -3.021e+01 2.536e+00 -11.913 < 2e-16 \*\*\*

BST 5.428e-02 5.288e-03 10.264 < 2e-16 \*\*\*

Ability\_RKS.System1 -2.093e+01 2.357e+03 -0.009 0.992913

Ability\_Huge.Power1 7.097e+00 3.885e+00 1.827 0.067751 .

Ability\_Zen.Mode1 2.227e+01 5.059e+03 0.004 0.996488

Ability\_Regenerator1 4.410e+00 8.584e-01 5.138 2.78e-07 \*\*\*

Speed 2.119e-02 6.449e-03 3.286 0.001015 \*\*

Ability\_Unaware1 4.052e+00 1.301e+00 3.115 0.001841 \*\*

Type\_Steel1 2.727e+00 5.942e-01 4.589 4.45e-06 \*\*\*

Ability\_Poison.Heal1 1.974e+01 2.188e+03 0.009 0.992802

Ability\_Anticipation1 6.342e+00 1.743e+00 3.638 0.000275 \*\*\*

Type\_Poison1 3.728e+00 5.908e-01 6.309 2.81e-10 \*\*\*

Ability\_Stance.Change1 2.087e+01 7.486e+03 0.003 0.997776

Ability\_Mirror.Armor1 2.125e+01 7.604e+03 0.003 0.997770

Ability\_Swarm1 2.674e+00 7.991e-01 3.346 0.000819 \*\*\*

Ability\_Embody.Aspect1 1.938e+01 5.175e+03 0.004 0.997012

Ability\_Zero.to.Hero1 2.067e+01 6.318e+03 0.003 0.997390

Ability\_Slow.Start1 -2.347e+01 5.784e+03 -0.004 0.996762

Ability\_Dry.Skin1 -2.160e+01 2.439e+03 -0.009 0.992933

Ability\_Pastel.Veil1 -2.369e+01 6.531e+03 -0.004 0.997106

Type\_Fairy1 2.235e+00 5.870e-01 3.808 0.000140 \*\*\*

Sp.Atk -2.130e-02 7.021e-03 -3.033 0.002422 \*\*

Ability\_Cursed.Body1 2.621e+00 1.396e+00 1.878 0.060389 .

Ability\_Ripen1 3.855e+00 1.441e+00 2.676 0.007461 \*\*

Ability\_Volt.Absrob1 3.111e+00 1.488e+00 2.090 0.036577 \*

Ability\_Natural.Cure1 -2.653e+00 1.236e+00 -2.146 0.031869 \*

Ability\_Clear.Body1 -5.382e+00 1.551e+00 -3.471 0.000518 \*\*\*

Ability\_Purifying.Salt1 1.398e+01 4.818e+00 2.902 0.003713 \*\*

Ability\_Anger.Point1 -1.951e+01 2.390e+03 -0.008 0.993487

Ability\_Hospitality1 8.786e+00 7.702e+00 1.141 0.253960

Ability\_Opportunist1 2.437e+01 1.075e+04 0.002 0.998192

Ability\_Toxic.Chain1 -5.493e+00 1.558e+00 -3.525 0.000423 \*\*\*

Type\_Fighting1 2.803e+00 5.543e-01 5.057 4.26e-07 \*\*\*

Type\_Water1 3.185e+00 5.144e-01 6.192 5.94e-10 \*\*\*

Ability\_Mega.Launcher1 -2.228e+01 4.653e+03 -0.005 0.996179

Type\_Ground1 2.106e+00 5.686e-01 3.704 0.000213 \*\*\*

Type\_Dark1 1.922e+00 4.881e-01 3.937 8.23e-05 \*\*\*

Ability\_Weak.Armor1 3.779e+00 9.329e-01 4.051 5.10e-05 \*\*\*

Ability\_Grassy.Surge1 5.307e+00 2.670e+00 1.987 0.046886 \*

Ability\_Battle.Armor1 -1.851e+01 2.349e+03 -0.008 0.993710

Type\_Fire1 9.885e-01 5.149e-01 1.920 0.054911 .

Ability\_Magic.Bounce1 3.191e+00 1.372e+00 2.326 0.020034 \*

Ability\_Damp1 -3.427e+00 1.525e+00 -2.248 0.024596 \*

Ability\_Drizzle1 4.902e+00 1.667e+00 2.941 0.003271 \*\*

Ability\_Justified1 -3.253e+00 1.238e+00 -2.628 0.008581 \*\*

Ability\_Hyper.Cutter1 2.013e+00 1.197e+00 1.681 0.092764 .

Ability\_Tinted.Lens1 3.710e+00 1.229e+00 3.020 0.002527 \*\*

Ability\_Steam.Engine1 4.135e+00 1.534e+00 2.695 0.007029 \*\*

Ability\_Power.Construct1 1.958e+01 5.061e+03 0.004 0.996914

Ability\_Sand.Stream1 -4.697e+00 2.803e+00 -1.676 0.093763 .

Ability\_Compound.Eyes1 3.544e+00 1.664e+00 2.129 0.033221 \*

Ability\_Static1 3.258e+00 1.051e+00 3.100 0.001933 \*\*

Ability\_Schooling1 -2.076e+01 5.331e+03 -0.004 0.996893

Ability\_Libero1 3.698e+00 2.927e+00 1.263 0.206439

Ability\_Poison.Touch1 -3.384e+00 1.896e+00 -1.785 0.074288 .

Ability\_Inner.Focus1 -2.741e+00 8.911e-01 -3.077 0.002094 \*\*

Ability\_Scrappy1 -2.826e+00 1.990e+00 -1.420 0.155518

Ability\_Multiscale1 2.058e+01 6.398e+03 0.003 0.997434

Ability\_Protosynthesis1 -2.167e+00 9.232e-01 -2.347 0.018931 \*

Ability\_Snow.Warning1 -1.800e+01 2.869e+03 -0.006 0.994994

Ability\_Adaptability1 1.535e+00 9.873e-01 1.554 0.120090

Ability\_Quick.Draw1 -2.136e+01 1.075e+04 -0.002 0.998415

Ability\_Aftermath1 -2.812e+00 1.423e+00 -1.976 0.048167 \*

Ability\_Wonder.Skin1 -2.182e+01 3.371e+03 -0.006 0.994836

Ability\_Magic.Guard1 5.596e+00 1.881e+00 2.975 0.002933 \*\*

Ability\_Overcoat1 -2.306e+00 1.040e+00 -2.218 0.026582 \*

Ability\_Mind.s.Eye1 2.088e+01 1.075e+04 0.002 0.998451

Ability\_Tablets.of.Ruin1 -2.038e+01 1.075e+04 -0.002 0.998488

Ability\_Truant1 -4.553e+00 1.647e+00 -2.764 0.005704 \*\*

Ability\_Propeller.Tail1 8.740e+00 1.501e+01 0.582 0.560290

Ability\_Swift.Swim1 -3.039e+00 1.090e+00 -2.787 0.005319 \*\*

Ability\_Strong.Jaw1 2.794e+00 1.130e+00 2.471 0.013465 \*

Ability\_Hydration1 -2.069e+00 1.066e+00 -1.940 0.052363 .

Defense -1.296e-02 7.564e-03 -1.713 0.086699 .

Ability\_Pickup1 9.156e+00 1.619e+00 5.657 1.54e-08 \*\*\*

Ability\_Insomnia1 -8.646e+00 2.031e+00 -4.257 2.07e-05 \*\*\*

Ability\_Oblivious1 -2.062e+00 1.052e+00 -1.959 0.050101 .

Ability\_Magician1 -3.546e+00 2.575e+00 -1.377 0.168470

Type\_Ghost1 1.063e+00 6.118e-01 1.737 0.082416 .

Ability\_Marvel.Scale1 -1.868e+01 4.514e+03 -0.004 0.996699

Ability\_Contrary1 2.469e+00 1.423e+00 1.735 0.082774 .

Ability\_Hustle1 2.854e+00 1.164e+00 2.452 0.014194 \*

Ability\_Super.Luck1 -1.882e+01 2.263e+03 -0.008 0.993365

Ability\_Thick.Fat1 1.316e+00 8.692e-01 1.515 0.129868

Ability\_Sweet.Veil1 2.743e+00 1.051e+00 2.611 0.009038 \*\*

Ability\_Skill.Link1 -2.182e+01 2.214e+03 -0.010 0.992136

Ability\_Quick.Feet1 -2.112e+01 2.154e+03 -0.010 0.992178

Ability\_Cheek.Pouch1 -7.477e+00 4.456e+00 -1.678 0.093320 .

Ability\_Volt.Absorb1 -1.748e+01 2.188e+03 -0.008 0.993626

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1386.42 on 1265 degrees of freedom

Residual deviance: 385.97 on 1177 degrees of freedom

AIC: 563.97

Number of Fisher Scoring iterations: 18

> get.or(summary(obj3))

OR SE 95% CI, lower 95% CI, upper p value

BST 1.055776e+00 5.583119e-03 1.044890e+00 1.066776e+00 1.027258e-24

Ability\_RKS.System1 8.110026e-10 1.911332e-06 0.000000e+00 Inf 9.929133e-01

Ability\_Huge.Power1 1.208221e+03 4.694156e+03 5.957660e-01 2.450288e+06 6.775081e-02

Ability\_Zen.Mode1 4.690447e+09 2.372862e+13 0.000000e+00 Inf 9.964878e-01

Ability\_Regenerator1 8.227308e+01 7.062254e+01 1.529654e+01 4.425091e+02 2.783207e-07

Speed 1.021420e+00 6.587148e-03 1.008591e+00 1.034413e+00 1.014731e-03

Ability\_Unaware1 5.750186e+01 7.480228e+01 4.491399e+00 7.361768e+02 1.841293e-03

Type\_Steel1 1.528115e+01 9.079588e+00 4.768678e+00 4.896816e+01 4.454588e-06

Ability\_Poison.Heal1 3.745007e+08 8.194752e+11 0.000000e+00 Inf 9.928018e-01

Ability\_Anticipation1 5.679822e+02 9.902701e+02 1.863267e+01 1.731388e+04 2.752038e-04

Type\_Poison1 4.158222e+01 2.456845e+01 1.306121e+01 1.323829e+02 2.806559e-10

Ability\_Stance.Change1 1.157068e+09 8.661794e+12 0.000000e+00 Inf 9.977757e-01

Ability\_Mirror.Armor1 1.697583e+09 1.290882e+13 0.000000e+00 Inf 9.977701e-01

Ability\_Swarm1 1.450006e+01 1.158757e+01 3.027896e+00 6.943821e+01 8.190072e-04

Ability\_Embody.Aspect1 2.603740e+08 1.347363e+12 0.000000e+00 Inf 9.970122e-01

Ability\_Zero.to.Hero1 9.444480e+08 5.967466e+12 0.000000e+00 Inf 9.973903e-01

Ability\_Slow.Start1 6.410097e-11 3.707454e-07 0.000000e+00 Inf 9.967622e-01

Ability\_Dry.Skin1 4.161580e-10 1.014903e-06 0.000000e+00 Inf 9.929332e-01

Ability\_Pastel.Veil1 5.152167e-11 3.364747e-07 0.000000e+00 Inf 9.971058e-01

Type\_Fairy1 9.347570e+00 5.487027e+00 2.958306e+00 2.953618e+01 1.402702e-04

Sp.Atk 9.789304e-01 6.873206e-03 9.655514e-01 9.924948e-01 2.421790e-03

Ability\_Cursed.Body1 1.374627e+01 1.918362e+01 8.918467e-01 2.118750e+02 6.038863e-02

Ability\_Ripen1 4.720546e+01 6.800597e+01 2.803619e+00 7.948137e+02 7.460505e-03

Ability\_Volt.Absrob1 2.244259e+01 3.339850e+01 1.214328e+00 4.147725e+02 3.657713e-02

Ability\_Natural.Cure1 7.041651e-02 8.706118e-02 6.241235e-03 7.944717e-01 3.186861e-02

Ability\_Clear.Body1 4.596964e-03 7.128249e-03 2.200703e-04 9.602421e-02 5.184273e-04

Ability\_Purifying.Salt1 1.178807e+06 5.679585e+06 9.338679e+01 1.487989e+10 3.712937e-03

Ability\_Anger.Point1 3.359971e-09 8.031055e-06 0.000000e+00 Inf 9.934869e-01

Ability\_Hospitality1 6.543472e+03 5.039730e+04 1.819374e-03 2.353394e+10 2.539600e-01

Ability\_Opportunist1 3.845106e+10 4.135032e+14 0.000000e+00 Inf 9.981917e-01

Ability\_Toxic.Chain1 4.113768e-03 6.410682e-03 1.939865e-04 8.723848e-02 4.232380e-04

Type\_Fighting1 1.649930e+01 9.146016e+00 5.566999e+00 4.890012e+01 4.255654e-07

Type\_Water1 2.416708e+01 1.243104e+01 8.818275e+00 6.623150e+01 5.943896e-10

Ability\_Mega.Launcher1 2.101122e-10 9.775577e-07 0.000000e+00 Inf 9.961785e-01

Type\_Ground1 8.213773e+00 4.670198e+00 2.695041e+00 2.503341e+01 2.125400e-04

Type\_Dark1 6.833621e+00 3.335459e+00 2.625327e+00 1.778764e+01 8.234958e-05

Ability\_Weak.Armor1 4.378084e+01 4.084198e+01 7.034298e+00 2.724880e+02 5.096977e-05

Ability\_Grassy.Surge1 2.017329e+02 5.387050e+02 1.075817e+00 3.782814e+04 4.688575e-02

Ability\_Battle.Armor1 9.106586e-09 2.138844e-05 0.000000e+00 Inf 9.937105e-01

Type\_Fire1 2.687084e+00 1.383672e+00 9.794181e-01 7.372153e+00 5.491136e-02

Ability\_Magic.Bounce1 2.430362e+01 3.334186e+01 1.651646e+00 3.576225e+02 2.003366e-02

Ability\_Damp1 3.249379e-02 4.953845e-02 1.637193e-03 6.449125e-01 2.459648e-02

Ability\_Drizzle1 1.345712e+02 2.243009e+02 5.130790e+00 3.529555e+03 3.271001e-03

Ability\_Justified1 3.867130e-02 4.785740e-02 3.419718e-03 4.373079e-01 8.580805e-03

Ability\_Hyper.Cutter1 7.483431e+00 8.960064e+00 7.160442e-01 7.820989e+01 9.276359e-02

Ability\_Tinted.Lens1 4.087311e+01 5.021656e+01 3.678362e+00 4.541725e+02 2.526992e-03

Ability\_Steam.Engine1 6.248300e+01 9.585086e+01 3.090241e+00 1.263372e+03 7.029491e-03

Ability\_Power.Construct1 3.175320e+08 1.607089e+12 0.000000e+00 Inf 9.969139e-01

Ability\_Sand.Stream1 9.125522e-03 2.557456e-02 3.756116e-05 2.217055e+00 9.376348e-02

Ability\_Compound.Eyes1 3.459539e+01 5.757309e+01 1.325752e+00 9.027638e+02 3.322083e-02

Ability\_Static1 2.598872e+01 2.730775e+01 3.314218e+00 2.037926e+02 1.933192e-03

Ability\_Schooling1 9.656646e-10 5.147703e-06 0.000000e+00 Inf 9.968930e-01

Ability\_Libero1 4.036494e+01 1.181462e+02 1.301906e-01 1.251494e+04 2.064390e-01

Ability\_Poison.Touch1 3.389970e-02 6.427958e-02 8.244676e-04 1.393857e+00 7.428813e-02

Ability\_Inner.Focus1 6.447503e-02 5.745234e-02 1.124356e-02 3.697254e-01 2.093886e-03

Ability\_Scrappy1 5.925491e-02 1.178961e-01 1.199879e-03 2.926249e+00 1.555179e-01

Ability\_Multiscale1 8.660336e+08 5.541192e+12 0.000000e+00 Inf 9.974337e-01

Ability\_Protosynthesis1 1.145586e-01 1.057612e-01 1.875828e-02 6.996203e-01 1.893057e-02

Ability\_Snow.Warning1 1.516324e-08 4.350911e-05 0.000000e+00 Inf 9.949936e-01

Ability\_Adaptability1 4.639905e+00 4.581097e+00 6.700328e-01 3.213084e+01 1.200902e-01

Ability\_Quick.Draw1 5.269469e-10 5.666794e-06 0.000000e+00 Inf 9.984149e-01

Ability\_Aftermath1 6.008079e-02 8.550611e-02 3.692479e-03 9.775822e-01 4.816666e-02

Ability\_Wonder.Skin1 3.336740e-10 1.124950e-06 0.000000e+00 Inf 9.948359e-01

Ability\_Magic.Guard1 2.694799e+02 5.069910e+02 6.746869e+00 1.076342e+04 2.932824e-03

Ability\_Overcoat1 9.965851e-02 1.036317e-01 1.298307e-02 7.649825e-01 2.658245e-02

Ability\_Mind.s.Eye1 1.164033e+09 1.251802e+13 0.000000e+00 Inf 9.984512e-01

Ability\_Tablets.of.Ruin1 1.410121e-09 1.516446e-05 0.000000e+00 Inf 9.984880e-01

Ability\_Truant1 1.053682e-02 1.735431e-02 4.176069e-04 2.658593e-01 5.704142e-03

Ability\_Propeller.Tail1 6.250461e+03 9.380248e+04 1.051195e-09 3.716555e+16 5.602899e-01

Ability\_Swift.Swim1 4.787561e-02 5.220615e-02 5.648306e-03 4.057985e-01 5.319036e-03

Ability\_Strong.Jaw1 1.633819e+01 1.846881e+01 1.782376e+00 1.497643e+02 1.346463e-02

Ability\_Hydration1 1.263669e-01 1.347316e-01 1.563464e-02 1.021361e+00 5.236263e-02

Defense 9.871264e-01 7.466354e-03 9.726005e-01 1.001869e+00 8.669908e-02

Ability\_Pickup1 9.472188e+03 1.533233e+04 3.968599e+02 2.260807e+05 1.544261e-08

Ability\_Insomnia1 1.759056e-04 3.572741e-04 3.284295e-06 9.421441e-03 2.074806e-05

Ability\_Oblivious1 1.272446e-01 1.339051e-01 1.617643e-02 1.000912e+00 5.010139e-02

Ability\_Magician1 2.884844e-02 7.427576e-02 1.855851e-04 4.484372e+00 1.684699e-01

Type\_Ghost1 2.893734e+00 1.770306e+00 8.724031e-01 9.598426e+00 8.241619e-02

Ability\_Marvel.Scale1 7.736689e-09 3.492625e-05 0.000000e+00 Inf 9.966989e-01

Ability\_Contrary1 1.181131e+01 1.681036e+01 7.258231e-01 1.922051e+02 8.277446e-02

Ability\_Hustle1 1.735758e+01 2.020096e+01 1.773581e+00 1.698743e+02 1.419415e-02

Ability\_Super.Luck1 6.712607e-09 1.519078e-05 0.000000e+00 Inf 9.933649e-01

Ability\_Thick.Fat1 3.730277e+00 3.242290e+00 6.790344e-01 2.049228e+01 1.298682e-01

Ability\_Sweet.Veil1 1.553365e+01 1.632153e+01 1.981062e+00 1.218004e+02 9.038445e-03

Ability\_Skill.Link1 3.345390e-10 7.405894e-07 0.000000e+00 Inf 9.921364e-01

Ability\_Quick.Feet1 6.741115e-10 1.452054e-06 0.000000e+00 Inf 9.921778e-01

Ability\_Cheek.Pouch1 5.659300e-04 2.521529e-03 9.124132e-08 3.510216e+00 9.331963e-02

Ability\_Volt.Absorb1 2.561142e-08 5.604181e-05 0.000000e+00 Inf 9.936261e-01

> err

[1] 0.1163708

>

> table(yhat3.class, dat.test$Viability)

yhat3.class 0 1

0 325 3

1 56 123

>

> sen(dat.test$Viability, yhat3.class)

[1] 0.9761905

> spe(dat.test$Viability, yhat3.class)

[1] 0.8530184

A diagram of error tree

Description automatically generatedA diagram of a tree

Description automatically generated> err

[1] 0.307267

>

> table(yhat.class, dat$Viability)

yhat.class 0 1

0 588 11

1 378 289

>

> sen = function(ytrue, yhat) {

+ ind.true1 = which(ytrue == 1)

+ mean( ytrue[ind.true1] == yhat[ind.true1] )

+ }

>

> spe = function(ytrue, yhat) {

+ ind.true0 = which(ytrue == 0)

+ mean( ytrue[ind.true0] == yhat[ind.true0] )

+ }

>

> sen(dat$Viability, yhat.class)

[1] 0.9633333

> spe(dat$Viability, yhat.class)

[1] 0.6086957

>

>

> yhat2 = predict(pfit.me, dat) # replace "dat" by validation data if you have

>

> yhat2.class = dichotomize(yhat2, .1)

> err = mean(yhat2.class != dat$Viability) # misclassification error rate

> err

[1] 0.307267

>

> table(yhat2.class, dat$Viability)

yhat2.class 0 1

0 588 11

1 378 289

>

> sen(dat$Viability, yhat2.class)

[1] 0.9633333

> spe(dat$Viability, yhat2.class)

[1] 0.6086957