**##########Binary Logistic Regression Analysis#####Myopia######**

> b<-glm2(as.factor(myopia)~relevel(as.factor(FamMemGroup),ref="Below 5")

+ +relevel(as.factor(EarningGroup),ref="Below 3")

+ +relevel(as.factor(IncomeGroup),ref="Below 100000")

+ +as.factor(m3a\_resp)+as.factor(m3b\_ocu\_inf)+as.factor(m3b\_anthis)

+ +relevel(as.factor(m3a1\_wcdc),ref="4")

+ +as.factor(m3\_otl6m)+as.factor(m4d1\_wg)+as.factor(m4d1\_wgcos)

+ +as.factor(m4d1\_wgrer)+as.factor(m4d1\_wgthep)+as.factor(m4d1\_wcl)+as.factor(m4d1\_wclcos)

+ +as.factor(m4d1\_wclrer)+as.factor(m4d1\_wclthep)+as.factor(m4d1\_tcls)+as.factor(m4d1\_tclr)

+ +as.factor(m4d1\_tclthep)+as.factor(m4d2\_cata)

+ +relevel(as.factor(ddts),ref="1")

+ +as.factor(m4d4\_cyc)

+ +as.factor(m4d4\_other),

+ data=a,

+ family=binomial(link='logit')

+ )

> summary(b)

Call:

glm2(formula = as.factor(myopia) ~ relevel(as.factor(FamMemGroup),

ref = "Below 5") + relevel(as.factor(EarningGroup), ref = "Below 3") +

relevel(as.factor(IncomeGroup), ref = "Below 100000") + as.factor(m3a\_resp) +

as.factor(m3b\_ocu\_inf) + as.factor(m3b\_anthis) + relevel(as.factor(m3a1\_wcdc),

ref = "4") + as.factor(m3\_otl6m) + as.factor(m4d1\_wg) + as.factor(m4d1\_wgcos) +

as.factor(m4d1\_wgrer) + as.factor(m4d1\_wgthep) + as.factor(m4d1\_wcl) +

as.factor(m4d1\_wclcos) + as.factor(m4d1\_wclrer) + as.factor(m4d1\_wclthep) +

as.factor(m4d1\_tcls) + as.factor(m4d1\_tclr) + as.factor(m4d1\_tclthep) +

as.factor(m4d2\_cata) + relevel(as.factor(ddts), ref = "1") +

as.factor(m4d4\_cyc) + as.factor(m4d4\_other), family = binomial(link = "logit"),

data = a)

Coefficients:

Estimate Std. Error

(Intercept) -8.57567 2.64339

relevel(as.factor(FamMemGroup), ref = "Below 5")5-7 -0.21914 0.54912

relevel(as.factor(FamMemGroup), ref = "Below 5")8 or More 0.90274 0.74030

relevel(as.factor(EarningGroup), ref = "Below 3")3-7 -0.52188 0.61023

relevel(as.factor(EarningGroup), ref = "Below 3")8 or More 4.92016 1.79149

relevel(as.factor(IncomeGroup), ref = "Below 100000")100000-200000 -0.75058 0.55116

relevel(as.factor(IncomeGroup), ref = "Below 100000")200001-400000 -1.34469 0.76240

relevel(as.factor(IncomeGroup), ref = "Below 100000")400001 or More -0.01894 0.98207

as.factor(m3a\_resp)2 0.72326 0.72185

as.factor(m3b\_ocu\_inf)2 1.32415 0.70500

as.factor(m3b\_anthis)2 -1.08399 0.60362

relevel(as.factor(m3a1\_wcdc), ref = "4")1 -0.63699 0.73991

relevel(as.factor(m3a1\_wcdc), ref = "4")2 0.81399 0.62437

relevel(as.factor(m3a1\_wcdc), ref = "4")3 -0.43621 0.65877

as.factor(m3\_otl6m)2 1.05934 0.55236

as.factor(m4d1\_wg)2 3.28579 0.92491

as.factor(m4d1\_wgcos)2 -0.25765 0.58116

as.factor(m4d1\_wgrer)2 2.48354 0.65614

as.factor(m4d1\_wgthep)2 3.12517 0.70693

as.factor(m4d1\_wcl)2 0.11131 1.28089

as.factor(m4d1\_wclcos)2 2.14988 1.42983

as.factor(m4d1\_wclrer)2 1.76849 1.50602

as.factor(m4d1\_wclthep)2 2.82418 1.57316

as.factor(m4d1\_tcls)2 -1.36497 1.31398

as.factor(m4d1\_tclr)2 1.77222 1.58623

as.factor(m4d1\_tclthep)2 -1.56118 1.43913

as.factor(m4d1\_tclthep)3 -12.93357 1455.39897

as.factor(m4d2\_cata)2 -3.03961 0.61992

relevel(as.factor(ddts), ref = "1")2 -1.79553 0.86617

relevel(as.factor(ddts), ref = "1")3 -1.40286 0.81308

relevel(as.factor(ddts), ref = "1")5 -14.95202 1455.39845

as.factor(m4d4\_cyc)2 1.14933 0.65579

as.factor(m4d4\_other)2 0.54416 0.51715

z value Pr(>|z|)

(Intercept) -3.244 0.001178 \*\*

relevel(as.factor(FamMemGroup), ref = "Below 5")5-7 -0.399 0.689834

relevel(as.factor(FamMemGroup), ref = "Below 5")8 or More 1.219 0.222681

relevel(as.factor(EarningGroup), ref = "Below 3")3-7 -0.855 0.392430

relevel(as.factor(EarningGroup), ref = "Below 3")8 or More 2.746 0.006025 \*\*

relevel(as.factor(IncomeGroup), ref = "Below 100000")100000-200000 -1.362 0.173255

relevel(as.factor(IncomeGroup), ref = "Below 100000")200001-400000 -1.764 0.077773 .

relevel(as.factor(IncomeGroup), ref = "Below 100000")400001 or More -0.019 0.984611

as.factor(m3a\_resp)2 1.002 0.316369

as.factor(m3b\_ocu\_inf)2 1.878 0.060351 .

as.factor(m3b\_anthis)2 -1.796 0.072525 .

relevel(as.factor(m3a1\_wcdc), ref = "4")1 -0.861 0.389292

relevel(as.factor(m3a1\_wcdc), ref = "4")2 1.304 0.192337

relevel(as.factor(m3a1\_wcdc), ref = "4")3 -0.662 0.507870

as.factor(m3\_otl6m)2 1.918 0.055133 .

as.factor(m4d1\_wg)2 3.553 0.000382 \*\*\*

as.factor(m4d1\_wgcos)2 -0.443 0.657522

as.factor(m4d1\_wgrer)2 3.785 0.000154 \*\*\*

as.factor(m4d1\_wgthep)2 4.421 9.84e-06 \*\*\*

as.factor(m4d1\_wcl)2 0.087 0.930750

as.factor(m4d1\_wclcos)2 1.504 0.132687

as.factor(m4d1\_wclrer)2 1.174 0.240283

as.factor(m4d1\_wclthep)2 1.795 0.072617 .

as.factor(m4d1\_tcls)2 -1.039 0.298896

as.factor(m4d1\_tclr)2 1.117 0.263887

as.factor(m4d1\_tclthep)2 -1.085 0.278006

as.factor(m4d1\_tclthep)3 -0.009 0.992910

as.factor(m4d2\_cata)2 -4.903 9.43e-07 \*\*\*

relevel(as.factor(ddts), ref = "1")2 -2.073 0.038177 \*

relevel(as.factor(ddts), ref = "1")3 -1.725 0.084460 .

relevel(as.factor(ddts), ref = "1")5 -0.010 0.991803

as.factor(m4d4\_cyc)2 1.753 0.079671 .

as.factor(m4d4\_other)2 1.052 0.292699

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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: 480.12 on 352 degrees of freedom

Residual deviance: 158.32 on 320 degrees of freedom

(1 observation deleted due to missingness)

AIC: 224.32

Number of Fisher Scoring iterations: 14

> exp(cbind(coef(b),confint(b)))

Waiting for profiling to be done...

2.5 %

(Intercept) 1.886398e-04 6.751839e-07

relevel(as.factor(FamMemGroup), ref = "Below 5")5-7 8.032066e-01 2.678059e-01

relevel(as.factor(FamMemGroup), ref = "Below 5")8 or More 2.466357e+00 5.854315e-01

relevel(as.factor(EarningGroup), ref = "Below 3")3-7 5.934064e-01 1.749432e-01

relevel(as.factor(EarningGroup), ref = "Below 3")8 or More 1.370241e+02 5.159882e+00

relevel(as.factor(IncomeGroup), ref = "Below 100000")100000-200000 4.720930e-01 1.545777e-01

relevel(as.factor(IncomeGroup), ref = "Below 100000")200001-400000 2.606192e-01 5.285003e-02

relevel(as.factor(IncomeGroup), ref = "Below 100000")400001 or More 9.812360e-01 1.351822e-01

as.factor(m3a\_resp)2 2.061142e+00 5.134735e-01

as.factor(m3b\_ocu\_inf)2 3.758985e+00 1.000140e+00

as.factor(m3b\_anthis)2 3.382431e-01 9.891997e-02

relevel(as.factor(m3a1\_wcdc), ref = "4")1 5.288832e-01 1.202971e-01

relevel(as.factor(m3a1\_wcdc), ref = "4")2 2.256893e+00 6.725684e-01

relevel(as.factor(m3a1\_wcdc), ref = "4")3 6.464801e-01 1.722502e-01

as.factor(m3\_otl6m)2 2.884461e+00 1.013162e+00

as.factor(m4d1\_wg)2 2.673014e+01 4.742719e+00

as.factor(m4d1\_wgcos)2 7.728670e-01 2.516296e-01

as.factor(m4d1\_wgrer)2 1.198360e+01 3.536680e+00

as.factor(m4d1\_wgthep)2 2.276369e+01 6.213658e+00

as.factor(m4d1\_wcl)2 1.117743e+00 8.217369e-02

as.factor(m4d1\_wclcos)2 8.583838e+00 5.333040e-01

as.factor(m4d1\_wclrer)2 5.861988e+00 3.453413e-01

as.factor(m4d1\_wclthep)2 1.684717e+01 7.388452e-01

as.factor(m4d1\_tcls)2 2.553877e-01 2.169437e-02

as.factor(m4d1\_tclr)2 5.883889e+00 3.084817e-01

as.factor(m4d1\_tclthep)2 2.098877e-01 1.502670e-02

as.factor(m4d1\_tclthep)3 2.415590e-06 NA

as.factor(m4d2\_cata)2 4.785331e-02 1.299157e-02

relevel(as.factor(ddts), ref = "1")2 1.660399e-01 2.886186e-02

relevel(as.factor(ddts), ref = "1")3 2.458920e-01 4.888081e-02

relevel(as.factor(ddts), ref = "1")5 3.209363e-07 NA

as.factor(m4d4\_cyc)2 3.156075e+00 9.047882e-01

as.factor(m4d4\_other)2 1.723154e+00 6.297207e-01

97.5 %

(Intercept) 2.495851e-02

relevel(as.factor(FamMemGroup), ref = "Below 5")5-7 2.350491e+00

relevel(as.factor(FamMemGroup), ref = "Below 5")8 or More 1.093281e+01

relevel(as.factor(EarningGroup), ref = "Below 3")3-7 1.945744e+00

relevel(as.factor(EarningGroup), ref = "Below 3")8 or More 6.663133e+03

relevel(as.factor(IncomeGroup), ref = "Below 100000")100000-200000 1.366631e+00

relevel(as.factor(IncomeGroup), ref = "Below 100000")200001-400000 1.080245e+00

relevel(as.factor(IncomeGroup), ref = "Below 100000")400001 or More 6.658555e+00

as.factor(m3a\_resp)2 8.783696e+00

as.factor(m3b\_ocu\_inf)2 1.619323e+01

as.factor(m3b\_anthis)2 1.072167e+00

relevel(as.factor(m3a1\_wcdc), ref = "4")1 2.229445e+00

relevel(as.factor(m3a1\_wcdc), ref = "4")2 7.935457e+00

relevel(as.factor(m3a1\_wcdc), ref = "4")3 2.330858e+00

as.factor(m3\_otl6m)2 8.976045e+00

as.factor(m4d1\_wg)2 1.894936e+02

as.factor(m4d1\_wgcos)2 2.519787e+00

as.factor(m4d1\_wgrer)2 4.737583e+01

as.factor(m4d1\_wgthep)2 1.012521e+02

as.factor(m4d1\_wcl)2 1.295725e+01

as.factor(m4d1\_wclcos)2 1.575396e+02

as.factor(m4d1\_wclrer)2 1.376832e+02

as.factor(m4d1\_wclthep)2 3.943336e+02

as.factor(m4d1\_tcls)2 4.326866e+00

as.factor(m4d1\_tclr)2 1.684430e+02

as.factor(m4d1\_tclthep)2 5.415047e+00

as.factor(m4d1\_tclthep)3 3.941317e+120

as.factor(m4d2\_cata)2 1.506197e-01

relevel(as.factor(ddts), ref = "1")2 8.884481e-01

relevel(as.factor(ddts), ref = "1")3 1.222854e+00

relevel(as.factor(ddts), ref = "1")5 6.639623e+120

as.factor(m4d4\_cyc)2 1.194714e+01

as.factor(m4d4\_other)2 4.865013e+00