> library(readr)

> HD\_2015\_2021\_data <- read\_csv("C:/Users/Gokhan Mutlu/Desktop/IPEDS\_Dataset\_Encoded/Institutional\_Characteristics/HD\_2015-2021\_data.csv")

Rows: 48466 Columns: 85

-- Column specification ----------------------------------------------------------------------------------------------------------------------------

Delimiter: ","

chr (77): instnm, ialias, addr, city, stabbr, zip, fips, obereg, chfnm, chftitle, duns, opeid, opeflag, webaddr, adminurl, faidurl, applurl, npr...

dbl (8): unitid, gentele, ein, newid, deathyr, longitud, latitude, year

i Use `spec()` to retrieve the full column specification for this data.

i Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

> View(HD\_2015\_2021\_data)

Warning in View :

One or more parsing issues, see `problems()` for details

> library(readr)

> IC\_2015\_2021\_data <- read\_csv("C:/Users/Gokhan Mutlu/Desktop/IPEDS\_Dataset\_Encoded/Institutional\_Characteristics/IC\_2015-2021\_data.csv")

Rows: 46820 Columns: 117

-- Column specification ----------------------------------------------------------------------------------------------------------------------------

Delimiter: ","

chr (115): peo1istr, peo2istr, peo3istr, peo4istr, peo5istr, peo6istr, cntlaffi, pubprime, pubsecon, relaffil, level1, level1a, level1b, level2,...

dbl (2): unitid, year

i Use `spec()` to retrieve the full column specification for this data.

i Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

> View(IC\_2015\_2021\_data)

> library(readr)

> IC\_AY\_2015\_2021\_data <- read\_csv("C:/Users/Gokhan Mutlu/Desktop/IPEDS\_Dataset\_Encoded/Institutional\_Characteristics/IC\_AY\_2015-2021\_data.csv")

Rows: 29185 Columns: 121

-- Column specification ----------------------------------------------------------------------------------------------------------------------------

Delimiter: ","

chr (119): tuition1, fee1, hrchg1, tuition2, fee2, hrchg2, tuition3, fee3, hrchg3, tuition5, fee5, hrchg5, tuition6, fee6, hrchg6, tuition7, fee...

dbl (2): unitid, year

i Use `spec()` to retrieve the full column specification for this data.

i Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

> View(IC\_AY\_2015\_2021\_data)

> library(readr)

> IC\_PY\_2015\_2021\_data <- read\_csv("C:/Users/Gokhan Mutlu/Desktop/IPEDS\_Dataset\_Encoded/Institutional\_Characteristics/IC\_PY\_2015-2021\_data.csv")

Rows: 17016 Columns: 69

-- Column specification ----------------------------------------------------------------------------------------------------------------------------

Delimiter: ","

chr (64): cipcode1, ciptuit1, cipsupp1, prgmsr1, wkcmp1, lnayhr1, lnaywk1, chg1py0, chg1py1, chg1py2, chg1py3, chg4py0, chg4py1, chg4py2, chg4py...

dbl (5): unitid, prgmofr, ciplgth1, mthcmp1, year

i Use `spec()` to retrieve the full column specification for this data.

i Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

> View(IC\_PY\_2015\_2021\_data)

> HD\_2015<-filter(HD\_2015\_2021\_data, year == 2015)

> IC\_2015<-filter(IC\_2015\_2021\_data, year == 2015)

> IC\_AY\_2015<-filter(IC\_AY\_2015\_2021\_data, year == 2015)

> IC\_PY\_2015<-filter(IC\_PY\_2015\_2021\_data, year == 2015)

> View(HD\_2015)

> View(IC\_2015)

> View(IC\_AY\_2015)

> Merged\_1<- merge(HD\_2015,IC\_2015, by=unitid, all.x=T)

Error in fix.by(by.x, x) : 'by' must match numbers of columns

> Merged\_1<- merge(HD\_2015,IC\_2015, by = "unitid", all.x=T)

> Merged\_2<- merge(Merged\_1,IC\_AY\_2015, by = "unitid", all.x=T)

> Merged\_3<- merge(Merged\_3,IC\_PY\_2015, by = "unitid", all.x=T)

Error in merge(Merged\_3, IC\_PY\_2015, by = "unitid", all.x = T) :

object 'Merged\_3' not found

> Merged\_3<- merge(Merged\_2,IC\_PY\_2015, by = "unitid", all.x=T)

Warning message:

In merge.data.frame(Merged\_2, IC\_PY\_2015, by = "unitid", all.x = T) :

column names ‘year.x’, ‘year.y’ are duplicated in the result

> View(Merged\_2)

> View(Merged\_3)

> View(Merged\_3)

> View(Merged\_3)

> Merged\_3<-subset(Merged\_3, select = -c(instnm, ialias,addr,zip,fips,chfnm,chftitle,ein,duns))

> Merged\_3<-subset(Merged\_3, select = -c(gentele,opeid,opeflag,webaddr,adminurl,faidurl,npricurl,veturl,athurl,disaurl))

> Merged\_3<-subset(Merged\_3, select = -c(appaurl,sector,deathyr,newid,closedat,rptmthc))

Error in eval(substitute(select), nl, parent.frame()) :

object 'appaurl' not found

> Merged\_3<-subset(Merged\_3, select = -c(appurl,sector,deathyr,newid,closedat,rptmthc))

Error in eval(substitute(select), nl, parent.frame()) :

object 'appurl' not found

> Merged\_3<-subset(Merged\_3, select = -c(applurl,sector,deathyr,newid,closedat,rptmthc))

Error in eval(substitute(select), nl, parent.frame()) :

object 'rptmthc' not found

> Merged\_3<-subset(Merged\_3, select = -c(applurl,sector,deathyr,newid,closedat,rptmth))

> Merged\_3<-subset(Merged\_3, select = -c(c21basic,c21enprf,c21ipgrd,c21ipug,c21szset,c21ugprf))

> Merged\_3<-subset(Merged\_3, select = -c(stabbr,f1sysnam,f1syscod,cbsa,csa,countycd,countynm,cngdstcd,longitud,latitude,dfrcuscg,c18basic,c18enprf,c18ipgrd,c18ipug,c18szset,c18ugprf))

> Merged\_3<-subset(Merged\_3, select = -c(city,year.x,year.y))

> Merged\_4<-Merged\_3[!sapply(Merged\_3, function (x) all(is.na(x) | x == ""))]

> View (Merged\_4)

> Merged\_4<-subset(Merged\_4, select = -c(slo51,slo52,slo53))

> library(readr)

> DiversityDATA <- read\_csv("C:/Users/Gokhan Mutlu/Desktop/IPEDS\_Dataset\_Encoded/DiversityDATA.csv")

New names:

\* `` -> ...1

Rows: 6607 Columns: 27

-- Column specification ------------------------------------------

Delimiter: ","

chr (1): Presence\_Endowment

dbl (26): ...1, unitid, WR, BAR, HR, AIANR, AR, NHPIR, TOMR, U...

i Use `spec()` to retrieve the full column specification for this data.

i Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

> View(DiversityDATA)

> Merged\_4<-subset(Merged\_4, select = -c(slo51,slo52,slo53))

Error in eval(substitute(select), nl, parent.frame()) :

object 'slo51' not found

> > Merged\_5<- merge(DiversityDATA,Merged\_4, by = "unitid", all.x=T)

Error: unexpected '>' in ">"

> Merged\_5 <- merge(DiversityDATA, Merged\_4, by = "unitid", all.x=T)

> bins <- Merged\_5$CHSQGOF (>=0.005)

Error: unexpected '>=' in "bins <- Merged\_5$CHSQGOF (>="

> bins <- Merged\_5$CHSQGOF (0,0.05, 1)

Error: attempt to apply non-function

> bins <- Merged\_5$CHSQGOF (0, 0.05, 1)

Error: attempt to apply non-function

> bins <- c (0, 0.05, 1)

> bin\_names <- c ("Yes" "No")

Error: unexpected string constant in "bin\_names <- c ("Yes" "No""

> bin\_names <- c ("Yes", "No")

> Merged\_5$CHSQGOF\_Cat<-cut(Merged\_5$CHSQGOF, breaks= bins, labels = bin\_names)

> summary(Merged\_5$CHSQGOF\_Cat)

Yes No NA's

40 6308 259

> View(Merged\_5)

> bins <- c (0, 0.051, 1)

> bin\_names <- c ("Yes", "No")

> Merged\_5$CHSQGOF\_Cat<-cut(Merged\_5$CHSQGOF, breaks= bins, labels = bin\_names)

> summary(Merged\_5$CHSQGOF\_Cat)

Yes No NA's

41 6307 259

> bins <- c (-1, 0.051, 1)

> Merged\_5$CHSQGOF\_Cat<-cut(Merged\_5$CHSQGOF, breaks= bins, labels = bin\_names)

> summary(Merged\_5$CHSQGOF\_Cat)

Yes No NA's

144 6307 156

> summary(Merged\_5$CHSQGOF\_Cat)

Yes No NA's

144 6307 156

> Merged\_5<-filter (Merged\_5, CHSQGGOF\_Cat == NA)

Error: Problem with `filter()` input `..1`.

i Input `..1` is `CHSQGGOF\_Cat == NA`.

x object 'CHSQGGOF\_Cat' not found

Run `rlang::last\_error()` to see where the error occurred.

> Merged\_5<-filter (Merged\_5, CHSQGGOF\_Cat == "NA")

Error: Problem with `filter()` input `..1`.

i Input `..1` is `CHSQGGOF\_Cat == "NA"`.

x object 'CHSQGGOF\_Cat' not found

Run `rlang::last\_error()` to see where the error occurred.

> Merged\_5<-filter (Merged\_5, Merged\_5$CHSQGOF\_Cat == "NA")

> Merged\_6 <- merge(DiversityDATA, Merged\_4, by = "unitid", all.x=T)

> Merged\_6$CHSQGOF\_Cat<-cut(Merged\_6$CHSQGOF, breaks= bins, labels = bin\_names)

> summary(Merged\_6$CHSQGOF\_Cat)

Yes No NA's

144 6307 156

> Merged\_7<-filter (Merged\_6, Merged\_6$CHSQGGOF\_Cat == "Yes", "No")

Error: Problem with `filter()` input `..1`.

i Input `..1` is `Merged\_6$CHSQGGOF\_Cat == "Yes"`.

x Input `..1` must be of size 6607 or 1, not size 0.

Run `rlang::last\_error()` to see where the error occurred.

> Merged\_7 <- subset(Merged\_6, !is.na(Merged\_6$CHSQGOF\_Cat))

> library(readr)

> EFFY\_2015\_2021\_data <- read\_csv("C:/Users/Gokhan Mutlu/Desktop/IPEDS\_Dataset\_Encoded/12-Month Enrollment/EFFY\_2015-2021\_data.csv")

Rows: 284172 Columns: 35

-- Column specification ----------------------------------------------------------------------------------------------------------------------------

Delimiter: ","

chr (3): effyalev, effylev, lstudy

dbl (32): unitid, efytotlt, efytotlm, efytotlw, efyaiant, efyaianm, efyaianw, efyasiat, efyasiam, efyasiaw, efybkaat, efybkaam, efybkaaw, efyhis...

i Use `spec()` to retrieve the full column specification for this data.

i Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

> View(EFFY\_2015\_2021\_data)

> EFFY\_2015<-filter(EFFY\_2015\_2021\_data, year == 2015)

> summary (Merged\_7)

unitid ...1 WR BAR HR AIANR AR NHPIR

Min. :100654 Min. : 0 Min. :0.02373 Min. :0.00000 Min. :0.007271 Min. :0.0001962 Min. :0.0004203 Min. :0.0000000

1st Qu.:166494 1st Qu.:1620 1st Qu.:0.37335 1st Qu.:0.05003 1st Qu.:0.055133 1st Qu.:0.0017555 1st Qu.:0.0171842 1st Qu.:0.0002733

TOMR UWR UBAR UHR UAIANR UAR UNHPIR

Min. :0.003988 Min. :0.0000 Min. :0.00000 Min. :0.00000 Min. :0.000000 Min. :0.000000 Min. :0.0000000

1st Qu.:0.025535 1st Qu.:0.3386 1st Qu.:0.04285 1st Qu.:0.03185 1st Qu.:0.000000 1st Qu.:0.004867 1st Qu.:0.0000000

UTOMR County Shannon Diversity Ethnicity County True Diversity Ethnicity University Shannon Diversity Ethnicity

Min. :0.00000 Min. :0.1492 Min. :1.161 Min. :0.0000

1st Qu.:0.00000 1st Qu.:0.8757 1st Qu.:2.400 1st Qu.:0.6351

University True Diversity Ethnicity KLDivergence True Diversity Difference CHSQGOF NOI %Tuition

Min. :1.000 Min. : -Inf Min. :-3.47931 Min. :0.0000 Min. :-1.102e+09 Min. :0.0000

1st Qu.:1.887 1st Qu.:-0.172 1st Qu.:-0.78432 1st Qu.:0.9957 1st Qu.:-5.220e+06 1st Qu.:0.5249

%Pell Presence\_Endowment obereg iclevel control hloffer ugoffer

Min. : 0.00000 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

1st Qu.: 0.08303 Class :character Class :character Class :character Class :character Class :character Class :character

groffer hdegofr1 deggrant hbcu hospital medical tribal

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Class :character Class :character Class :character Class :character Class :character Class :character Class :character

locale openpubl act cyactive postsec pseflag pset4flg

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

instcat c15basic ccbasic carnegie landgrnt instsize f1systyp

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

cbsatype necta dfrcgid c15ipug c15ipgrd c15ugprf c15enprf

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

c15szset peo1istr peo2istr peo3istr peo4istr peo5istr peo6istr

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

cntlaffi pubprime pubsecon relaffil level1 level2 level3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

level4 level5 level6 level7 level8 level12 level17

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

level18 level19 calsys ft\_ug ft\_ftug ftgdnidp pt\_ug

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

pt\_ftug ptgdnidp docpp docppsp openadmp vet1 vet2

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

vet3 vet4 vet5 credits1 credits2 credits3 credits4

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

slo5 slo6 slo7 slo8 slo81 slo82 slo83

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

slo9 yrscoll stusrv1 stusrv2 stusrv3 stusrv4 stusrv8

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

stusrv9 tuitpl tuitpl1 tuitpl2 tuitpl3 tuitpl4 dstnced1

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

dstnced2 dstnced3 distnced disab disabpct alloncam tuitvary

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

room roomcap board mealswk roomamt boardamt rmbrdamt

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applfeeu applfeeg athassoc assoc1 assoc2 assoc3 assoc4

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

assoc5 assoc6 sport1 confno1 sport2 confno2 sport3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

confno3 sport4 confno4 libfac tuition1 fee1 hrchg1

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

tuition2 fee2 hrchg2 tuition3 fee3 hrchg3 tuition5

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

fee5 hrchg5 tuition6 fee6 hrchg6 tuition7 fee7

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

hrchg7 isprof1 ispfee1 osprof1 ospfee1 isprof2 ispfee2

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

osprof2 ospfee2 isprof3 ispfee3 osprof3 ospfee3 isprof4

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

ispfee4 osprof4 ospfee4 isprof5 ispfee5 osprof5 ospfee5

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

isprof6 ispfee6 osprof6 ospfee6 isprof7 ispfee7 osprof7

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

ospfee7 isprof8 ispfee8 osprof8 ospfee8 isprof9 ispfee9

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Class :character Class :character Class :character Class :character Class :character Class :character Class :character

osprof9 ospfee9 chg1at0 chg1af0 chg1ay0 chg1at1 chg1af1

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg1ay1 chg1at2 chg1af2 chg1ay2 chg1at3 chg1af3 chg1ay3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg1tgtd chg1fgtd chg2at0 chg2af0 chg2ay0 chg2at1 chg2af1

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg2ay1 chg2at2 chg2af2 chg2ay2 chg2at3 chg2af3 chg2ay3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg2tgtd chg2fgtd chg3at0 chg3af0 chg3ay0 chg3at1 chg3af1

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg3ay1 chg3at2 chg3af2 chg3ay2 chg3at3 chg3af3 chg3ay3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg3tgtd chg3fgtd chg4ay0 chg4ay1 chg4ay2 chg4ay3 chg5ay0

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg5ay1 chg5ay2 chg5ay3 chg6ay0 chg6ay1 chg6ay2 chg6ay3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg7ay0 chg7ay1 chg7ay2 chg7ay3 chg8ay0 chg8ay1 chg8ay2

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg8ay3 chg9ay0 chg9ay1 chg9ay2 year.x.1 prgmofr cipcode1 ciptuit1

Length:6451 Length:6451 Length:6451 Length:6451 Min. :2015 Min. : -1.000 Length:6451 Length:6451

Class :character Class :character Class :character Class :character 1st Qu.:2015 1st Qu.: 2.000 Class :character Class :character

cipsupp1 ciplgth1 prgmsr1 mthcmp1 wkcmp1 lnayhr1 lnaywk1 chg1py0

Length:6451 Min. : 20 Length:6451 Min. : 1.00 Length:6451 Length:6451 Length:6451 Length:6451

Class :character 1st Qu.: 720 Class :character 1st Qu.: 9.00 Class :character Class :character Class :character Class :character

chg1py1 chg1py2 chg1py3 chg4py0 chg4py1 chg4py2 chg4py3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg5py0 chg5py1 chg5py2 chg5py3 chg6py0 chg6py1 chg6py2

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg6py3 chg7py0 chg7py1 chg7py2 chg7py3 chg8py0 chg8py1

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Class :character Class :character Class :character Class :character Class :character Class :character Class :character

chg8py2 chg8py3 chg9py0 chg9py1 chg9py2 chg9py3 cipcode2

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

ciptuit2 cipsupp2 ciplgth2 prgmsr2 mthcmp2 cipcode3 ciptuit3

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

cipsupp3 ciplgth3 prgmsr3 mthcmp3 cipcode4 ciptuit4 cipsupp4

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

ciplgth4 prgmsr4 mthcmp4 cipcode5 ciptuit5 cipsupp5 ciplgth5

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

prgmsr5 mthcmp5 cipcode6 ciptuit6 cipsupp6 ciplgth6 prgmsr6

Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451 Length:6451

Class :character Class :character Class :character Class :character Class :character Class :character Class :character

year.y.1 CHSQGOF\_Cat

Min. :2015 Yes: 144

1st Qu.:2015 No :6307

[ reached getOption("max.print") -- omitted 5 rows ]

> View(EFFY\_2015)

> EFFY\_2015\_All<-filter(EFFY\_2015, effylev == "All students total")

> Merged\_15 <- inner\_join(EFFY\_2015\_All, Merged\_7, by = "unitid")

> View(Merged\_15)

> Merged\_15$NOIperstudent<-Merged\_15$NOI/Merged\_15$efytotlt

> summary (Merged\_15$NOIperstudent)

Min. 1st Qu. Median Mean 3rd Qu. Max.

-2322038 -3537 -40 -407 1237 4194121

> summary (Merged\_15$efytotlt)

Min. 1st Qu. Median Mean 3rd Qu. Max.

3 197 707 4117 3433 295886

> set.seed(37645) # Set seed for reproducibility

> dummy\_sep <- rbinom(nrow(Merged\_15), 1, 0.3)

> Train\_data <- Merged\_15[dummy\_sep == 0, ]

> Test\_data <- Merged\_15[dummy\_sep == 1, ]

> View(Train\_data)

> summary(Train\_data)

unitid effyalev effylev lstudy efytotlt efytotlm efytotlw efyaiant

Min. :100654 Length:4539 Length:4539 Length:4539 Min. : 3 Min. : 0 Min. : 0.0 Min. : 0.00

1st Qu.:166311 Class :character Class :character Class :character 1st Qu.: 194 1st Qu.: 34 1st Qu.: 116.5 1st Qu.: 0.00

efyaianm efyaianw efyasiat efyasiam efyasiaw efybkaat efybkaam efybkaaw

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1st Qu.: 0.00 1st Qu.: 0.0 1st Qu.: 2.0 1st Qu.: 0.00 1st Qu.: 1.0 1st Qu.: 18.0 1st Qu.: 3.0 1st Qu.: 9.0

efyhispt efyhispm efyhispw efynhpit efynhpim efynhpiw efywhitt efywhitm

Min. : 0.0 Min. : 0.0 Min. : 0.0 Min. : 0.00 Min. : 0.000 Min. : 0.000 Min. : 0 Min. : 0.0

1st Qu.: 10.0 1st Qu.: 2.0 1st Qu.: 6.0 1st Qu.: 0.00 1st Qu.: 0.000 1st Qu.: 0.000 1st Qu.: 75 1st Qu.: 9.0

efywhitw efy2mort efy2morm efy2morw efyunknt efyunknm efyunknw efynralt

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Min. : 0.00 Min. : 0.00 Min. :2015 Min. : 0 Min. :0.02373 Min. :0.0007918 Min. :0.007271 Min. :0.0001962

1st Qu.: 0.00 1st Qu.: 0.00 1st Qu.:2015 1st Qu.:1614 1st Qu.:0.37526 1st Qu.:0.0504390 1st Qu.:0.054788 1st Qu.:0.0017555

AR NHPIR TOMR UWR UBAR UHR UAIANR

Min. :0.0004203 Min. :0.0000000 Min. :0.003988 Min. :0.0000 Min. :0.00000 Min. :0.00000 Min. :0.000000

1st Qu.:0.0168434 1st Qu.:0.0002723 1st Qu.:0.025742 1st Qu.:0.3351 1st Qu.:0.04261 1st Qu.:0.03143 1st Qu.:0.000000

UAR UNHPIR UTOMR County Shannon Diversity Ethnicity County True Diversity Ethnicity

Min. :0.000000 Min. :0.0000000 Min. :0.00000 Min. :0.1492 Min. :1.161

1st Qu.:0.004425 1st Qu.:0.0000000 1st Qu.:0.00000 1st Qu.:0.8718 1st Qu.:2.391

University Shannon Diversity Ethnicity University True Diversity Ethnicity KLDivergence True Diversity Difference CHSQGOF

Min. :0.0000 Min. :1.000 Min. : -Inf Min. :-3.47931 Min. :0.0000

1st Qu.:0.6247 1st Qu.:1.868 1st Qu.:-0.1793 1st Qu.:-0.81598 1st Qu.:0.9956

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confno2 sport3 confno3 sport4 confno4 libfac tuition1

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fee1 hrchg1 tuition2 fee2 hrchg2 tuition3 fee3

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hrchg3 tuition5 fee5 hrchg5 tuition6 fee6 hrchg6

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tuition7 fee7 hrchg7 isprof1 ispfee1 osprof1 ospfee1

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isprof2 ispfee2 osprof2 ospfee2 isprof3 ispfee3 osprof3

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ospfee3 isprof4 ispfee4 osprof4 ospfee4 isprof5 ispfee5

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osprof5 ospfee5 isprof6 ispfee6 osprof6 ospfee6 isprof7

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ispfee7 osprof7 ospfee7 isprof8 ispfee8 osprof8 ospfee8

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chg2af3 chg2ay3 chg2tgtd chg2fgtd chg3at0 chg3af0 chg3ay0

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chg6ay2 chg6ay3 chg7ay0 chg7ay1 chg7ay2 chg7ay3 chg8ay0

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cipcode1 ciptuit1 cipsupp1 ciplgth1 prgmsr1 mthcmp1 wkcmp1 lnayhr1

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lnaywk1 chg1py0 chg1py1 chg1py2 chg1py3 chg4py0 chg4py1

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chg4py2 chg4py3 chg5py0 chg5py1 chg5py2 chg5py3 chg6py0

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chg6py1 chg6py2 chg6py3 chg7py0 chg7py1 chg7py2 chg7py3

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chg8py0 chg8py1 chg8py2 chg8py3 chg9py0 chg9py1 chg9py2

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chg9py3 cipcode2 ciptuit2 cipsupp2 ciplgth2 prgmsr2 mthcmp2

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cipcode3 ciptuit3 cipsupp3 ciplgth3 prgmsr3 mthcmp3 cipcode4

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cipsupp5 ciplgth5 prgmsr5 mthcmp5 cipcode6 ciptuit6 cipsupp6

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ciplgth6 prgmsr6 year.y.1 CHSQGOF\_Cat NOIperstudent

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Class :character Class :character 1st Qu.:2015 No :4436 1st Qu.: -3598.8

[ reached getOption("max.print") -- omitted 5 rows ]

> model1 <- glm(formula = CHSQGOF\_Cat ~ NOIperstudent + `%Tuition` + `%Pell`, family="binomial", data=Train\_data)

> summary(model1)

Call:

glm(formula = CHSQGOF\_Cat ~ NOIperstudent + `%Tuition` + `%Pell`,

family = "binomial", data = Train\_data)

Deviance Residuals:

Min 1Q Median 3Q Max

-2.9309 0.1738 0.1989 0.2323 0.4869

Coefficients:

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

(Intercept) 2.839e+00 2.346e-01 12.102 < 2e-16 \*\*\*

NOIperstudent -1.390e-08 1.868e-06 -0.007 0.994

`%Tuition` 1.443e+00 3.574e-01 4.036 5.43e-05 \*\*\*

`%Pell` -1.419e-02 2.034e-02 -0.698 0.485

---

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

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 983.51 on 4538 degrees of freedom

Residual deviance: 967.63 on 4535 degrees of freedom

AIC: 975.63

Number of Fisher Scoring iterations: 6