

chap6_labs_exercises

```
#####labs #Best Subset Selection
```

```
install.packages("leaps")
```

Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
(as 'lib' is unspecified)

```
library(ISLR2)
library(leaps)
library(glmnet)
```

Loading required package: Matrix

Loaded glmnet 4.1-8

```
names(Hitters)
```

```
[1] "AtBat"      "Hits"       "HmRun"      "Runs"       "RBI"        "Walks"
[7] "Years"      "CAtBat"     "CHits"      "CHmRun"     "CRuns"      "CRBI"
[13] "CWalks"     "League"     "Division"   "PutOuts"    "Assists"    "Errors"
[19] "Salary"     "NewLeague"
```

```
dim(Hitters)
```

```
[1] 322 20
```

```
sum(is.na(Hitters$Salary))
```

```
[1] 59
```

```
library(ISLR)
```

Attaching package: 'ISLR'

The following objects are masked from 'package:ISLR2':

Auto, Credit

```
data(College)
```

```
install.packages("dplyr")
```

Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
(as 'lib' is unspecified)

```
library(dplyr)
```

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

filter, lag

The following objects are masked from 'package:base':

intersect, setdiff, setequal, union

```
install.packages("ggplot2")
```

Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
(as 'lib' is unspecified)

```
library(ggplot2)
```

```
#drop na
```

```
Hitters <- na.omit(Hitters)
dim(Hitters)
```

```
[1] 263 20
```

```
sum(is.na(Hitters))
```

```
[1] 0
```

#An asterisk indicates that a given variable is included in the corresponding model.

```
regfit.full <- regsubsets(Salary ~ ., Hitters)
summary(regfit.full)
```

Subset selection object

Call: regsubsets.formula(Salary ~ ., Hitters)

19 Variables (and intercept)

	Forced in	Forced out
AtBat	FALSE	FALSE
Hits	FALSE	FALSE
HmRun	FALSE	FALSE
Runs	FALSE	FALSE
RBI	FALSE	FALSE
Walks	FALSE	FALSE
Years	FALSE	FALSE
CAtBat	FALSE	FALSE
CHits	FALSE	FALSE
CHmRun	FALSE	FALSE
CRuns	FALSE	FALSE
CRBI	FALSE	FALSE
CWalks	FALSE	FALSE
LeagueN	FALSE	FALSE
DivisionW	FALSE	FALSE
PutOuts	FALSE	FALSE
Assists	FALSE	FALSE

Errors FALSE FALSE

NewLeagueN FALSE FALSE

1 subsets of each size up to 8

Selection Algorithm: exhaustive

		AtBat	Hits	HmRun	Runs	RBI	Walks	Years	CatBat	CHits	CHmRun	CRuns	CRBI
1	(1)	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*"
2	(1)	" "	"*"	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*"
3	(1)	" "	"*"	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*"
4	(1)	" "	"*"	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*"
5	(1)	"*"	"*"	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*"
6	(1)	"*"	"*"	" "	" "	" "	"*"	" "	" "	" "	" "	" "	"*"
7	(1)	" "	"*"	" "	" "	" "	"*"	" "	"*"	"*"	"*"	" "	" "
8	(1)	"*"	"*"	" "	" "	" "	"*"	" "	" "	" "	"*"	"*"	" "

		CWalks	LeagueN	DivisionW	PutOuts	Assists	Errors	NewLeagueN
1	(1)	" "	" "	" "	" "	" "	" "	" "
2	(1)	" "	" "	" "	" "	" "	" "	" "
3	(1)	" "	" "	" "	"*"	" "	" "	" "
4	(1)	" "	" "	"*"	"*"	" "	" "	" "
5	(1)	" "	" "	"*"	"*"	" "	" "	" "
6	(1)	" "	" "	"*"	"*"	" "	" "	" "
7	(1)	" "	" "	"*"	"*"	" "	" "	" "
8	(1)	"*"	" "	"*"	"*"	" "	" "	" "

```
regfit.full <- regsubsets(Salary ~ .,  
                          data = Hitters,  
                          nvmax = 19)
```

```
reg.summary <- summary(regfit.full)
```

```
names(reg.summary)
```

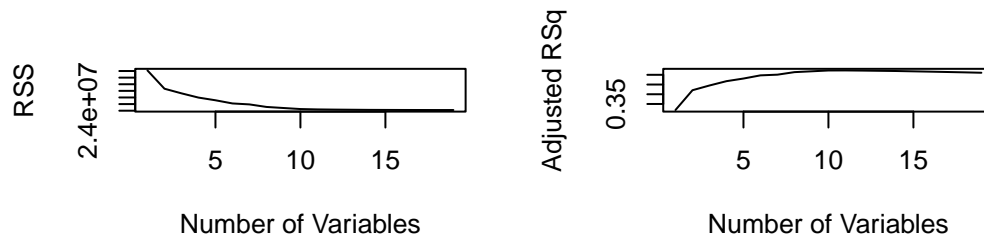
```
[1] "which" "rsq" "rss" "adjr2" "cp" "bic" "outmat" "obj"
```

```
reg.summary$rsq
```

```
[1] 0.3214501 0.4252237 0.4514294 0.4754067 0.4908036 0.5087146 0.5141227  
[8] 0.5285569 0.5346124 0.5404950 0.5426153 0.5436302 0.5444570 0.5452164  
[15] 0.5454692 0.5457656 0.5459518 0.5460945 0.5461159
```

#Plotting RSS, adjusted R2, Cp, and BIC for all of the models at once will help us decide which model to select

```
par(mfrow = c(2, 2))
plot(reg.summary$rss, xlab = "Number of Variables",
     ylab = "RSS", type = "l") #type = "l" option tells R to connect the plotted points with
plot(reg.summary$adjr2, xlab = "Number of Variables",
     ylab = "Adjusted RSq", type = "l")
```

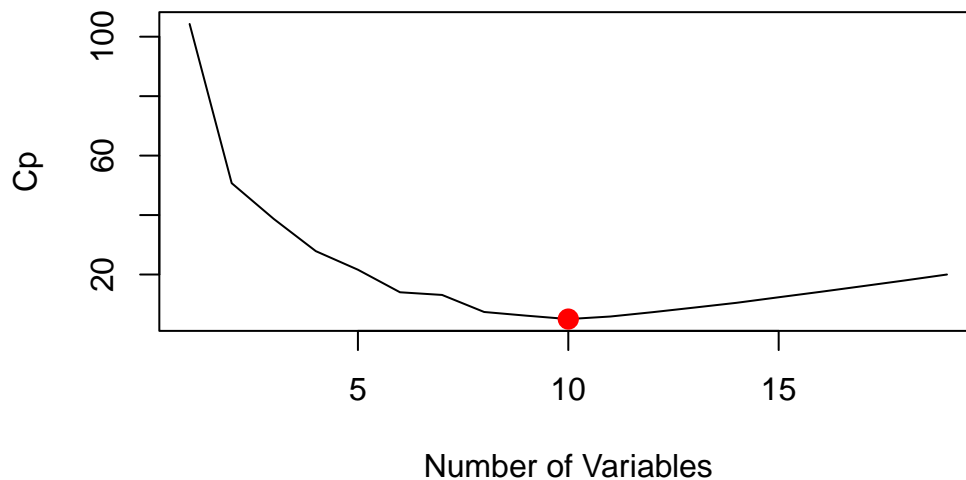


#can plot the Cp

```
plot(reg.summary$cp,
     xlab = "Number of Variables",
     ylab = "Cp", type = "l")
which.min(reg.summary$cp) #indicate the models with the smallest statistic
```

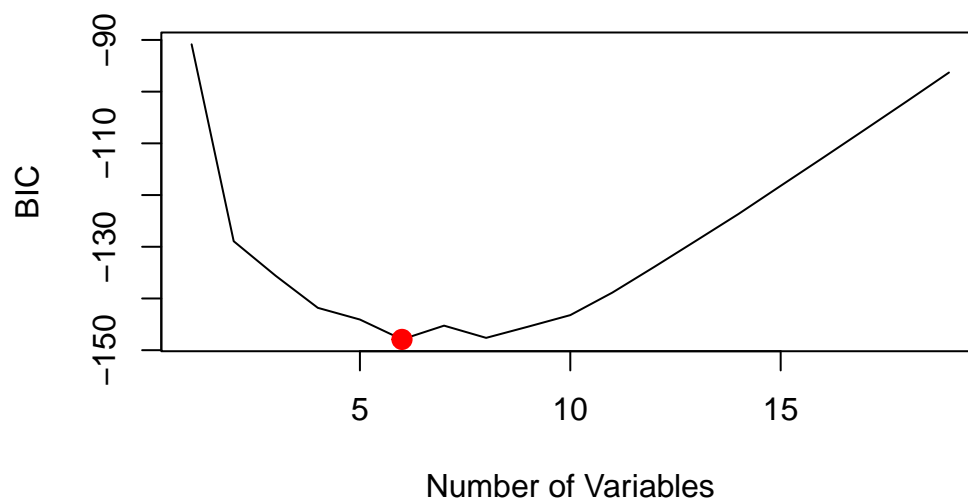
[1] 10

```
points(10,
       reg.summary$cp[10],
       col = "red",
       cex = 2,
       pch = 20)
```



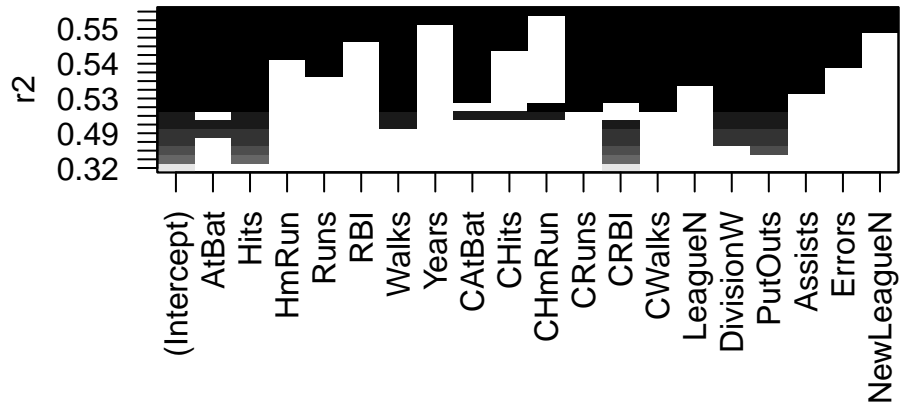
#and BIC statistics

```
plot(reg.summary$bic,  
     xlab = "Number of Variables",  
     ylab = "BIC",  
     type = "l")  
  
points(6,  
       reg.summary$bic[6],  
       col = "red",  
       cex = 2,  
       pch = 20)
```

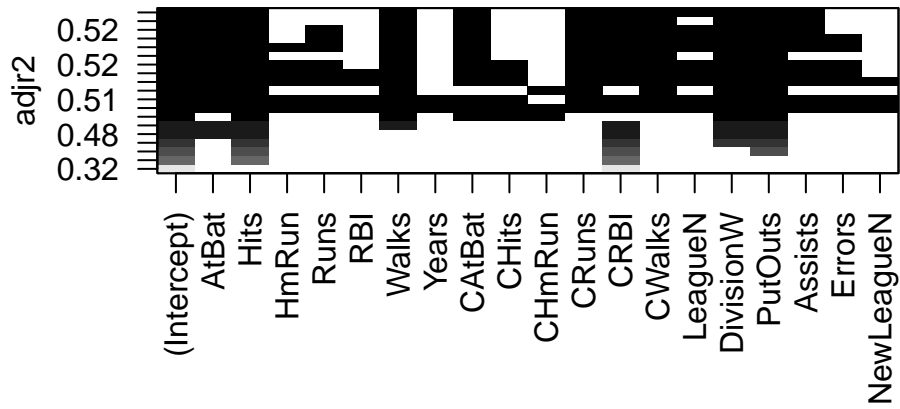


display the selected variables for the best model with a given number of predictors

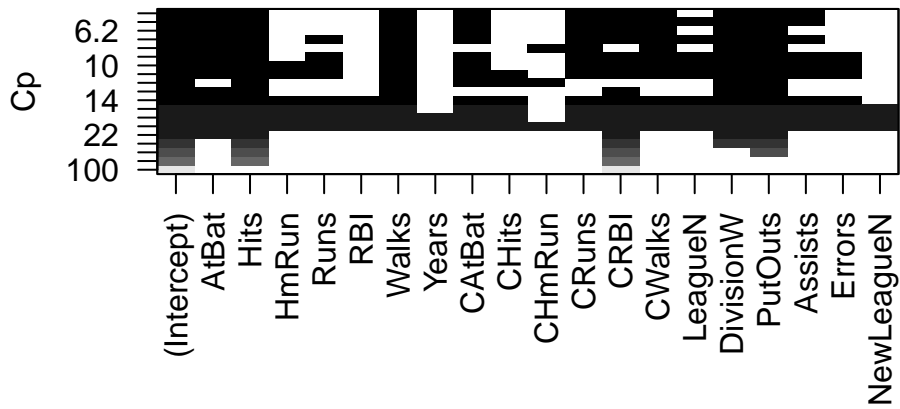
```
plot(regfit.full, scale = "r2")
```



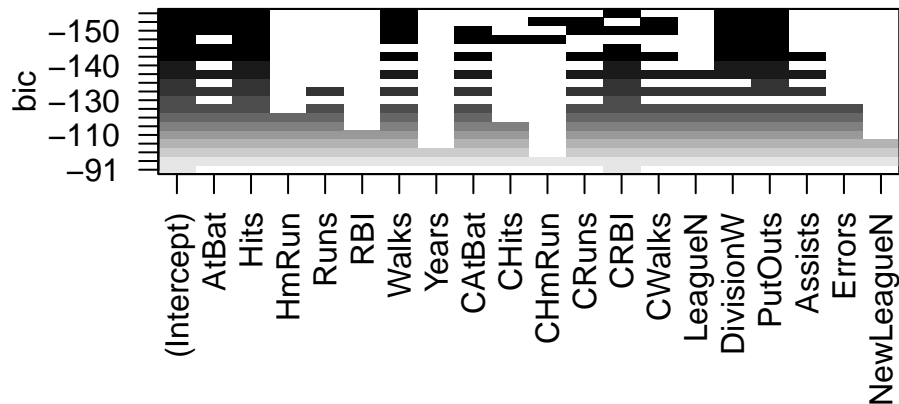
```
plot(regfit.full, scale = "adjr2")
```



```
plot(regfit.full, scale = "Cp")
```



```
plot(regfit.full, scale = "bic")
```



```
coef(regfit.full, 6)
```

```
(Intercept)      AtBat      Hits      Walks      CRBI      DivisionW
 91.5117981    -1.8685892    7.6043976    3.6976468    0.6430169   -122.9515338
PutOuts
 0.2643076
```

#Forward and Backward Stepwise Selection #the best one variable model contains only CRBI

```
regfit.fwd <- regsubsets(Salary ~ ., data = Hitters,
                          nvmax = 19, method = "forward")
```

```
summary(regfit.fwd)
```

Subset selection object

Call: regsubsets.formula(Salary ~ ., data = Hitters, nvmax = 19, method = "forward")

19 Variables (and intercept)

	Forced in	Forced out
AtBat	FALSE	FALSE
Hits	FALSE	FALSE
HmRun	FALSE	FALSE
Runs	FALSE	FALSE
RBI	FALSE	FALSE
Walks	FALSE	FALSE
Years	FALSE	FALSE

CAtBat	FALSE	FALSE
CHits	FALSE	FALSE
CHmRun	FALSE	FALSE
CRuns	FALSE	FALSE
CRBI	FALSE	FALSE
CWalks	FALSE	FALSE
LeagueN	FALSE	FALSE
DivisionW	FALSE	FALSE
PutOuts	FALSE	FALSE
Assists	FALSE	FALSE
Errors	FALSE	FALSE
NewLeagueN	FALSE	FALSE

1 subsets of each size up to 19

Selection Algorithm: forward

		AtBat	Hits	HmRun	Runs	RBI	Walks	Years	CAtBat	CHits	CHmRun	CRuns	CRBI
1	(1)	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*
2	(1)	" "	"*	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*
3	(1)	" "	"*	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*
4	(1)	" "	"*	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*
5	(1)	"*	"*	" "	" "	" "	" "	" "	" "	" "	" "	" "	"*
6	(1)	"*	"*	" "	" "	" "	"*	" "	" "	" "	" "	" "	"*
7	(1)	"*	"*	" "	" "	" "	"*	" "	" "	" "	" "	" "	"*
8	(1)	"*	"*	" "	" "	" "	"*	" "	" "	" "	" "	"*	"*
9	(1)	"*	"*	" "	" "	" "	"*	" "	"*	" "	" "	"*	"*
10	(1)	"*	"*	" "	" "	" "	"*	" "	"*	" "	" "	"*	"*
11	(1)	"*	"*	" "	" "	" "	"*	" "	"*	" "	" "	"*	"*
12	(1)	"*	"*	" "	"*	" "	"*	" "	"*	" "	" "	"*	"*
13	(1)	"*	"*	" "	"*	" "	"*	" "	"*	" "	" "	"*	"*
14	(1)	"*	"*	"*	"*	" "	"*	" "	"*	" "	" "	"*	"*
15	(1)	"*	"*	"*	"*	" "	"*	" "	"*	"*	" "	"*	"*
16	(1)	"*	"*	"*	"*	"*	"*	" "	"*	"*	" "	"*	"*
17	(1)	"*	"*	"*	"*	"*	"*	" "	"*	"*	" "	"*	"*
18	(1)	"*	"*	"*	"*	"*	"*	"*	"*	"*	" "	"*	"*
19	(1)	"*	"*	"*	"*	"*	"*	"*	"*	"*	"*	"*	"*

		CWalks	LeagueN	DivisionW	PutOuts	Assists	Errors	NewLeagueN
1	(1)	" "	" "	" "	" "	" "	" "	" "
2	(1)	" "	" "	" "	" "	" "	" "	" "
3	(1)	" "	" "	" "	"*	" "	" "	" "
4	(1)	" "	" "	"*	"*	" "	" "	" "
5	(1)	" "	" "	"*	"*	" "	" "	" "
6	(1)	" "	" "	"*	"*	" "	" "	" "
7	(1)	"*	" "	"*	"*	" "	" "	" "
8	(1)	"*	" "	"*	"*	" "	" "	" "

```

9  ( 1 ) "*" " " "*" "*" " " " " " "
10 ( 1 ) "*" " " "*" "*" "*" " " " "
11 ( 1 ) "*" "*" "*" "*" "*" " " " "
12 ( 1 ) "*" "*" "*" "*" "*" " " " "
13 ( 1 ) "*" "*" "*" "*" "*" "*" " "
14 ( 1 ) "*" "*" "*" "*" "*" "*" " "
15 ( 1 ) "*" "*" "*" "*" "*" "*" " "
16 ( 1 ) "*" "*" "*" "*" "*" "*" " "
17 ( 1 ) "*" "*" "*" "*" "*" "*" "*"
18 ( 1 ) "*" "*" "*" "*" "*" "*" "*"
19 ( 1 ) "*" "*" "*" "*" "*" "*" "*"

```

```

regfit.bwd <- regsubsets(Salary ~ ., data = Hitters,
                        nvmax = 19, method = "backward")
summary(regfit.bwd)

```

Subset selection object

Call: regsubsets.formula(Salary ~ ., data = Hitters, nvmax = 19, method = "backward")

19 Variables (and intercept)

Forced in Forced out

AtBat	FALSE	FALSE
Hits	FALSE	FALSE
HmRun	FALSE	FALSE
Runs	FALSE	FALSE
RBI	FALSE	FALSE
Walks	FALSE	FALSE
Years	FALSE	FALSE
CatBat	FALSE	FALSE
CHits	FALSE	FALSE
CHmRun	FALSE	FALSE
CRuns	FALSE	FALSE
CRBI	FALSE	FALSE
CWalks	FALSE	FALSE
LeagueN	FALSE	FALSE
DivisionW	FALSE	FALSE
PutOuts	FALSE	FALSE
Assists	FALSE	FALSE
Errors	FALSE	FALSE
NewLeagueN	FALSE	FALSE

1 subsets of each size up to 19

Selection Algorithm: backward

AtBat Hits HmRun Runs RBI Walks Years CatBat CHits CHmRun CRuns CRBI

CWalks LeagueN DivisionW PutOuts Assists Errors NewLeagueN

#best 7 variable models

```
coef(regfit.full, 7)
```

(Intercept)	Hits	Walks	CAtBat	CHits	CHmRun
79.4509472	1.2833513	3.2274264	-0.3752350	1.4957073	1.4420538
DivisionW	PutOuts				
-129.9866432	0.2366813				

```
coef(regfit.fwd, 7)
```

(Intercept)	AtBat	Hits	Walks	CRBI	CWalks
109.7873062	-1.9588851	7.4498772	4.9131401	0.8537622	-0.3053070
DivisionW	PutOuts				
-127.1223928	0.2533404				

```
coef(regfit.bwd, 7)
```

(Intercept)	AtBat	Hits	Walks	CRuns	CWalks
105.6487488	-1.9762838	6.7574914	6.0558691	1.1293095	-0.7163346
DivisionW	PutOuts				
-116.1692169	0.3028847				

#Choosing Among Models Using the Validation-Set Approach and Cross-Validation

```
set.seed(1)
train <- sample(c(TRUE, FALSE), nrow(Hitters),
               replace = TRUE)
test <- (!train)
```

apply regsubsets() to the training set in order to perform best subset selection

```
regfit.best <- regsubsets(Salary ~ .,
                        data = Hitters[train, ], nvmax = 19)
```

#make a model matrix from the test data

```
test.mat <- model.matrix(Salary ~ ., data = Hitters[test, ])
```

#run a loop, and for each size i, we extract the coefficients from regfit.best #apply the model on test sample

```
val.errors <- rep(NA, 19)

for (i in 1:19) {
  coefi <- coef(regfit.best, id = i)
  pred <- test.mat[, names(coefi)] %*% coefi
  val.errors[i] <- mean((Hitters$Salary[test] - pred)^2)
}
```

```
val.errors
```

```
[1] 164377.3 144405.5 152175.7 145198.4 137902.1 139175.7 126849.0 136191.4
[9] 132889.6 135434.9 136963.3 140694.9 140690.9 141951.2 141508.2 142164.4
[17] 141767.4 142339.6 142238.2
```

```
which.min(val.errors)
```

```
[1] 7
```

```
coef(regfit.best, 7)
```

(Intercept)	AtBat	Hits	Walks	CRuns	CWalks
67.1085369	-2.1462987	7.0149547	8.0716640	1.2425113	-0.8337844
DivisionW	PutOuts				
-118.4364998	0.2526925				

```
predict.regsubsets <- function(object, newdata , id, ...) {
  form <- as.formula(object$call[[2]])
  mat <- model.matrix(form, newdata)
  coefi <- coef(object, id = id)
  xvars <- names(coefi)
  mat[, xvars] %*% coefi
}
```

##Finally, we perform best subset selection on the full data set

```
regfit.best <- regsubsets(Salary ~ ., data = Hitters,
                          nvmax = 19)
coef(regfit.best, 7)
```

(Intercept)	Hits	Walks	CAtBat	CHits	CHmRun
79.4509472	1.2833513	3.2274264	-0.3752350	1.4957073	1.4420538
DivisionW	PutOuts				
-129.9866432	0.2366813				

#crossvalidation

```
k <- 10 # = 10 folds
n <- nrow(Hitters)
set.seed(1)
folds <- sample(rep(1:k, length = n))
cv.errors <- matrix(NA, k, 19,
                    dimnames = list(NULL, paste(1:19))) # create a matrix in which we will store the results
```

write a for loop that performs cross-validation

```
for (j in 1:k) {
  best.fit <- regsubsets(Salary ~ .,
                        data = Hitters[folds != j, ],
                        nvmax = 19)

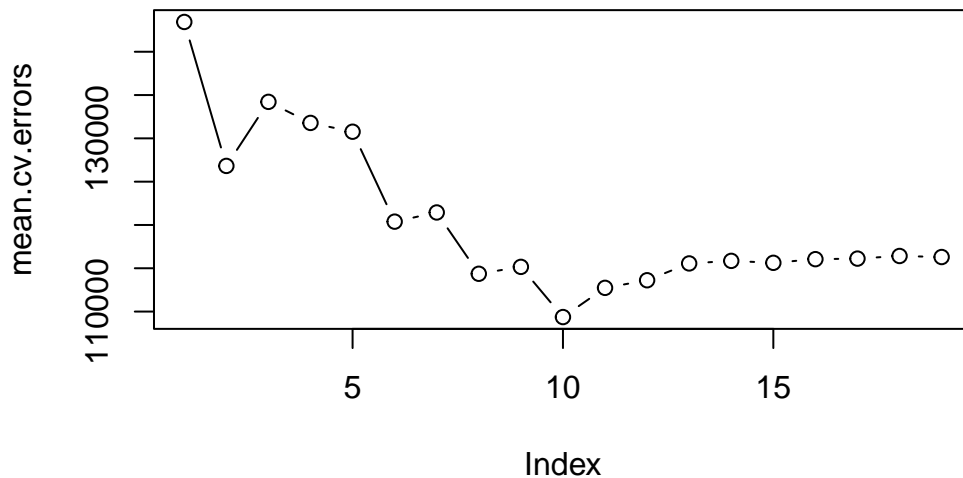
  for (i in 1:19) {
    pred <- predict(best.fit, Hitters[folds == j, ], id = i)
    cv.errors[j, i] <-
      mean((Hitters$Salary[folds == j] - pred)^2)
  }
}
```

#given us a 10×19 matrix, of which the (j, i)th element corresponds to the test MSE for the jth cross-validation fold for the best i-variable model.

```
mean.cv.errors <- apply(cv.errors, 2, mean)
mean.cv.errors
```

1	2	3	4	5	6	7	8
143439.8	126817.0	134214.2	131782.9	130765.6	120382.9	121443.1	114363.7
9	10	11	12	13	14	15	16
115163.1	109366.0	112738.5	113616.5	115557.6	115853.3	115630.6	116050.0
17	18	19					
116117.0	116419.3	116299.1					

```
par(mfrow = c(1, 1))
plot(mean.cv.errors, type = "b")
```



#selects a 10-variable model

```
reg.best <- regsubsets(Salary ~ ., data = Hitters,
                       nvmax = 19)
coef(reg.best, 10)
```

(Intercept)	AtBat	Hits	Walks	CAtBat	CRuns
162.5354420	-2.1686501	6.9180175	5.7732246	-0.1300798	1.4082490
CRBI	CWalks	DivisionW	PutOuts	Assists	
0.7743122	-0.8308264	-112.3800575	0.2973726	0.2831680	

#6.5.2 Ridge Regression and the Lasso

#perform ridge regression and the lasso in order to predict Salary on the Hitters data

```
x <- model.matrix(Salary ~ ., Hitters)[, -1] # produce a matrix corresponding to the 19 pred.
#automatically transforms any qualitative variables into dummy variables
y <- Hitters$Salary
```

```
#Ridge Regression
```

```
grid <- 10^seq(10, -2, length = 100)
ridge.mod <- glmnet(x, y, alpha = 0, lambda = grid)
```

```
dim(coef(ridge.mod))
```

```
[1] 20 100
```

```
ridge.mod$lambda[50]
```

```
[1] 11497.57
```

```
coef(ridge.mod)[, 50]
```

(Intercept)	AtBat	Hits	HmRun	Runs
407.356050200	0.036957182	0.138180344	0.524629976	0.230701523
RBI	Walks	Years	CAtBat	CHits
0.239841459	0.289618741	1.107702929	0.003131815	0.011653637
CHmRun	CRuns	CRBI	CWalks	LeagueN
0.087545670	0.023379882	0.024138320	0.025015421	0.085028114
DivisionW	PutOuts	Assists	Errors	NewLeagueN
-6.215440973	0.016482577	0.002612988	-0.020502690	0.301433531

```
sqrt(sum(coef(ridge.mod)[-1, 50]^2))
```

```
[1] 6.360612
```

```
ridge.mod$lambda[60]
```

```
[1] 705.4802
```

```
ridge.mod$lambda[60]
```

```
[1] 705.4802
```



```
coef(ridge.mod)[, 60]
```

(Intercept)	AtBat	Hits	HmRun	Runs	RBI
54.32519950	0.11211115	0.65622409	1.17980910	0.93769713	0.84718546
Walks	Years	CAAtBat	CHits	CHmRun	CRuns
1.31987948	2.59640425	0.01083413	0.04674557	0.33777318	0.09355528
CRBI	CWalks	LeagueN	DivisionW	PutOuts	Assists
0.09780402	0.07189612	13.68370191	-54.65877750	0.11852289	0.01606037
Errors	NewLeagueN				
-0.70358655	8.61181213				

```
sqrt(sum(coef(ridge.mod)[-1, 60]^2))
```

```
[1] 57.11001
```

#use the predict() function to obtain the ridge regression coefficients for a new value of s , say 50

```
predict(ridge.mod, s = 50, type = "coefficients")[1:20, ]
```

(Intercept)	AtBat	Hits	HmRun	Runs
4.876610e+01	-3.580999e-01	1.969359e+00	-1.278248e+00	1.145892e+00
RBI	Walks	Years	CAAtBat	CHits
8.038292e-01	2.716186e+00	-6.218319e+00	5.447837e-03	1.064895e-01
CHmRun	CRuns	CRBI	CWalks	LeagueN
6.244860e-01	2.214985e-01	2.186914e-01	-1.500245e-01	4.592589e+01
DivisionW	PutOuts	Assists	Errors	NewLeagueN
-1.182011e+02	2.502322e-01	1.215665e-01	-3.278600e+00	-9.496680e+00

split the samples into a training set and a test set

```
set.seed(1)
train <- sample(1:nrow(x), nrow(x) / 2)
test <- (-train)
y.test <- y[test]
```

get predictions for a test set

using $s = 4$.

test MSE is 142,199

```
ridge.mod <- glmnet(x[train, ], y[train], alpha = 0,  
                   lambda = grid, thresh = 1e-12)  
ridge.pred <- predict(ridge.mod, s = 4, newx = x[test, ])  
mean((ridge.pred - y.test)^2)
```

```
[1] 142199.2
```

#with just intercept

```
mean((mean(y[train]) - y.test)^2)
```

```
[1] 224669.9
```

```
ridge.pred <- predict(ridge.mod, s = 1e10, newx = x[test, ])  
mean((ridge.pred - y.test)^2)
```

```
[1] 224669.8
```

```
ridge.pred <- predict(ridge.mod, s = 0, newx = x[test, ],  
                     exact = T, x = x[train, ], y = y[train])  
mean((ridge.pred - y.test)^2)
```

```
[1] 168588.6
```

```
lm(y ~ x, subset = train)
```

Call:

```
lm(formula = y ~ x, subset = train)
```

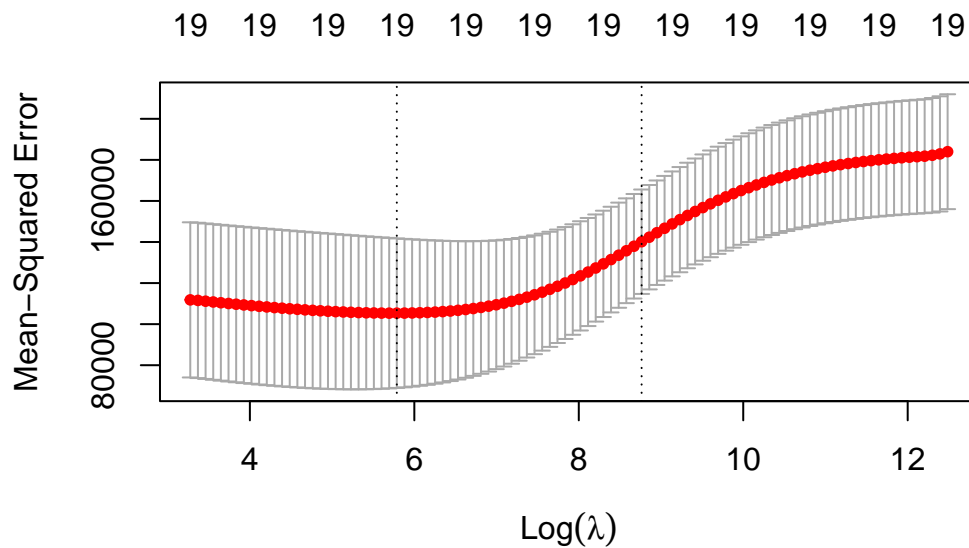
Coefficients:

(Intercept)	xAtBat	xHits	xHmRun	xRuns	xRBI
274.0145	-0.3521	-1.6377	5.8145	1.5424	1.1243
xWalks	xYears	xCAtBat	xCHits	xCHmRun	xCRuns
3.7287	-16.3773	-0.6412	3.1632	3.4008	-0.9739
xCRBI	xCWalks	xLeagueN	xDivisionW	xPutOuts	xAssists
-0.6005	0.3379	119.1486	-144.0831	0.1976	0.6804
xErrors	xNewLeagueN				
-4.7128	-71.0951				

```
predict(ridge.mod, s = 0, exact = T, type = "coefficients",  
x = x[train, ], y = y[train])[1:20, ]
```

(Intercept)	AtBat	Hits	HmRun	Runs	RBI
274.0200994	-0.3521900	-1.6371383	5.8146692	1.5423361	1.1241837
Walks	Years	CAtBat	CHits	CHmRun	CRuns
3.7288406	-16.3795195	-0.6411235	3.1629444	3.4005281	-0.9739405
CRBI	CWalks	LeagueN	DivisionW	PutOuts	Assists
-0.6003976	0.3378422	119.1434637	-144.0853061	0.1976300	0.6804200
Errors	NewLeagueN				
-4.7127879	-71.0898914				

```
set.seed(1)  
cv.out <- cv.glmnet(x[train, ], y[train], alpha = 0)  
plot(cv.out)
```



```
bestlam <- cv.out$lambda.min
bestlam #see that the value of      that results in the smallest crossvalidation error is 326.
```

```
[1] 326.0828
```

#the MSE associated with this value of lamda

```
ridge.pred <- predict(ridge.mod, s = bestlam,
                      newx = x[test, ])
mean((ridge.pred - y.test)^2)
```

```
[1] 139856.6
```

#This represents a further improvement over the test MSE that we got using $\lambda = 4$.

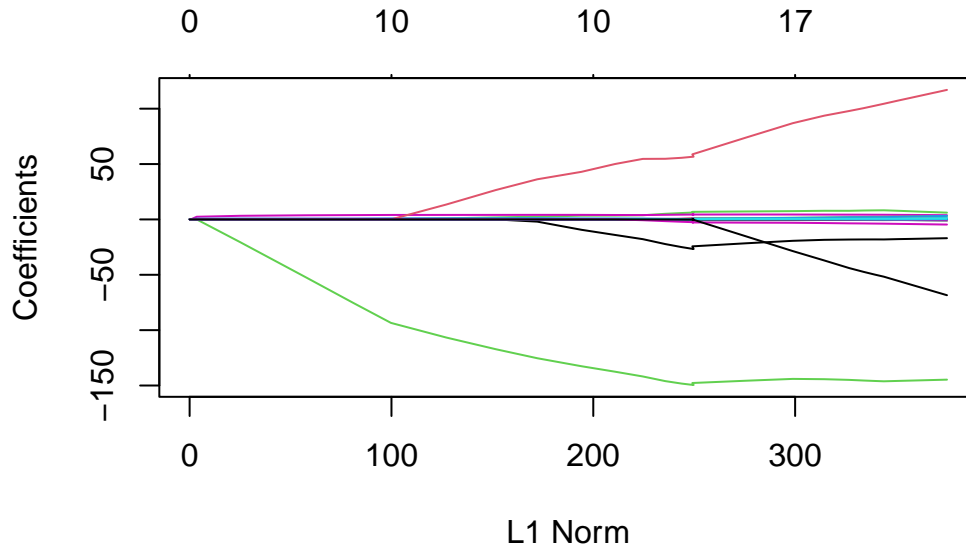
```
out <- glmnet(x, y, alpha = 0)
predict(out, type = "coefficients", s = bestlam)[1:20, ]
```

(Intercept)	AtBat	Hits	HmRun	Runs	RBI
15.44383120	0.07715547	0.85911582	0.60103106	1.06369007	0.87936105
Walks	Years	CAtBat	CHits	CHmRun	CRuns
1.62444617	1.35254778	0.01134999	0.05746654	0.40680157	0.11456224
CRBI	CWalks	LeagueN	DivisionW	PutOuts	Assists
0.12116504	0.05299202	22.09143197	-79.04032656	0.16619903	0.02941950
Errors	NewLeagueN				
-1.36092945	9.12487765				

#The Lasso

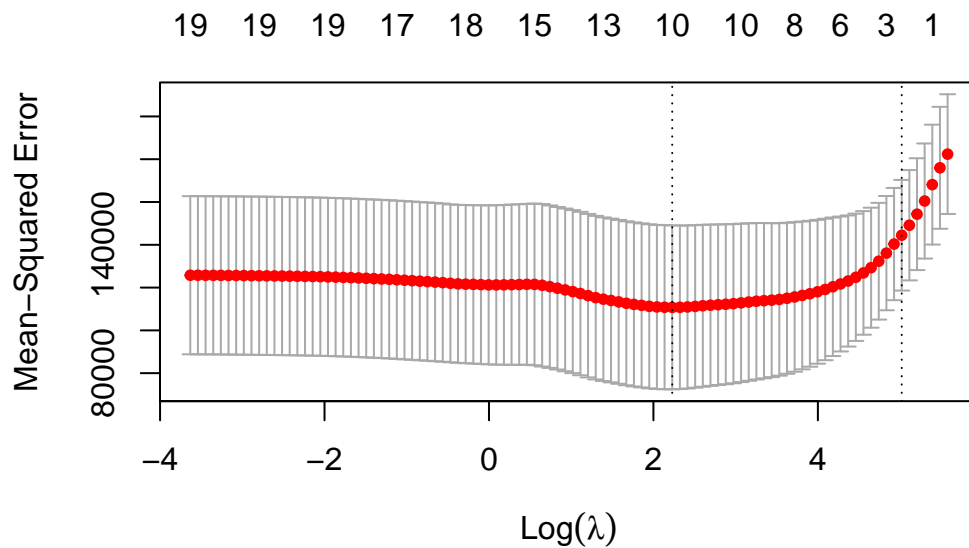
```
lasso.mod <- glmnet(x[train, ], y[train], alpha = 1,  
                   lambda = grid)  
plot(lasso.mod)
```

Warning in regularize.values(x, y, ties, missing(ties), na.rm = na.rm):
collapsing to unique 'x' values



#perform cross-validation and compute the associated test error

```
set.seed(1)  
cv.out <- cv.glmnet(x[train, ], y[train], alpha = 1)  
plot(cv.out)
```



```
bestlam <- cv.out$lambda.min
lasso.pred <- predict(lasso.mod, s = bestlam,
                      newx = x[test, ])
mean((lasso.pred - y.test)^2)
```

```
[1] 143673.6
```

```
out <- glmnet(x, y, alpha = 1, lambda = grid)
lasso.coef <- predict(out, type = "coefficients",
                      s = bestlam)[1:20, ]
lasso.coef
```

(Intercept)	AtBat	Hits	HmRun	Runs
1.27479059	-0.05497143	2.18034583	0.00000000	0.00000000
RBI	Walks	Years	CAtBat	CHits
0.00000000	2.29192406	-0.33806109	0.00000000	0.00000000
CHmRun	CRuns	CRBI	CWalks	LeagueN
0.02825013	0.21628385	0.41712537	0.00000000	20.28615023
DivisionW	PutOuts	Assists	Errors	NewLeagueN
-116.16755870	0.23752385	0.00000000	-0.85629148	0.00000000

#6.5.3 PCR and PLS Regression

```
install.packages("pls")
```

Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
(as 'lib' is unspecified)

```
library(pls)
```

Attaching package: 'pls'

The following object is masked from 'package:stats':

loadings

```
set.seed(2)
pcr.fit <- pcr(Salary ~ ., data = Hitters, scale = TRUE,
               validation = "CV")
```

```
summary(pcr.fit)
```

Data: X dimension: 263 19
Y dimension: 263 1
Fit method: svdpc
Number of components considered: 19

VALIDATION: RMSEP

Cross-validated using 10 random segments.

	(Intercept)	1 comps	2 comps	3 comps	4 comps	5 comps	6 comps
CV	452	351.9	353.2	355.0	352.8	348.4	343.6
adjCV	452	351.6	352.7	354.4	352.1	347.6	342.7
	7 comps	8 comps	9 comps	10 comps	11 comps	12 comps	13 comps
CV	345.5	347.7	349.6	351.4	352.1	353.5	358.2
adjCV	344.7	346.7	348.5	350.1	350.7	352.0	356.5
	14 comps	15 comps	16 comps	17 comps	18 comps	19 comps	
CV	349.7	349.4	339.9	341.6	339.2	339.6	
adjCV	348.0	347.7	338.2	339.7	337.2	337.6	

TRAINING: % variance explained

1 comps	2 comps	3 comps	4 comps	5 comps	6 comps	7 comps	8 comps
---------	---------	---------	---------	---------	---------	---------	---------

X	38.31	60.16	70.84	79.03	84.29	88.63	92.26	94.96
Salary	40.63	41.58	42.17	43.22	44.90	46.48	46.69	46.75
	9 comps	10 comps	11 comps	12 comps	13 comps	14 comps	15 comps	
X	96.28	97.26	97.98	98.65	99.15	99.47	99.75	
Salary	46.86	47.76	47.82	47.85	48.10	50.40	50.55	
	16 comps	17 comps	18 comps	19 comps				
X	99.89	99.97	99.99	100.00				
Salary	53.01	53.85	54.61	54.61				

#CV score is provided for each possible number of components, ranging from $M = 0$ onwards.

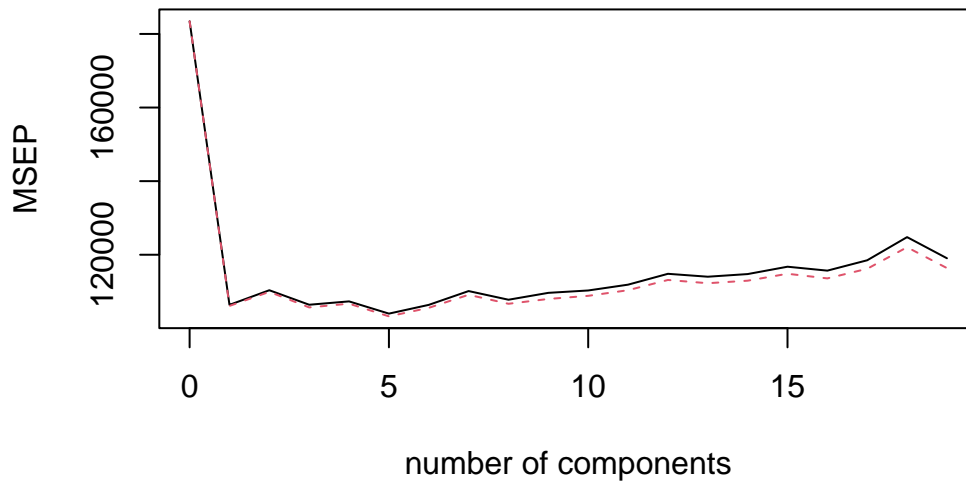
#pcr() reports the root mean squared error

```
validationplot(pcr.fit, val.type = "MSEP")
```



```
set.seed(1)
pcr.fit <- pcr(Salary ~ ., data = Hitters, subset = train,
               scale = TRUE, validation = "CV")
validationplot(pcr.fit, val.type = "MSEP")
```


Salary



```
pcr.pred <- predict(pcr.fit, x[test, ], ncomp = 5)
mean((pcr.pred - y.test)^2)
```

```
[1] 142811.8
```

#Finally, we fit PCR on the full data set, using $M = 5$, the number of components identified by cross-validation

```
pcr.fit <- pcr(y ~ x, scale = TRUE, ncomp = 5)
summary(pcr.fit)
```

```
Data:   X dimension: 263 19
       Y dimension: 263 1
Fit method: svdpc
Number of components considered: 5
TRAINING: % variance explained
      1 comps  2 comps  3 comps  4 comps  5 comps
X      38.31   60.16   70.84   79.03   84.29
y      40.63   41.58   42.17   43.22   44.90
```

#Partial Least Squares #lowest cross-validation error occurs when only $M = 1$ partial least squares directions are used.

```
set.seed(1)
pls.fit <- plsr(Salary ~ ., data = Hitters, subset = train, scale= TRUE, validation = "CV")
summary(pls.fit)
```

```
Data:   X dimension: 131 19
      Y dimension: 131 1
Fit method: kernelpls
Number of components considered: 19
```

VALIDATION: RMSEP

Cross-validated using 10 random segments.

	(Intercept)	1 comps	2 comps	3 comps	4 comps	5 comps	6 comps
CV	428.3	325.5	329.9	328.8	339.0	338.9	340.1
adjCV	428.3	325.0	328.2	327.2	336.6	336.1	336.6

	7 comps	8 comps	9 comps	10 comps	11 comps	12 comps	13 comps
CV	339.0	347.1	346.4	343.4	341.5	345.4	356.4
adjCV	336.2	343.4	342.8	340.2	338.3	341.8	351.1

	14 comps	15 comps	16 comps	17 comps	18 comps	19 comps
CV	348.4	349.1	350.0	344.2	344.5	345.0
adjCV	344.2	345.0	345.9	340.4	340.6	341.1

TRAINING: % variance explained

	1 comps	2 comps	3 comps	4 comps	5 comps	6 comps	7 comps	8 comps
X	39.13	48.80	60.09	75.07	78.58	81.12	88.21	90.71
Salary	46.36	50.72	52.23	53.03	54.07	54.77	55.05	55.66

	9 comps	10 comps	11 comps	12 comps	13 comps	14 comps	15 comps
X	93.17	96.05	97.08	97.61	97.97	98.70	99.12
Salary	55.95	56.12	56.47	56.68	57.37	57.76	58.08

	16 comps	17 comps	18 comps	19 comps
X	99.61	99.70	99.95	100.00
Salary	58.17	58.49	58.56	58.62

```
validationplot(pls.fit, val.type = "MSEP")
```



now evaluate the corresponding test set MSE

```
pls.pred <- predict(pls.fit, x[test, ], ncomp = 1)
mean((pls.pred - y.test)^2)
```

```
[1] 151995.3
```

#Finally, we perform PLS using the full data set, using $M = 1$

```
pls.fit <- pls(Salary ~ ., data = Hitters, scale = TRUE,
               ncomp = 1)
summary(pls.fit)
```

```
Data:   X dimension: 263 19
       Y dimension: 263 1
Fit method: kernelpls
Number of components considered: 1
TRAINING: % variance explained
      1 comps
X      38.08
Salary 43.05
```

```
#####8
```

```
set.seed(1)
X <- rnorm(100)
eps <- rnorm(100)
```

```
#b)
```

```
b0 <- 1
b1 <- 2
b2 <- -1
b3 <- 3
Y <- b0 + b1*X + b2*X^2 + b3*X^3
```

```
df <- data.frame(poly(X, 10, raw = TRUE), Y = Y)
colnames(df)[1:10] <- paste0("x^", 1:10)
```

```
#c) perform best subset selection
```

```
regfit.full <- regsubsets(Y ~ ., df)
summary(regfit.full)
```

Subset selection object

Call: regsubsets.formula(Y ~ ., df)

10 Variables (and intercept)

Forced in Forced out

`x^1`	FALSE	FALSE
`x^2`	FALSE	FALSE
`x^3`	FALSE	FALSE
`x^4`	FALSE	FALSE
`x^5`	FALSE	FALSE
`x^6`	FALSE	FALSE
`x^7`	FALSE	FALSE
`x^8`	FALSE	FALSE
`x^9`	FALSE	FALSE
`x^10`	FALSE	FALSE

1 subsets of each size up to 8

Selection Algorithm: exhaustive

		`x^1`	`x^2`	`x^3`	`x^4`	`x^5`	`x^6`	`x^7`	`x^8`	`x^9`	`x^10`
1	(1)	" "	" "	"*	" "	" "	" "	" "	" "	" "	" "
2	(1)	" "	"*	"*	" "	" "	" "	" "	" "	" "	" "

```

3 ( 1 ) "*"  "*"  "*"  " "  " "  " "  " "  " "  " "  " "
4 ( 1 ) "*"  "*"  "*"  "*"  " "  " "  " "  " "  " "  " "
5 ( 1 ) "*"  "*"  "*"  " "  " "  " "  " "  "*"  "*"  " "
6 ( 1 ) "*"  "*"  "*"  "*"  " "  "*"  " "  " "  "*"  " "
7 ( 1 ) "*"  "*"  "*"  " "  "*"  "*"  " "  "*"  " "  "*"
8 ( 1 ) "*"  "*"  "*"  " "  " "  "*"  "*"  "*"  "*"  "*"

```

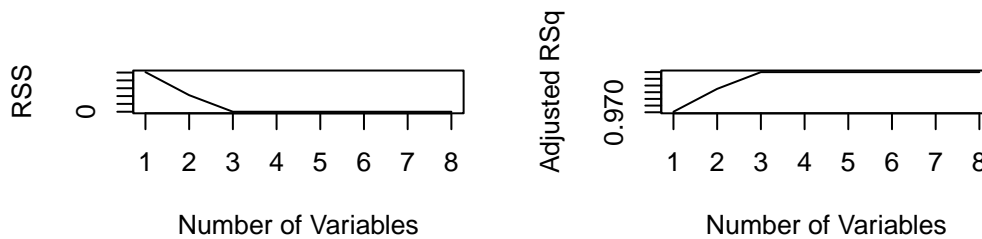
```
reg.summary <- summary(regfit.full)
```

#R²

```

par(mfrow = c(2, 2))
plot(reg.summary$rss, xlab = "Number of Variables",
      ylab = "RSS", type = "l")
plot(reg.summary$adjr2, xlab = "Number of Variables",
      ylab = "Adjusted RSq", type = "l")

```



largest adjusted R2 statistic.

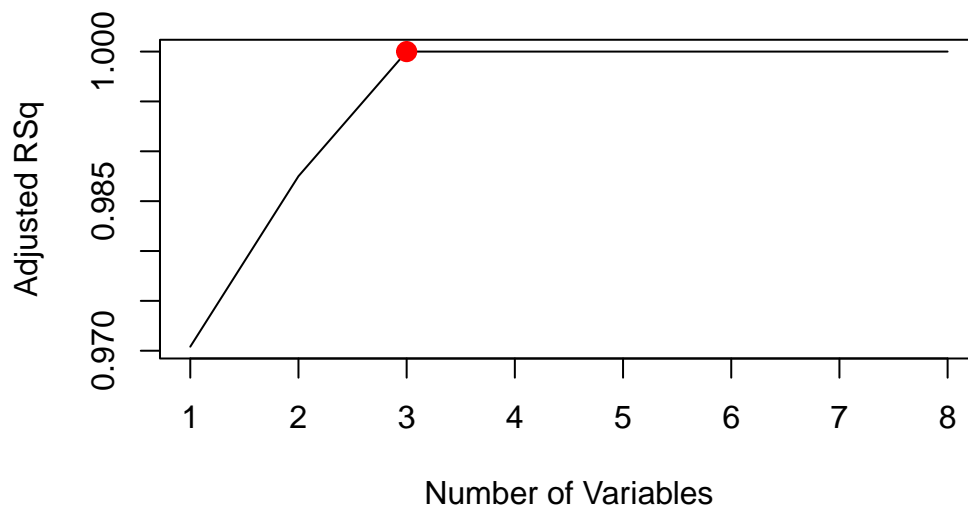
```
which.max(reg.summary$adjr2)
```

```
[1] 3
```

```

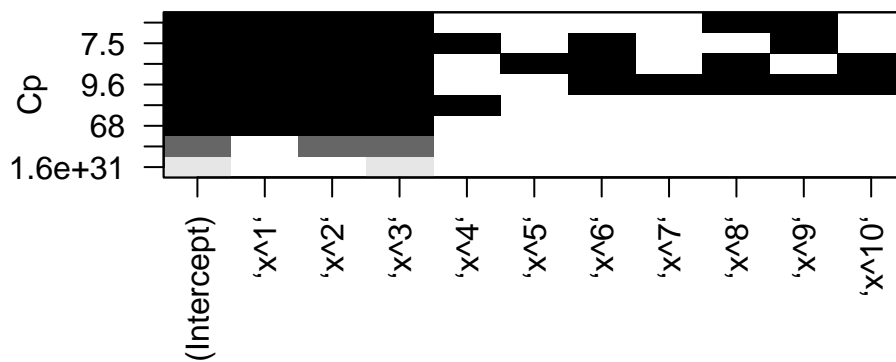
plot(reg.summary$adjr2, xlab = "Number of Variables",
      ylab = "Adjusted RSq", type = "l")
points(3, reg.summary$adjr2[3], col = "red", cex = 2, pch = 20)

```



#plot the Cp and BIC statistics

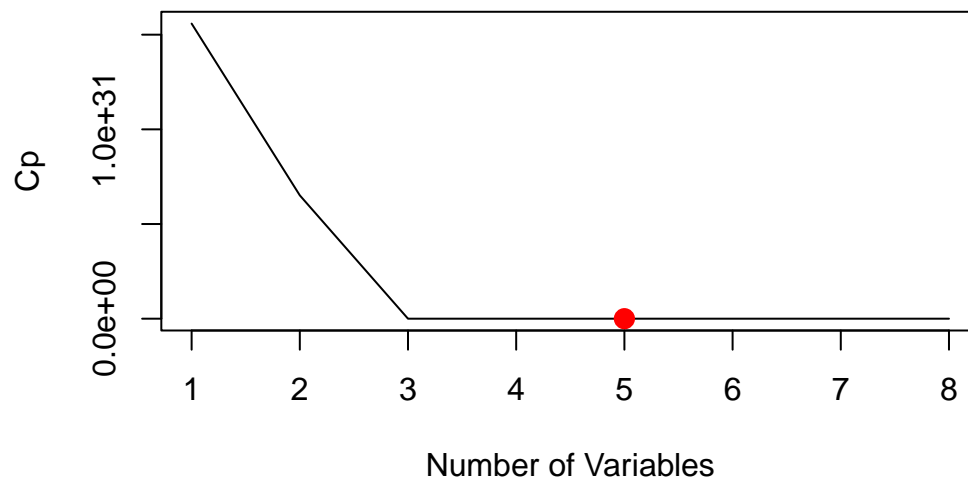
```
plot(regfit.full, scale = "Cp")
```



```
plot(reg.summary$cp, xlab = "Number of Variables",
     ylab = "Cp", type = "l")
which.min(reg.summary$cp)
```

```
[1] 5
```

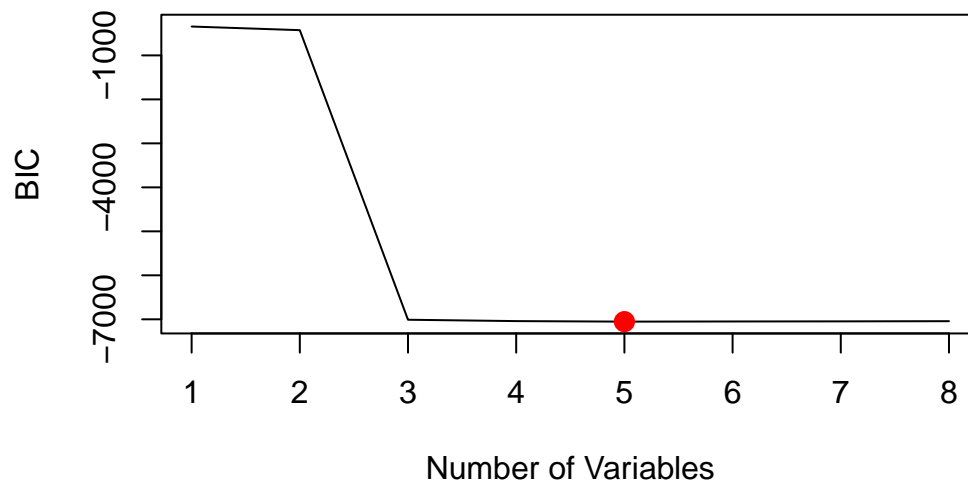
```
points(5, reg.summary$cp[5], col = "red", cex = 2,
      pch = 20)
```



```
which.min(reg.summary$bic)
```

```
[1] 5
```

```
plot(reg.summary$bic, xlab = "Number of Variables",
     ylab = "BIC", type = "l")
points(5, reg.summary$bic[5], col = "red", cex = 2,
      pch = 20)
```



```
coef(regfit.full,6)
```

```
(Intercept)      `x^1`      `x^2`      `x^3`      `x^4`
```

```

1.000000e+00 2.000000e+00 -1.000000e+00 3.000000e+00 -4.649059e-16
      `x^6`      `x^9`
3.608225e-16 -1.517883e-17

```

forward and backward stepwise selection

```

regfit.fwd <- regsubsets(Y ~ ., data = df,
                        nvmax = 10, method = "forward")
summary(regfit.fwd)

```

Subset selection object

Call: regsubsets.formula(Y ~ ., data = df, nvmax = 10, method = "forward")

10 Variables (and intercept)

	Forced in	Forced out
`x^1`	FALSE	FALSE
`x^2`	FALSE	FALSE
`x^3`	FALSE	FALSE
`x^4`	FALSE	FALSE
`x^5`	FALSE	FALSE
`x^6`	FALSE	FALSE
`x^7`	FALSE	FALSE
`x^8`	FALSE	FALSE
`x^9`	FALSE	FALSE
`x^10`	FALSE	FALSE

1 subsets of each size up to 10

Selection Algorithm: forward

		`x^1`	`x^2`	`x^3`	`x^4`	`x^5`	`x^6`	`x^7`	`x^8`	`x^9`	`x^10`
1	(1)	" "	" "	"*	" "	" "	" "	" "	" "	" "	" "
2	(1)	" "	"*	"*	" "	" "	" "	" "	" "	" "	" "
3	(1)	"*	"*	"*	" "	" "	" "	" "	" "	" "	" "
4	(1)	"*	"*	"*	"*	" "	" "	" "	" "	" "	" "
5	(1)	"*	"*	"*	"*	"*	" "	" "	" "	" "	" "
6	(1)	"*	"*	"*	"*	"*	"*	" "	" "	" "	" "
7	(1)	"*	"*	"*	"*	"*	"*	" "	" "	" "	"*
8	(1)	"*	"*	"*	"*	"*	"*	" "	"*	" "	"*
9	(1)	"*	"*	"*	"*	"*	"*	" "	"*	"*	"*
10	(1)	"*	"*	"*	"*	"*	"*	"*	"*	"*	"*


```
regfit.bwd <- regsubsets(Y ~ ., data = df,
                        nvmax = 10, method = "backward")
summary(regfit.bwd)
```

Subset selection object

Call: regsubsets.formula(Y ~ ., data = df, nvmax = 10, method = "backward")

10 Variables (and intercept)

	Forced in	Forced out
`x^1`	FALSE	FALSE
`x^2`	FALSE	FALSE
`x^3`	FALSE	FALSE
`x^4`	FALSE	FALSE
`x^5`	FALSE	FALSE
`x^6`	FALSE	FALSE
`x^7`	FALSE	FALSE
`x^8`	FALSE	FALSE
`x^9`	FALSE	FALSE
`x^10`	FALSE	FALSE

1 subsets of each size up to 10

Selection Algorithm: backward

		`x^1`	`x^2`	`x^3`	`x^4`	`x^5`	`x^6`	`x^7`	`x^8`	`x^9`	`x^10`
1	(1)	" "	" "	"*	" "	" "	" "	" "	" "	" "	" "
2	(1)	" "	"*	"*	" "	" "	" "	" "	" "	" "	" "
3	(1)	"*	"*	"*	" "	" "	" "	" "	" "	" "	" "
4	(1)	"*	"*	"*	" "	" "	" "	" "	"*	" "	" "
5	(1)	"*	"*	"*	" "	" "	" "	"*	"*	" "	" "
6	(1)	"*	"*	"*	" "	" "	" "	"*	"*	" "	"*
7	(1)	"*	"*	"*	" "	" "	"*	"*	"*	" "	"*
8	(1)	"*	"*	"*	" "	" "	"*	"*	"*	"*	"*
9	(1)	"*	"*	"*	" "	"*	"*	"*	"*	"*	"*
10	(1)	"*	"*	"*	"*	"*	"*	"*	"*	"*	"*

```
coef(regfit.full,6)
```

(Intercept)	`x^1`	`x^2`	`x^3`	`x^4`
1.000000e+00	2.000000e+00	-1.000000e+00	3.000000e+00	-4.649059e-16
	`x^6`	`x^9`		
	3.608225e-16	-1.517883e-17		

```
coef(regfit.fwd, 6)
```

```
(Intercept)      `x^1`      `x^2`      `x^3`      `x^4`  
1.000000e+00  2.000000e+00 -1.000000e+00  3.000000e+00 -7.098533e-16  
      `x^5`      `x^6`  
-8.333737e-16  3.718321e-16
```

```
coef(regfit.bwd, 6)
```

```
(Intercept)      `x^1`      `x^2`      `x^3`      `x^7`  
1.000000e+00  2.000000e+00 -1.000000e+00  3.000000e+00 -9.587936e-17  
      `x^8`      `x^10`  
1.032885e-16 -9.819963e-18
```

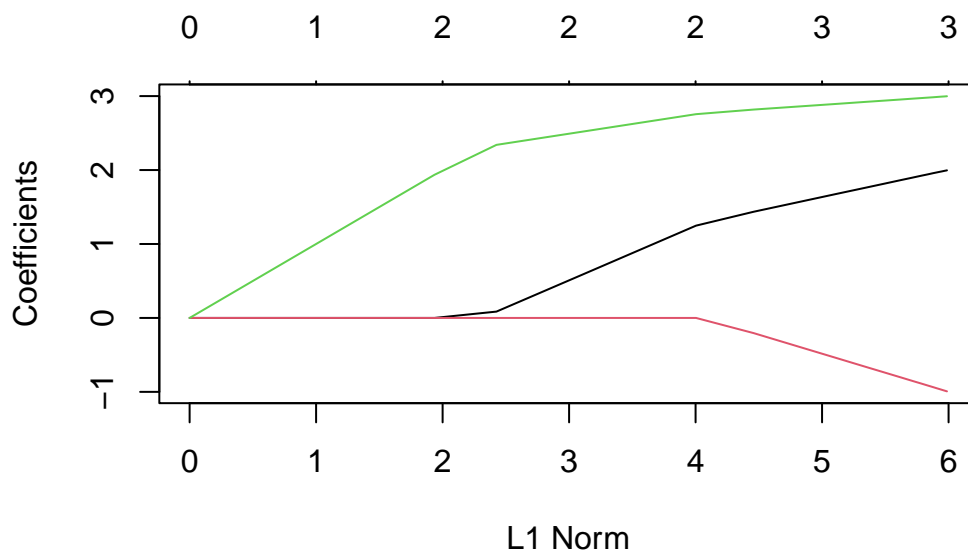
#the coefficient of first 3 predictors are the same and other coefs are close to 0

#d)lasso

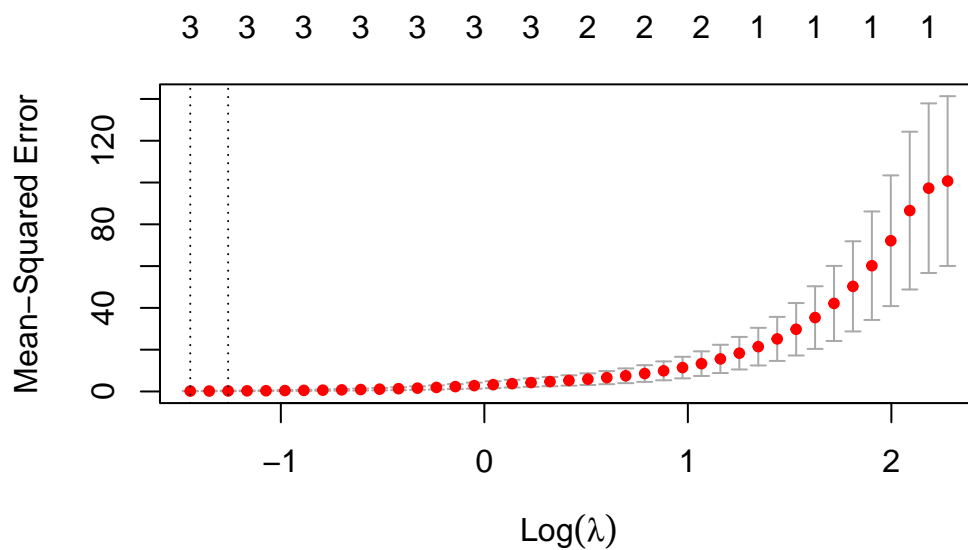
```
x <- model.matrix(Y ~ ., df)[, -1]  
y <- df$Y
```

```
set.seed(1)  
train <- sample(1:nrow(x), nrow(x) / 2)  
test <- (-train)  
y.test <- y[test]  
  
grid <- 10^seq(10, -2, length = 100)  
  
lasso.mod <- glmnet(x[train, ], y[train], alpha = 1,  
                    lambda = grid)  
  
plot(lasso.mod)
```

Warning in regularize.values(x, y, ties, missing(ties), na.rm = na.rm):
collapsing to unique 'x' values



```
set.seed(1)
cv.out <- cv.glmnet(x[train, ], y[train], alpha = 1)
plot(cv.out)
```



```
bestlam <- cv.out$lambda.min
lasso.pred <- predict(lasso.mod, s = bestlam,
                      newx = x[test, ])
mean((lasso.pred - y.test)^2)
```

```
[1] 0.03026774
```

```
out <- glmnet(x, y, alpha = 1, lambda = grid)
lasso.coef <- predict(out, type = "coefficients",
                      s = bestlam)[1:11, ]
lasso.coef
```

```
(Intercept)      `x^1`      `x^2`      `x^3`      `x^4`      `x^5`
  0.8173751    1.9132422  -0.7398410    2.9107446    0.0000000    0.0000000
      `x^6`      `x^7`      `x^8`      `x^9`      `x^10`
  0.0000000    0.0000000    0.0000000    0.0000000    0.0000000
```

#close to b0 <- 1 b1 <- 2 b2 <- -1 b3 <- 3 #also set the x^4: to 0

```
b0 <- 1
b7 <- 7
Y <- b0 + b7*X^7+ eps

df <- data.frame(poly(X, 10, raw = TRUE), Y = Y)
colnames(df)[1:10] <- paste0("x^", 1:10)

regfit.full <- regsubsets(Y ~ ., df)
summary(regfit.full)
```

Subset selection object

Call: regsubsets.formula(Y ~ ., df)

10 Variables (and intercept)

Forced in Forced out

```
`x^1`      FALSE      FALSE
`x^2`      FALSE      FALSE
`x^3`      FALSE      FALSE
`x^4`      FALSE      FALSE
`x^5`      FALSE      FALSE
`x^6`      FALSE      FALSE
`x^7`      FALSE      FALSE
`x^8`      FALSE      FALSE
`x^9`      FALSE      FALSE
`x^10`     FALSE      FALSE
```

1 subsets of each size up to 8

Selection Algorithm: exhaustive

```
      `x^1` `x^2` `x^3` `x^4` `x^5` `x^6` `x^7` `x^8` `x^9` `x^10`
1  ( 1 ) " "  " "  " "  " "  " "  " "  "*"  " "  " "  " "
2  ( 1 ) " "  "*"  " "  " "  " "  " "  "*"  " "  " "  " "
```

```

3 ( 1 ) " " "*" " " " " "*" " " "*" " " " " " "
4 ( 1 ) "*" "*" "*" " " " " " " "*" " " " " " "
5 ( 1 ) "*" "*" "*" "*" " " " " "*" " " " " " "
6 ( 1 ) "*" " " "*" " " " " "*" "*" "*" " " "*"
7 ( 1 ) "*" " " "*" " " "*" "*" "*" "*" " " "*"
8 ( 1 ) "*" "*" "*" "*" " " "*" "*" "*" " " "*"

```

```
reg.summary <- summary(regfit.full)
```

```

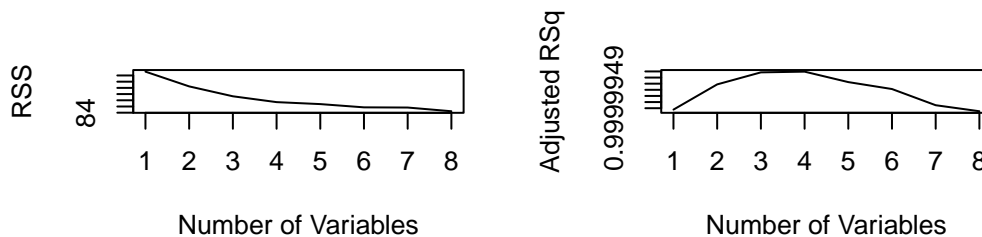
par(mfrow = c(2, 2))
plot(reg.summary$rss, xlab = "Number of Variables",
      ylab = "RSS", type = "l")
plot(reg.summary$adjr2, xlab = "Number of Variables",
      ylab = "Adjusted RSq", type = "l")
coef(regfit.full,6) #the coefficient is close; while the number of predictor is inaccurate

```

```

(Intercept)      `x^1`      `x^3`      `x^6`      `x^7`      `x^8`
1.056965713  0.304390525 -0.266342749 -0.157533076  7.010099093  0.062674099
      `x^10`
-0.006332532

```



```
#f)2
```

```

x <- model.matrix(Y ~ ., df)[, -1]
y <- df$Y

```

```

set.seed(1)
train <- sample(1:nrow(x), nrow(x) / 2)
test <- (-train)
y.test <- y[test]

grid <- 10^seq(10, -2, length = 100)

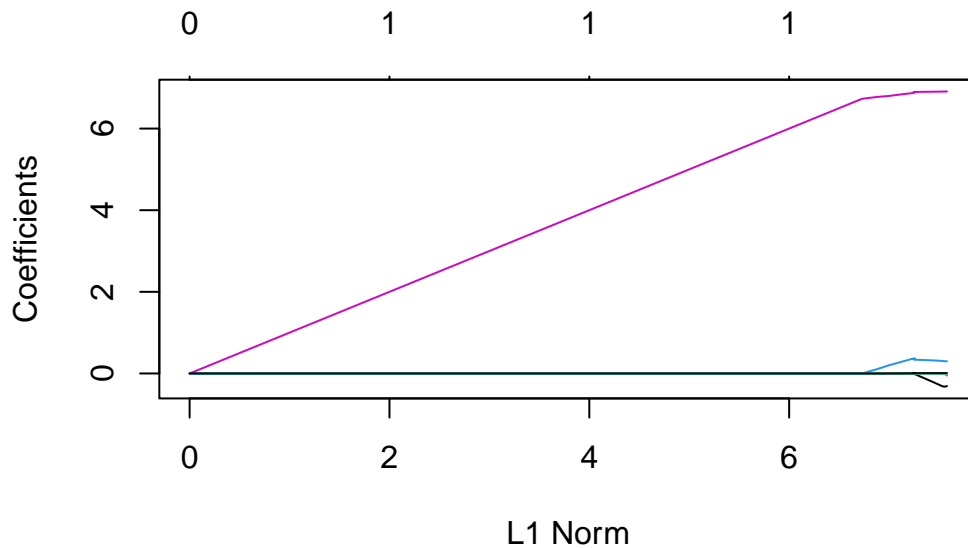
lasso.mod <- glmnet(x[train, ], y[train], alpha = 1,

```

```
lambda = grid)
```

```
plot(lasso.mod)
```

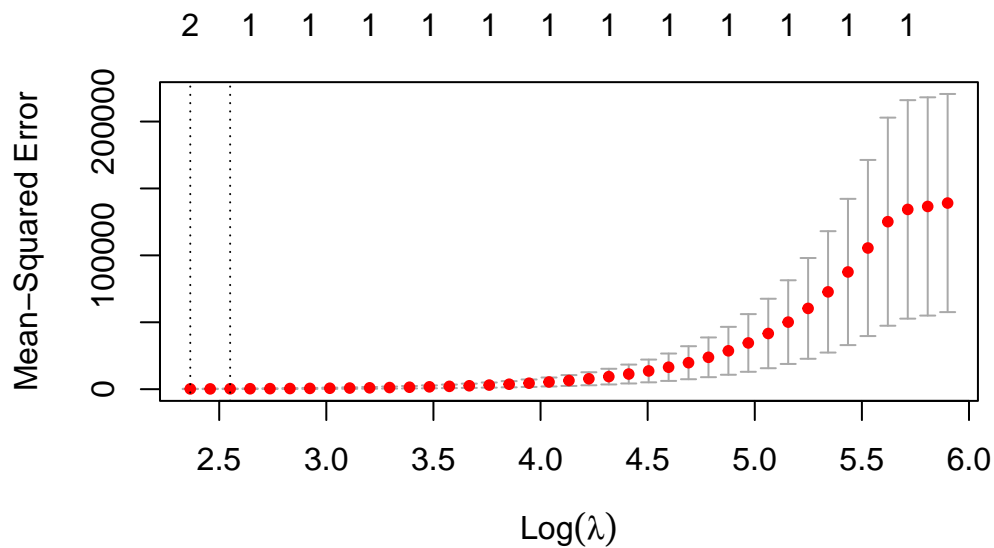
Warning in regularize.values(x, y, ties, missing(ties), na.rm = na.rm):
collapsing to unique 'x' values



```
set.seed(1)
```

```
cv.out <- cv.glmnet(x[train, ], y[train], alpha = 1)
```

```
plot(cv.out)
```



```
bestlam <- cv.out$lambda.min
lasso.pred <- predict(lasso.mod, s = bestlam,
                      newx = x[test, ])
mean((lasso.pred - y.test)^2)
```

```
[1] 202.6403
```

```
out <- glmnet(x, y, alpha = 1, lambda = grid)
lasso.coef <- predict(out, type = "coefficients",
                      s = bestlam)[1:11, ]
lasso.coef
```

```
(Intercept)      `x^1`      `x^2`      `x^3`      `x^4`      `x^5`
  1.700098    0.000000    0.000000    0.000000    0.000000    0.000000
      `x^6`      `x^7`      `x^8`      `x^9`      `x^10`
  0.000000    6.825155    0.000000    0.000000    0.000000
```

```
#the coef for x^7 is close
```

```
#9)
```

```
College
```

	Private	Apps	Accept	Enroll
Abilene Christian University	Yes	1660	1232	721
Adelphi University	Yes	2186	1924	512
Adrian College	Yes	1428	1097	336
Agnes Scott College	Yes	417	349	137
Alaska Pacific University	Yes	193	146	55
Albertson College	Yes	587	479	158
Albertus Magnus College	Yes	353	340	103
Albion College	Yes	1899	1720	489
Albright College	Yes	1038	839	227
Alderson-Broadus College	Yes	582	498	172
Alfred University	Yes	1732	1425	472
Allegheny College	Yes	2652	1900	484
Allentown Coll. of St. Francis de Sales	Yes	1179	780	290
Alma College	Yes	1267	1080	385
Alverno College	Yes	494	313	157
American International College	Yes	1420	1093	220

Amherst College	Yes	4302	992	418
Anderson University	Yes	1216	908	423
Andrews University	Yes	1130	704	322
Angelo State University	No	3540	2001	1016
Antioch University	Yes	713	661	252
Appalachian State University	No	7313	4664	1910
Aquinas College	Yes	619	516	219
Arizona State University Main campus	No	12809	10308	3761
Arkansas College (Lyon College)	Yes	708	334	166
Arkansas Tech University	No	1734	1729	951
Assumption College	Yes	2135	1700	491
Auburn University-Main Campus	No	7548	6791	3070
Augsburg College	Yes	662	513	257
Augustana College IL	Yes	1879	1658	497
Augustana College	Yes	761	725	306
Austin College	Yes	948	798	295
Averett College	Yes	627	556	172
Baker University	Yes	602	483	206
Baldwin-Wallace College	Yes	1690	1366	662
Barat College	Yes	261	192	111
Bard College	Yes	1910	838	285
Barnard College	Yes	2496	1402	531
Barry University	Yes	990	784	279
Baylor University	Yes	6075	5349	2367
Beaver College	Yes	1163	850	348
Bellarmino College	Yes	807	707	308
Belmont Abbey College	Yes	632	494	129
Belmont University	Yes	1220	974	481
Beloit College	Yes	1320	923	284
Bemidji State University	No	1208	877	546
Benedictine College	Yes	632	620	222
Bennington College	Yes	519	327	114
Bentley College	Yes	3466	2330	640
Berry College	Yes	1858	1221	480
Bethany College	Yes	878	816	200
Bethel College KS	Yes	202	184	122
Bethel College	Yes	502	384	104
Bethune Cookman College	Yes	1646	1150	542
Birmingham-Southern College	Yes	805	588	287
Blackburn College	Yes	500	336	156
Bloomsburg Univ. of Pennsylvania	No	6773	3028	1025
Bluefield College	Yes	377	358	181
Bluffton College	Yes	692	514	209

Boston University	Yes	20192	13007	3810
Bowdoin College	Yes	3356	1019	418
Bowling Green State University	No	9251	7333	3076
Bradford College	Yes	443	330	151
Bradley University	Yes	3767	3414	1061
Brandeis University	Yes	4186	2743	740
Brenau University	Yes	367	274	158
Brewton-Parker College	Yes	1436	1228	1202
Briar Cliff College	Yes	392	351	155
Bridgewater College	Yes	838	673	292
Brigham Young University at Provo	Yes	7365	5402	4615
Brown University	Yes	12586	3239	1462
Bryn Mawr College	Yes	1465	810	313
Bucknell University	Yes	6548	3813	862
Buena Vista College	Yes	860	688	285
Butler University	Yes	2362	2037	700
Cabrini College	Yes	599	494	224
Caldwell College	Yes	1011	604	213
California Lutheran University	Yes	563	247	247
California Polytechnic-San Luis	No	7811	3817	1650
California State University at Fresno	No	4540	3294	1483
Calvin College	Yes	1784	1512	913
Campbell University	Yes	2087	1339	657
Campbellsville College	Yes	848	587	298
Canisius College	Yes	2853	2193	753
Capital University	Yes	1747	1382	449
Capitol College	Yes	100	90	35
Carleton College	Yes	2694	1579	489
Carnegie Mellon University	Yes	8728	5201	1191
Carroll College	Yes	1160	991	352
Carson-Newman College	Yes	1096	951	464
Carthage College	Yes	1616	1427	434
Case Western Reserve University	Yes	3877	3156	713
Castleton State College	No	1257	940	363
Catawba College	Yes	1083	880	291
Catholic University of America	Yes	1754	1465	505
Cazenovia College	Yes	3847	3433	527
Cedar Crest College	Yes	776	607	198
Cedarville College	Yes	1307	1090	616
Centenary College	Yes	369	312	90
Centenary College of Louisiana	Yes	495	434	210
Center for Creative Studies	Yes	601	396	203
Central College	Yes	1283	1113	401

Central Connecticut State University	No	4158	2532	902
Central Missouri State University	No	4681	4101	1436
Central Washington University	No	2785	2011	1007
Central Wesleyan College	Yes	174	146	88
Centre College	Yes	1013	888	288
Chapman University	Yes	959	771	351
Chatham College	Yes	212	197	91
Chestnut Hill College	Yes	342	254	126
Christendom College	Yes	81	72	51
Christian Brothers University	Yes	880	520	224
Christopher Newport University	No	883	766	428
Claflin College	Yes	1196	697	499
Claremont McKenna College	Yes	1860	767	227
Clark University	Yes	2887	2059	457
Clarke College	Yes	460	340	167
Clarkson University	Yes	2174	1953	557
Clemson University	No	8065	5257	2301
Clinch Valley Coll. of the Univ. of Virginia	No	689	561	250
Coe College	Yes	1006	742	275
Coker College	Yes	604	452	295
Colby College	Yes	2848	1319	456
Colgate University	Yes	4856	2492	727
College Misericordia	Yes	1432	888	317
College of Charleston	No	4772	3140	1265
College of Mount St. Joseph	Yes	798	620	238
College of Mount St. Vincent	Yes	946	648	177
College of Notre Dame	Yes	344	264	97
College of Notre Dame of Maryland	Yes	457	356	177
College of Saint Benedict	Yes	938	864	511
College of Saint Catherine	Yes	511	411	186
College of Saint Elizabeth	Yes	444	359	122
College of Saint Rose	Yes	983	664	249
College of Santa Fe	Yes	546	447	189
College of St. Joseph	Yes	141	118	55
College of St. Scholastica	Yes	672	596	278
College of the Holy Cross	Yes	2994	1691	659
College of William and Mary	No	7117	3106	1217
College of Wooster	Yes	2100	1883	553
Colorado College	Yes	3207	1577	490
Colorado State University	No	9478	6312	2194
Columbia College MO	Yes	314	158	132
Columbia College	Yes	737	614	242
Columbia University	Yes	6756	1930	871

Concordia College at St. Paul	Yes	281	266	139
Concordia Lutheran College	Yes	232	216	106
Concordia University CA	Yes	688	497	144
Concordia University	Yes	528	403	186
Connecticut College	Yes	3035	1546	438
Converse College	Yes	440	407	149
Cornell College	Yes	1538	1329	383
Creighton University	Yes	2967	2836	876
Culver-Stockton College	Yes	1576	1110	274
Cumberland College	Yes	995	789	398
D'Youville College	Yes	866	619	157
Dana College	Yes	504	482	185
Daniel Webster College	Yes	585	508	153
Dartmouth College	Yes	8587	2273	1087
Davidson College	Yes	2373	956	452
Defiance College	Yes	571	461	174
Delta State University	No	967	945	459
Denison University	Yes	2762	2279	533
DePauw University	Yes	1994	1656	495
Dickinson College	Yes	3014	2539	487
Dickinson State University	No	434	412	319
Dillard University	Yes	1998	1376	651
Doane College	Yes	793	709	244
Dominican College of Blauvelt	Yes	360	329	108
Dordt College	Yes	604	562	328
Dowling College	Yes	1011	829	410
Drake University	Yes	2799	2573	839
Drew University	Yes	2153	1580	321
Drury College	Yes	700	650	314
Duke University	Yes	13789	3893	1583
Earlham College	Yes	1358	1006	274
East Carolina University	No	9274	6362	2435
East Tennessee State University	No	3330	2730	1303
East Texas Baptist University	Yes	379	341	265
Eastern College	Yes	458	369	165
Eastern Connecticut State University	No	2172	1493	564
Eastern Illinois University	No	5597	4253	1565
Eastern Mennonite College	Yes	486	440	227
Eastern Nazarene College	Yes	516	409	200
Eckerd College	Yes	1422	1109	366
Elizabethtown College	Yes	2417	1843	426
Elmira College	Yes	1457	1045	345
Elms College	Yes	245	208	125

Elon College	Yes	3624	2786	858
Embry Riddle Aeronautical University	Yes	3151	2584	958
Emory & Henry College	Yes	765	646	226
Emory University	Yes	8506	4168	1236
Emporia State University	No	1256	1256	853
Erskine College	Yes	659	557	167
Eureka College	Yes	560	454	113
Evergreen State College	No	1801	1101	438
Fairfield University	Yes	4784	3346	781
Fayetteville State University	No	1455	1064	452
Ferrum College	Yes	1339	1107	336
Flagler College	Yes	1415	714	338
Florida Institute of Technology	Yes	1947	1580	523
Florida International University	No	3306	2079	1071
Florida Southern College	Yes	1381	1040	374
Florida State University	No	11651	8683	3023
Fontbonne College	Yes	291	245	126
Fordham University	Yes	4200	2874	942
Fort Lewis College	No	3440	2823	1123
Francis Marion University	No	1801	1655	819
Franciscan University of Steubenville	Yes	553	452	228
Franklin College	Yes	804	632	281
Franklin Pierce College	Yes	5187	4471	446
Freed-Hardeman University	Yes	895	548	314
Fresno Pacific College	Yes	346	274	146
Furman University	Yes	2161	1951	685
Gannon University	Yes	2464	1908	678
Gardner Webb University	Yes	1110	930	332
Geneva College	Yes	668	534	237
George Fox College	Yes	809	726	294
George Mason University	No	5653	4326	1727
George Washington University	Yes	7875	5062	1492
Georgetown College	Yes	727	693	286
Georgetown University	Yes	11115	2881	1390
Georgia Institute of Technology	No	7837	4527	2276
Georgia State University	No	3793	2341	1238
Georgian Court College	Yes	348	281	127
Gettysburg College	Yes	3596	2466	575
Goldey Beacom College	Yes	633	468	284
Gonzaga University	Yes	1886	1524	526
Gordon College	Yes	674	565	282
Goshen College	Yes	440	396	221
Goucher College	Yes	1151	813	248

Grace College and Seminary	Yes	548	428	167
Graceland College	Yes	555	414	242
Grand Valley State University	No	5165	3887	1561
Green Mountain College	Yes	780	628	198
Greensboro College	Yes	608	494	176
Greenville College	Yes	510	387	194
Grinnell College	Yes	2039	1389	432
Grove City College	Yes	2491	1110	573
Guilford College	Yes	1202	1054	326
Gustavus Adolphus College	Yes	1709	1385	634
Gwynedd Mercy College	Yes	380	237	104
Hamilton College	Yes	3140	1783	454
Hamline University	Yes	1006	825	328
Hampden - Sydney College	Yes	817	644	307
Hampton University	Yes	7178	3755	1433
Hanover College	Yes	1006	837	317
Hardin-Simmons University	Yes	467	424	350
Harding University	Yes	1721	1068	806
Hartwick College	Yes	2083	1725	430
Harvard University	Yes	13865	2165	1606
Harvey Mudd College	Yes	1377	572	178
Hastings College	Yes	817	708	262
Hendrix College	Yes	823	721	274
Hillsdale College	Yes	920	745	347
Hiram College	Yes	922	729	244
Hobart and William Smith Colleges	Yes	2688	2081	500
Hofstra University	Yes	7428	5860	1349
Hollins College	Yes	602	498	215
Hood College	Yes	699	565	176
Hope College	Yes	1712	1483	624
Houghton College	Yes	949	786	302
Huntingdon College	Yes	608	520	127
Huntington College	Yes	450	430	125
Huron University	Yes	600	197	124
Husson College	Yes	723	652	361
Illinois Benedictine College	Yes	607	558	269
Illinois College	Yes	894	787	262
Illinois Institute of Technology	Yes	1756	1360	478
Illinois State University	No	8681	6695	2408
Illinois Wesleyan University	Yes	3050	1342	471
Immaculata College	Yes	268	253	103
Incarnate Word College	Yes	1163	927	386
Indiana State University	No	5659	4761	3147

Indiana University at Bloomington	No	16587	13243	5873
Indiana Wesleyan University	Yes	735	423	366
Iona College	Yes	4892	3530	913
Iowa State University	No	8427	7424	3441
Ithaca College	Yes	7259	5526	1368
James Madison University	No	11223	5285	2082
Jamestown College	Yes	472	410	262
Jersey City State College	No	2957	1423	691
John Brown University	Yes	605	405	284
John Carroll University	Yes	2421	2109	820
Johns Hopkins University	Yes	8474	3446	911
Johnson State College	No	833	669	279
Judson College	Yes	313	228	137
Juniata College	Yes	1005	859	298
Kansas State University	No	5880	4075	2833
Kansas Wesleyan University	Yes	589	575	148
Keene State College	No	3121	2446	822
Kentucky Wesleyan College	Yes	584	497	175
Kenyon College	Yes	2212	1538	408
Keuka College	Yes	461	381	174
King's College	Yes	1456	1053	381
King College	Yes	355	300	142
Knox College	Yes	1040	845	286
La Roche College	Yes	361	321	185
La Salle University	Yes	2929	1834	622
Lafayette College	Yes	4010	2402	572
LaGrange College	Yes	544	399	177
Lake Forest College	Yes	979	638	271
Lakeland College	Yes	497	452	231
Lamar University	No	2336	1725	1043
Lambuth University	Yes	831	538	224
Lander University	No	1166	1009	510
Lawrence University	Yes	1243	947	324
Le Moyne College	Yes	1470	1199	425
Lebanon Valley College	Yes	1386	1060	320
Lehigh University	Yes	6397	4304	1092
Lenoir-Rhyne College	Yes	979	743	259
Lesley College	Yes	244	198	82
LeTourneau University	Yes	477	417	204
Lewis and Clark College	Yes	2774	2092	482
Lewis University	Yes	1154	1050	395
Lincoln Memorial University	Yes	787	562	363
Lincoln University	No	1660	1091	326

Lindenwood College	Yes	810	484	356
Linfield College	Yes	1561	1188	458
Livingstone College	Yes	900	473	217
Lock Haven University of Pennsylvania	No	3570	2215	651
Longwood College	No	2747	1870	724
Loras College	Yes	1641	1283	527
Louisiana College	Yes	2013	1053	212
Louisiana State University at Baton Rouge	No	5996	4993	3079
Louisiana Tech University	No	2397	2144	1525
Loyola College	Yes	4076	3137	738
Loyola Marymount University	Yes	3768	2662	753
Loyola University	Yes	1891	1698	719
Loyola University Chicago	Yes	3579	2959	868
Luther College	Yes	1549	1392	587
Lycoming College	Yes	1286	1005	363
Lynchburg College	Yes	1756	1500	366
Lyndon State College	No	535	502	223
Macalester College	Yes	2939	1496	452
MacMurray College	Yes	740	558	177
Malone College	Yes	874	758	428
Manchester College	Yes	1004	802	239
Manhattan College	Yes	2432	1730	563
Manhattanville College	Yes	962	750	212
Mankato State University	No	3073	2672	1547
Marian College of Fond du Lac	Yes	824	670	337
Marietta College	Yes	1611	960	342
Marist College	Yes	4731	3171	830
Marquette University	Yes	5152	4600	1685
Marshall University	Yes	4226	3666	2007
Mary Baldwin College	Yes	499	441	199
Mary Washington College	No	4350	2178	756
Marymount College Tarrytown	Yes	478	327	117
Marymount Manhattan College	Yes	695	535	239
Marymount University	Yes	941	772	214
Maryville College	Yes	1464	888	176
Maryville University	Yes	549	397	169
Marywood College	Yes	1107	859	323
Massachusetts Institute of Technology	Yes	6411	2140	1078
Mayville State University	No	233	233	153
McKendree College	Yes	1002	555	119
McMurry University	Yes	578	411	187
McPherson College	Yes	420	293	93
Mercer University	Yes	2286	1668	564

Mercyhurst College	Yes	1557	1074	397
Meredith College	Yes	857	772	376
Merrimack College	Yes	1981	1541	514
Mesa State College	No	1584	1456	891
Messiah College	Yes	1742	1382	607
Miami University at Oxford	No	9239	7788	3290
Michigan State University	No	18114	15096	6180
Michigan Technological University	No	2618	2288	1032
MidAmerica Nazarene College	Yes	331	331	225
Millersville University of Penn.	No	6011	3075	960
Milligan College	Yes	610	461	189
Millikin University	Yes	1444	1261	456
Millsaps College	Yes	905	834	319
Milwaukee School of Engineering	Yes	1217	1088	496
Mississippi College	Yes	594	385	307
Mississippi State University	No	4255	3277	1609
Mississippi University for Women	No	480	405	380
Missouri Southern State College	No	1576	1326	913
Missouri Valley College	Yes	1310	983	316
Monmouth College IL	Yes	601	503	204
Monmouth College	Yes	2707	1881	478
Montana College of Mineral Sci. & Tech.	No	572	544	320
Montana State University	No	3500	2836	1779
Montclair State University	No	5220	2128	865
Montreat-Anderson College	Yes	263	223	103
Moorhead State University	No	2442	2164	1189
Moravian College	Yes	1232	955	303
Morehouse College	Yes	3708	1678	722
Morningside College	Yes	586	533	239
Morris College	Yes	882	730	330
Mount Holyoke College	Yes	1800	1314	526
Mount Marty College	Yes	279	276	126
Mount Mary College	Yes	235	217	121
Mount Mercy College	Yes	368	317	159
Mount Saint Clare College	Yes	325	284	95
Mount Saint Mary's College	Yes	1321	1159	328
Mount Saint Mary College	Yes	1170	695	238
Mount St. Mary's College	Yes	657	537	113
Mount Union College	Yes	1310	1086	458
Mount Vernon Nazarene College	Yes	510	485	334
Muhlenberg College	Yes	2519	1836	462
Murray State University	No	2225	1910	1190
Muskingum College	Yes	1109	922	375

National-Louis University	Yes	513	347	279
Nazareth College of Rochester	Yes	947	798	266
New Jersey Institute of Technology	No	1879	1216	483
New Mexico Institute of Mining and Tech.	No	787	601	233
New York University	Yes	13594	7244	2505
Newberry College	Yes	872	722	154
Niagara University	Yes	2220	1796	467
North Adams State College	No	1563	1005	240
North Carolina A. & T. State University	No	4809	3089	1429
North Carolina State University at Raleigh	No	10634	7064	3176
North Carolina Wesleyan College	Yes	812	689	195
North Central College	Yes	1127	884	308
North Dakota State University	No	2968	2297	1610
North Park College	Yes	465	361	176
Northeast Missouri State University	No	6040	4577	1620
Northeastern University	Yes	11901	8492	2517
Northern Arizona University	No	5891	4931	1973
Northern Illinois University	No	10706	7219	2397
Northwest Missouri State University	No	2729	2535	1257
Northwest Nazarene College	Yes	616	514	385
Northwestern College	Yes	860	811	366
Northwestern University	Yes	12289	5200	1902
Norwich University	Yes	1743	1625	626
Notre Dame College	Yes	379	324	107
Oakland University	No	3041	2581	1173
Oberlin College	Yes	4778	2767	678
Occidental College	Yes	2324	1319	370
Oglethorpe University	Yes	792	649	186
Ohio Northern University	Yes	2936	2342	669
Ohio University	No	11023	8298	3183
Ohio Wesleyan University	Yes	2190	1700	458
Oklahoma Baptist University	Yes	758	681	484
Oklahoma Christian University	Yes	776	765	351
Oklahoma State University	No	4522	3913	2181
Otterbein College	Yes	1496	1205	428
Quachita Baptist University	Yes	910	773	450
Our Lady of the Lake University	Yes	2308	1336	295
Pace University	Yes	8256	3750	1522
Pacific Lutheran University	Yes	1603	1392	504
Pacific Union College	Yes	940	668	385
Pacific University	Yes	943	849	288
Pembroke State University	No	944	774	440
Pennsylvania State Univ. Main Campus	No	19315	10344	3450

Pepperdine University	Yes	3821	2037	680
Peru State College	No	701	501	458
Pfeiffer College	Yes	838	651	159
Philadelphia Coll. of Textiles and Sci.	Yes	1538	1259	468
Phillips University	Yes	692	576	174
Piedmont College	Yes	663	562	127
Pikeville College	Yes	404	400	169
Pitzer College	Yes	1133	630	220
Point Loma Nazarene College	Yes	809	687	428
Point Park College	Yes	875	744	207
Polytechnic University	Yes	1132	847	302
Prairie View A. and M. University	No	2405	2234	1061
Presbyterian College	Yes	1082	832	302
Princeton University	Yes	13218	2042	1153
Providence College	Yes	5139	3346	973
Purdue University at West Lafayette	No	21804	18744	5874
Queens College	Yes	516	392	154
Quincy University	Yes	1025	707	297
Quinnipiac College	Yes	3712	2153	806
Radford University	No	5702	4894	1742
Ramapo College of New Jersey	No	2088	957	362
Randolph-Macon College	Yes	1771	1325	306
Randolph-Macon Woman's College	Yes	696	616	169
Reed College	Yes	1966	1436	327
Regis College	Yes	427	385	143
Rensselaer Polytechnic Institute	Yes	4996	4165	936
Rhodes College	Yes	2302	1831	391
Rider University	Yes	3586	2424	730
Ripon College	Yes	587	501	211
Rivier College	Yes	484	386	141
Roanoke College	Yes	2227	1790	437
Rockhurst College	Yes	935	858	345
Rocky Mountain College	Yes	560	392	270
Roger Williams University	Yes	3304	2804	679
Rollins College	Yes	1777	1151	382
Rosary College	Yes	434	321	141
Rowan College of New Jersey	No	3820	1431	695
Rutgers at New Brunswick	No	48094	26330	4520
Rutgers State University at Camden	No	3366	1752	232
Rutgers State University at Newark	No	5785	2690	499
Sacred Heart University	Yes	2307	1896	509
Saint Ambrose University	Yes	897	718	276
Saint Anselm College	Yes	2095	1553	514

Saint Cloud State University	No	3971	3306	1921
Saint Francis College IN	Yes	213	166	85
Saint Francis College	Yes	1046	824	284
Saint John's University	Yes	933	800	444
Saint Joseph's College IN	Yes	920	684	225
Saint Joseph's College	Yes	833	682	217
Saint Joseph's University	Yes	2519	2003	776
Saint Joseph College	Yes	292	241	96
Saint Louis University	Yes	3294	2855	956
Saint Mary's College	Yes	888	734	393
Saint Mary's College of Minnesota	Yes	876	802	367
Saint Mary-of-the-Woods College	Yes	150	130	88
Saint Michael's College	Yes	1910	1380	463
Saint Olaf College	Yes	2248	1673	745
Saint Peter's College	Yes	1606	1413	530
Saint Vincent College	Yes	700	595	278
Saint Xavier University	Yes	785	647	295
Salem-Teikyo University	Yes	489	384	120
Salem College	Yes	335	284	132
Salisbury State University	No	4216	2290	736
Samford University	Yes	1680	1395	691
San Diego State University	No	9402	7020	2151
Santa Clara University	Yes	4019	2779	888
Sarah Lawrence College	Yes	1380	768	263
Savannah Coll. of Art and Design	Yes	1109	688	386
Schreiner College	Yes	584	413	131
Scripps College	Yes	855	632	139
Seattle Pacific University	Yes	1183	1016	411
Seattle University	Yes	2115	1540	494
Seton Hall University	Yes	4576	3565	1000
Seton Hill College	Yes	936	794	197
Shippensburg University of Penn.	No	5818	3281	1116
Shorter College	Yes	540	445	165
Siena College	Yes	2961	1932	628
Siena Heights College	Yes	464	419	183
Simmons College	Yes	1003	782	295
Simpson College	Yes	1016	872	300
Sioux Falls College	Yes	437	400	211
Skidmore College	Yes	4293	2728	591
Smith College	Yes	2925	1598	632
South Dakota State University	No	2807	2589	1701
Southeast Missouri State University	No	2281	1870	1408
Southeastern Oklahoma State Univ.	No	818	700	447

Southern California College	Yes	385	340	193
Southern Illinois University at Edwardsville	No	2540	2195	994
Southern Methodist University	Yes	4301	3455	1166
Southwest Baptist University	Yes	1093	1093	642
Southwest Missouri State University	No	6118	5254	3204
Southwest State University	No	1047	938	511
Southwestern Adventist College	Yes	321	318	172
Southwestern College	Yes	213	155	75
Southwestern University	Yes	1244	912	352
Spalding University	Yes	283	201	97
Spelman College	Yes	3713	1237	443
Spring Arbor College	Yes	372	362	181
St. Bonaventure University	Yes	1489	1313	375
St. John's College	Yes	323	278	122
St. John Fisher College	Yes	1368	1064	354
St. Lawrence University	Yes	2753	1820	505
St. Martin's College	Yes	191	165	63
St. Mary's College of California	Yes	2643	1611	465
St. Mary's College of Maryland	No	1340	695	285
St. Mary's University of San Antonio	Yes	1243	1020	414
St. Norbert College	Yes	1334	1243	568
St. Paul's College	Yes	651	581	243
St. Thomas Aquinas College	Yes	861	609	215
Stephens College	Yes	450	405	194
Stetson University	Yes	1557	1227	489
Stevens Institute of Technology	Yes	1768	1249	380
Stockton College of New Jersey	No	4019	1579	710
Stonehill College	Yes	3646	2300	585
SUNY at Albany	No	13528	9198	1843
SUNY at Binghamton	No	14463	6166	1757
SUNY at Buffalo	No	15039	9649	3087
SUNY at Stony Brook	No	12512	6969	1724
SUNY College at Brockport	No	7294	3564	904
SUNY College at Oswego	No	8000	4556	1464
SUNY College at Buffalo	No	5318	3515	1025
SUNY College at Cortland	No	7888	3519	1036
SUNY College at Fredonia	No	4877	2798	814
SUNY College at Geneseo	No	8598	4562	1143
SUNY College at New Paltz	No	8399	3609	656
SUNY College at Plattsburgh	No	5549	3583	853
SUNY College at Potsdam	No	3150	2289	650
SUNY College at Purchase	No	2119	1264	390
Susquehanna University	Yes	2096	1512	465

Sweet Briar College	Yes	462	402	146
Syracuse University	Yes	10477	7260	2442
Tabor College	Yes	257	183	109
Talladega College	Yes	4414	1500	335
Taylor University	Yes	1769	1092	437
Tennessee Wesleyan College	Yes	232	182	99
Texas A&M Univ. at College Station	No	14474	10519	6392
Texas A&M University at Galveston	No	529	481	243
Texas Christian University	Yes	4095	3079	1195
Texas Lutheran College	Yes	497	423	215
Texas Southern University	No	4345	3245	2604
Texas Wesleyan University	Yes	592	501	279
The Citadel	No	1500	1242	611
Thiel College	Yes	1154	951	253
Tiffin University	Yes	845	734	254
Transylvania University	Yes	759	729	244
Trenton State College	No	5042	2312	944
Tri-State University	Yes	1262	1102	276
Trinity College CT	Yes	3058	1798	478
Trinity College DC	Yes	247	189	100
Trinity College VT	Yes	222	185	91
Trinity University	Yes	2425	1818	601
Tulane University	Yes	7033	5125	1223
Tusculum College	Yes	626	372	145
Tuskegee University	Yes	2267	1827	611
Union College KY	Yes	484	384	177
Union College NY	Yes	3495	1712	528
Univ. of Wisconsin at OshKosh	No	4800	2900	1515
University of Alabama at Birmingham	No	1797	1260	938
University of Arkansas at Fayetteville	No	3235	3108	2133
University of California at Berkeley	No	19873	8252	3215
University of California at Irvine	No	15698	10775	2478
University of Central Florida	No	6986	2959	1918
University of Charleston	Yes	682	535	204
University of Chicago	Yes	6348	2999	922
University of Cincinnati	No	6855	5553	2408
University of Connecticut at Storrs	No	9735	7187	2064
University of Dallas	Yes	681	588	246
University of Dayton	Yes	6361	5293	1507
University of Delaware	Yes	14446	10516	3252
University of Denver	Yes	2974	2001	580
University of Detroit Mercy	Yes	927	731	415
University of Dubuque	Yes	576	558	137

University of Evansville	Yes	2096	1626	694
University of Florida	No	12445	8836	3623
University of Georgia	No	11220	7871	3320
University of Hartford	Yes	5081	4040	1194
University of Hawaii at Manoa	No	3580	2603	1627
University of Illinois - Urbana	No	14939	11652	5705
University of Illinois at Chicago	No	8384	5727	2710
University of Indianapolis	Yes	1487	1276	388
University of Kansas	No	8579	5561	3681
University of La Verne	Yes	1597	969	226
University of Louisville	No	4777	3057	1823
University of Maine at Farmington	No	1208	803	438
University of Maine at Machias	No	441	369	172
University of Maine at Presque Isle	No	461	381	235
University of Maryland at Baltimore County	No	4269	2594	985
University of Maryland at College Park	No	14292	10315	3409
University of Massachusetts at Amherst	No	14438	12414	3816
University of Massachusetts at Dartmouth	No	3347	2597	1006
University of Miami	Yes	7122	5386	1643
University of Michigan at Ann Arbor	No	19152	12940	4893
University of Minnesota at Duluth	No	4192	3126	1656
University of Minnesota at Morris	No	1458	874	588
University of Minnesota Twin Cities	No	11054	6397	3524
University of Mississippi	No	3844	3383	1669
University of Missouri at Columbia	No	6574	4637	2940
University of Missouri at Rolla	No	1877	1826	823
University of Missouri at Saint Louis	No	1618	1141	479
University of Mobile	Yes	452	331	269
University of Montevallo	No	1351	892	570
University of Nebraska at Lincoln	No	6277	6003	3526
University of New England	Yes	1209	750	265
University of New Hampshire	No	9750	7640	2529
University of North Carolina at Asheville	No	1757	979	394
University of North Carolina at Chapel Hill	No	14596	5985	3331
University of North Carolina at Charlotte	No	5803	4441	1730
University of North Carolina at Greensboro	No	5191	4134	1500
University of North Carolina at Wilmington	No	6071	3856	1449
University of North Dakota	No	2777	2249	1652
University of North Florida	No	1800	1253	560
University of North Texas	No	4418	2737	2049
University of Northern Colorado	No	5530	4007	1697
University of Northern Iowa	No	4144	3379	1853
University of Notre Dame	Yes	7700	3700	1906

University of Oklahoma	No	4743	3970	2233
University of Oregon	No	8631	6732	2546
University of Pennsylvania	Yes	12394	5232	2464
University of Pittsburgh-Main Campus	No	8586	6383	2503
University of Portland	Yes	1758	1485	419
University of Puget Sound	Yes	4044	2826	688
University of Rhode Island	No	9643	7751	1968
University of Richmond	Yes	5892	2718	756
University of Rochester	Yes	8766	5498	1243
University of San Diego	Yes	3934	2735	886
University of San Francisco	Yes	2306	1721	538
University of Sci. and Arts of Oklahoma	No	285	280	208
University of Scranton	Yes	4471	2942	910
University of South Carolina at Aiken	No	848	560	377
University of South Carolina at Columbia	No	7693	5815	2328
University of South Florida	No	7589	4676	1876
University of Southern California	Yes	12229	8498	2477
University of Southern Colorado	No	1401	1239	605
University of Southern Indiana	No	2379	2133	1292
University of Southern Mississippi	No	2850	2044	1046
University of St. Thomas MN	Yes	2057	1807	828
University of St. Thomas TX	Yes	374	280	185
University of Tennessee at Knoxville	No	7473	5372	3013
University of Texas at Arlington	No	3281	2559	1448
University of Texas at Austin	No	14752	9572	5329
University of Texas at San Antonio	No	4217	3100	1686
University of the Arts	Yes	974	704	290
University of the Pacific	Yes	2459	1997	582
University of the South	Yes	1445	966	326
University of Tulsa	Yes	1712	1557	696
University of Utah	No	5095	4491	2400
University of Vermont	No	7663	6008	1735
University of Virginia	No	15849	5384	2678
University of Washington	No	12749	7025	3343
University of West Florida	No	1558	1254	472
University of Wisconsin-Stout	No	2593	1966	1030
University of Wisconsin-Superior	No	910	910	342
University of Wisconsin-Whitewater	No	4400	3719	1472
University of Wisconsin at Green Bay	No	2409	1939	759
University of Wisconsin at Madison	No	14901	10932	4631
University of Wisconsin at Milwaukee	No	5244	3782	1930
University of Wyoming	No	2029	1516	1073
Upper Iowa University	Yes	663	452	192

Ursinus College	Yes	1399	1026	308
Ursuline College	Yes	325	260	86
Valley City State University	No	368	344	212
Valparaiso University	Yes	2075	1727	520
Vanderbilt University	Yes	7791	4690	1499
Vassar College	Yes	3550	1877	653
Villanova University	Yes	7759	5588	1477
Virginia Commonwealth University	No	4963	3497	1567
Virginia State University	No	2996	2440	704
Virginia Tech	No	15712	11719	4277
Virginia Union University	Yes	1847	1610	453
Virginia Wesleyan College	Yes	1470	900	287
Viterbo College	Yes	647	518	271
Voorhees College	Yes	1465	1006	188
Wabash College	Yes	800	623	256
Wagner College	Yes	1416	1015	417
Wake Forest University	Yes	5661	2392	903
Walsh University	Yes	1092	890	477
Warren Wilson College	Yes	440	311	112
Wartburg College	Yes	1231	1074	345
Washington and Jefferson College	Yes	1305	1100	334
Washington and Lee University	Yes	3315	1096	425
Washington College	Yes	1209	942	214
Washington State University	No	6540	5839	2440
Washington University	Yes	7654	5259	1254
Wayne State College	No	1373	1373	724
Waynesburg College	Yes	1190	978	324
Webber College	Yes	280	143	79
Webster University	Yes	665	462	226
Wellesley College	Yes	2895	1249	579
Wells College	Yes	318	240	130
Wentworth Institute of Technology	Yes	1480	1257	452
Wesley College	Yes	980	807	350
Wesleyan University	Yes	4772	1973	712
West Chester University of Penn.	No	6502	3539	1372
West Liberty State College	No	1164	1062	478
West Virginia Wesleyan College	Yes	1566	1400	483
Western Carolina University	No	3224	2519	1057
Western Maryland College	Yes	1205	984	278
Western Michigan University	No	9167	7191	2738
Western New England College	Yes	1650	1471	409
Western State College of Colorado	No	2702	1623	604
Western Washington University	No	5548	3563	1549

Westfield State College	No	3100	2150	825
Westminster College MO	Yes	662	553	184
Westminster College	Yes	996	866	377
Westminster College of Salt Lake City	Yes	917	720	213
Westmont College	No	950	713	351
Wheaton College IL	Yes	1432	920	548
Westminster College PA	Yes	1738	1373	417
Wheeling Jesuit College	Yes	903	755	213
Whitman College	Yes	1861	998	359
Whittier College	Yes	1681	1069	344
Whitworth College	Yes	1121	926	372
Widener University	Yes	2139	1492	502
Wilkes University	Yes	1631	1431	434
Willamette University	Yes	1658	1327	395
William Jewell College	Yes	663	547	315
William Woods University	Yes	469	435	227
Williams College	Yes	4186	1245	526
Wilson College	Yes	167	130	46
Wingate College	Yes	1239	1017	383
Winona State University	No	3325	2047	1301
Winthrop University	No	2320	1805	769
Wisconsin Lutheran College	Yes	152	128	75
Wittenberg University	Yes	1979	1739	575
Wofford College	Yes	1501	935	273
Worcester Polytechnic Institute	Yes	2768	2314	682
Worcester State College	No	2197	1515	543
Xavier University	Yes	1959	1805	695
Xavier University of Louisiana	Yes	2097	1915	695
Yale University	Yes	10705	2453	1317
York College of Pennsylvania	Yes	2989	1855	691
	Top10perc	Top25perc	F.Undergrad	
Abilene Christian University	23	52	2885	
Adelphi University	16	29	2683	
Adrian College	22	50	1036	
Agnes Scott College	60	89	510	
Alaska Pacific University	16	44	249	
Albertson College	38	62	678	
Albertus Magnus College	17	45	416	
Albion College	37	68	1594	
Albright College	30	63	973	
Alderson-Broaddus College	21	44	799	
Alfred University	37	75	1830	
Allegheny College	44	77	1707	

Allentown Coll. of St. Francis de Sales	38	64	1130
Alma College	44	73	1306
Alverno College	23	46	1317
American International College	9	22	1018
Amherst College	83	96	1593
Anderson University	19	40	1819
Andrews University	14	23	1586
Angelo State University	24	54	4190
Antioch University	25	44	712
Appalachian State University	20	63	9940
Aquinas College	20	51	1251
Arizona State University Main campus	24	49	22593
Arkansas College (Lyon College)	46	74	530
Arkansas Tech University	12	52	3602
Assumption College	23	59	1708
Auburn University-Main Campus	25	57	16262
Augsburg College	12	30	2074
Augustana College IL	36	69	1950
Augustana College	21	58	1337
Austin College	42	74	1120
Averett College	16	40	777
Baker University	21	47	958
Baldwin-Wallace College	30	61	2718
Barat College	15	36	453
Bard College	50	85	1004
Barnard College	53	95	2121
Barry University	18	45	1811
Baylor University	34	66	9919
Beaver College	23	56	878
Bellarmino College	39	63	1198
Belmont Abbey College	17	36	709
Belmont University	28	67	1964
Beloit College	26	54	1085
Bemidji State University	12	36	3796
Benedictine College	14	24	702
Bennington College	25	53	457
Bentley College	20	60	3095
Berry College	37	68	1620
Bethany College	16	41	706
Bethel College KS	19	42	537
Bethel College	11	28	347
Bethune Cookman College	12	30	2128
Birmingham-Southern College	67	88	1376

Blackburn College	25	55	421
Bloomsburg Univ. of Pennsylvania	15	55	5847
Bluefield College	15	30	653
Bluffton College	20	50	760
Boston University	45	80	14971
Bowdoin College	76	100	1490
Bowling Green State University	14	45	13699
Bradford College	5	36	453
Bradley University	30	58	4531
Brandeis University	48	77	2819
Brenau University	12	41	917
Brewton-Parker College	10	26	1320
Briar Cliff College	16	44	738
Bridgewater College	22	53	881
Brigham Young University at Provo	48	82	27378
Brown University	87	95	5643
Bryn Mawr College	71	95	1088
Bucknell University	49	85	3316
Buena Vista College	32	70	1928
Butler University	40	68	2607
Cabrini College	8	28	1035
Caldwell College	17	42	693
California Lutheran University	23	52	1427
California Polytechnic-San Luis	47	73	12911
California State University at Fresno	5	60	13494
Calvin College	29	56	3401
Campbell University	20	54	3191
Campbellsville College	25	55	935
Canisius College	16	34	2978
Capital University	34	66	1662
Capitol College	10	52	282
Carleton College	75	93	1870
Carnegie Mellon University	60	89	4265
Carroll College	19	55	1357
Carson-Newman College	27	62	1776
Carthage College	20	43	1405
Case Western Reserve University	71	93	3051
Castleton State College	9	22	1547
Catawba College	13	34	915
Catholic University of America	24	49	2159
Cazenovia College	9	35	1010
Cedar Crest College	25	58	791
Cedarville College	25	55	2196

Centenary College	12	46	396
Centenary College of Louisiana	35	55	775
Center for Creative Studies	1	20	525
Central College	31	65	1355
Central Connecticut State University	6	24	6394
Central Missouri State University	10	35	8094
Central Washington University	8	65	6507
Central Wesleyan College	8	29	1047
Centre College	55	82	943
Chapman University	23	48	1662
Chatham College	28	56	471
Chestnut Hill College	25	64	518
Christendom College	33	71	139
Christian Brothers University	16	42	1068
Christopher Newport University	3	37	2910
Claflin College	21	47	959
Claremont McKenna College	71	93	887
Clark University	30	61	1928
Clarke College	14	45	604
Clarkson University	35	68	2332
Clemson University	37	65	11755
Clinch Valley Coll. of the Univ. of Virginia	15	30	1125
Coe College	29	60	1127
Coker College	15	47	690
Colby College	58	84	1720
Colgate University	46	75	2649
College Misericordia	29	58	1121
College of Charleston	22	55	6851
College of Mount St. Joseph	14	41	1165
College of Mount St. Vincent	23	46	707
College of Notre Dame	11	42	500
College of Notre Dame of Maryland	35	61	667
College of Saint Benedict	29	62	1715
College of Saint Catherine	23	51	1692
College of Saint Elizabeth	34	53	493
College of Saint Rose	23	57	1698
College of Santa Fe	16	42	873
College of St. Joseph	12	21	201
College of St. Scholastica	29	60	1350
College of the Holy Cross	70	95	2675
College of William and Mary	68	88	5186
College of Wooster	29	65	1704
Colorado College	56	87	1892

Colorado State University	29	65	15646
Columbia College MO	10	28	690
Columbia College	21	67	968
Columbia University	78	96	3376
Concordia College at St. Paul	13	29	1049
Concordia Lutheran College	16	34	534
Concordia University CA	30	75	641
Concordia University	22	56	1168
Connecticut College	42	93	1630
Converse College	35	70	643
Cornell College	33	68	1140
Creighton University	30	60	3450
Culver-Stockton College	24	55	992
Cumberland College	26	47	1306
D'Youville College	18	47	1074
Dana College	10	36	550
Daniel Webster College	12	30	460
Dartmouth College	87	99	3918
Davidson College	77	96	1601
Defiance College	10	26	645
Delta State University	15	48	2806
Denison University	32	60	1835
DePauw University	50	80	1983
Dickinson College	31	68	1889
Dickinson State University	10	30	1376
Dillard University	41	88	1539
Doane College	20	47	1022
Dominican College of Blauvelt	4	19	756
Dordt College	25	50	1048
Dowling College	9	33	1059
Drake University	34	65	3322
Drew University	56	84	1192
Drury College	33	66	1065
Duke University	90	98	6188
Earlham College	35	63	1028
East Carolina University	14	44	13171
East Tennessee State University	15	36	6706
East Texas Baptist University	10	36	1050
Eastern College	16	42	1057
Eastern Connecticut State University	14	50	2766
Eastern Illinois University	12	38	9161
Eastern Mennonite College	19	48	903
Eastern Nazarene College	17	40	1238

Eckerd College	33	65	1363
Elizabethtown College	36	70	1476
Elmira College	27	50	1109
Elms College	23	46	544
Elon College	11	39	2933
Embry Riddle Aeronautical University	14	40	4772
Emory & Henry College	30	60	809
Emory University	76	97	5544
Emporia State University	43	79	3957
Erskine College	47	74	532
Eureka College	36	56	484
Evergreen State College	14	50	3065
Fairfield University	30	66	2984
Fayetteville State University	1	16	2632
Ferrum College	12	36	1051
Flagler College	18	52	1345
Florida Institute of Technology	39	74	1863
Florida International University	42	89	10208
Florida Southern College	20	44	1506
Florida State University	50	90	18906
Fontbonne College	16	49	981
Fordham University	30	55	4740
Fort Lewis College	16	35	3793
Francis Marion University	13	38	3224
Franciscan University of Steubenville	22	49	1301
Franklin College	29	72	840
Franklin Pierce College	3	14	1818
Freed-Hardeman University	20	54	1174
Fresno Pacific College	51	87	704
Furman University	56	82	2371
Gannon University	24	57	2693
Gardner Webb University	18	36	1603
Geneva College	19	39	1306
George Fox College	27	52	1271
George Mason University	17	29	9528
George Washington University	38	71	5471
Georgetown College	30	55	1063
Georgetown University	71	93	5881
Georgia Institute of Technology	89	99	8528
Georgia State University	9	24	7732
Georgian Court College	12	52	1095
Gettysburg College	42	78	1944
Goldey Beacom College	10	27	823

Gonzaga University	31	67	2523
Gordon College	25	54	1151
Goshen College	26	51	910
Goucher College	40	64	850
Grace College and Seminary	18	46	618
Graceland College	14	41	996
Grand Valley State University	20	60	8234
Green Mountain College	7	20	545
Greensboro College	10	31	649
Greenville College	20	46	771
Grinnell College	56	91	1333
Grove City College	57	88	2213
Guilford College	18	44	1410
Gustavus Adolphus College	36	72	2281
Gwynedd Mercy College	30	56	716
Hamilton College	40	82	1646
Hamline University	34	73	1362
Hampden - Sydney College	20	40	945
Hampton University	25	63	4623
Hanover College	33	65	1024
Hardin-Simmons University	16	40	1365
Harding University	35	75	3128
Hartwick College	22	49	1464
Harvard University	90	100	6862
Harvey Mudd College	95	100	654
Hastings College	22	52	935
Hendrix College	52	87	954
Hillsdale College	35	66	1133
Hiram College	37	66	1000
Hobart and William Smith Colleges	25	53	1792
Hofstra University	25	63	6534
Hollins College	26	58	795
Hood College	36	64	710
Hope College	37	69	2505
Houghton College	30	70	1210
Huntingdon College	26	47	538
Huntington College	20	46	488
Huron University	3	9	392
Husson College	10	30	951
Illinois Benedictine College	22	47	1222
Illinois College	28	63	909
Illinois Institute of Technology	42	77	1911
Illinois State University	10	35	15701

Illinois Wesleyan University	55	86	1818
Immaculata College	16	44	494
Incarnate Word College	16	49	1685
Indiana State University	10	31	8596
Indiana University at Bloomington	25	72	24763
Indiana Wesleyan University	20	48	2448
Iona College	13	33	3906
Iowa State University	26	59	18676
Ithaca College	23	52	5612
James Madison University	32	72	9652
Jamestown College	14	41	9950
Jersey City State College	10	30	3817
John Brown University	24	53	961
John Carroll University	27	57	3168
Johns Hopkins University	75	94	3566
Johnson State College	3	13	1224
Judson College	10	30	552
Juniata College	36	55	1075
Kansas State University	25	55	14914
Kansas Wesleyan University	16	40	474
Keene State College	5	19	3480
Kentucky Wesleyan College	20	49	662
Kenyon College	44	75	1445
Keuka College	10	43	738
King's College	20	45	500
King College	34	65	509
Knox College	48	77	967
La Roche College	10	41	650
La Salle University	20	56	2738
Lafayette College	36	59	2018
LaGrange College	15	35	600
Lake Forest College	31	70	968
Lakeland College	24	47	887
Lamar University	10	27	5438
Lambuth University	15	35	840
Lander University	9	33	2074
Lawrence University	50	77	1129
Le Moyne College	21	76	1820
Lebanon Valley College	28	56	965
Lehigh University	40	84	4298
Lenoir-Rhyne College	25	46	1188
Lesley College	12	33	1134
LeTourneau University	29	54	1532

Lewis and Clark College	35	64	1763
Lewis University	12	31	2192
Lincoln Memorial University	21	55	925
Lincoln University	15	41	1196
Lindenwood College	6	33	2155
Linfield College	48	72	1548
Livingstone College	22	47	621
Lock Haven University of Pennsylvania	17	41	3390
Longwood College	12	47	2874
Loras College	20	39	1663
Louisiana College	33	61	912
Louisiana State University at Baton Rouge	29	57	16269
Louisiana Tech University	22	45	6720
Loyola College	25	54	3010
Loyola Marymount University	42	64	3558
Loyola University	24	80	2740
Loyola University Chicago	25	55	5244
Luther College	38	72	2269
Lycoming College	16	37	1363
Lynchburg College	3	21	1524
Lyndon State College	6	20	959
Macalester College	56	86	1723
MacMurray College	12	29	628
Malone College	21	46	1605
Manchester College	23	63	909
Manhattan College	20	63	2578
Manhattanville College	21	54	830
Mankato State University	9	29	9649
Marian College of Fond du Lac	15	41	1160
Marietta College	27	60	1089
Marist College	12	31	3557
Marquette University	36	71	7016
Marshall University	14	60	7703
Mary Baldwin College	26	52	846
Mary Washington College	39	78	2997
Marymount College Tarrytown	9	34	731
Marymount Manhattan College	21	30	988
Marymount University	10	30	1247
Maryville College	26	52	624
Maryville University	26	51	1343
Marywood College	13	51	1452
Massachusetts Institute of Technology	96	99	4481
Mayville State University	5	12	658

McKendree College	16	43	836
McMurry University	25	50	880
McPherson College	11	32	336
Mercer University	37	70	2943
Mercyhurst College	15	40	1805
Meredith College	25	58	1721
Merrimack College	18	36	1927
Mesa State College	6	18	3471
Messiah College	30	64	2258
Miami University at Oxford	35	39	13606
Michigan State University	23	57	26640
Michigan Technological University	42	77	5524
MidAmerica Nazarene College	15	36	1100
Millersville University of Penn.	22	60	5146
Milligan College	26	52	685
Millikin University	29	62	1788
Millsaps College	32	61	1073
Milwaukee School of Engineering	36	69	1773
Mississippi College	36	57	1695
Mississippi State University	18	57	10094
Mississippi University for Women	19	46	1673
Missouri Southern State College	13	50	3689
Missouri Valley College	5	35	1057
Monmouth College IL	28	57	671
Monmouth College	14	34	1893
Montana College of Mineral Sci. & Tech.	45	72	1470
Montana State University	15	42	8730
Montclair State University	19	53	6411
Montreat-Anderson College	10	24	316
Moorhead State University	12	37	5983
Moravian College	23	58	1241
Morehouse College	41	66	2852
Morningside College	16	36	950
Morris College	2	13	926
Mount Holyoke College	47	79	1891
Mount Marty College	17	37	600
Mount Mary College	12	32	931
Mount Mercy College	20	49	806
Mount Saint Clare College	16	33	364
Mount Saint Mary's College	15	36	1243
Mount Saint Mary College	14	48	1170
Mount St. Mary's College	37	90	1039
Mount Union College	26	61	1365

Mount Vernon Nazarene College	18	36	1114
Muhlenberg College	30	61	1656
Murray State University	29	55	5968
Muskingum College	24	46	1115
National-Louis University	23	48	2508
Nazareth College of Rochester	36	68	1274
New Jersey Institute of Technology	27	62	3311
New Mexico Institute of Mining and Tech.	40	73	1017
New York University	70	86	12408
Newberry College	14	36	601
Niagara University	65	99	1919
North Adams State College	1	19	1380
North Carolina A. & T. State University	12	33	6162
North Carolina State University at Raleigh	39	78	16505
North Carolina Wesleyan College	7	24	646
North Central College	30	64	1310
North Dakota State University	13	47	7368
North Park College	19	39	879
Northeast Missouri State University	36	72	5640
Northeastern University	16	42	11160
Northern Arizona University	23	48	11249
Northern Illinois University	12	37	14826
Northwest Missouri State University	8	29	4787
Northwest Nazarene College	29	52	1115
Northwestern College	22	56	1040
Northwestern University	85	98	7450
Norwich University	8	29	1862
Notre Dame College	15	37	500
Oakland University	16	56	6441
Oberlin College	50	89	2587
Occidental College	52	81	1686
Oglethorpe University	56	87	769
Ohio Northern University	35	62	2502
Ohio University	21	54	14861
Ohio Wesleyan University	36	65	1780
Oklahoma Baptist University	35	59	1707
Oklahoma Christian University	22	44	1419
Oklahoma State University	29	57	12830
Otterbein College	26	57	1648
Quachita Baptist University	31	73	1310
Our Lady of the Lake University	22	46	1202
Pace University	37	70	5809
Pacific Lutheran University	31	68	2580

Pacific Union College	20	48	1316
Pacific University	41	71	1041
Pembroke State University	14	34	2174
Pennsylvania State Univ. Main Campus	48	93	28938
Pepperdine University	86	96	2488
Peru State College	10	40	959
Pfeiffer College	11	25	654
Philadelphia Coll. of Textiles and Sci.	19	42	1664
Phillips University	19	50	597
Piedmont College	20	40	641
Pikeville College	28	48	797
Pitzer College	37	73	750
Point Loma Nazarene College	20	43	1889
Point Park College	7	38	1173
Polytechnic University	58	89	1379
Prairie View A. and M. University	10	22	4564
Presbyterian College	34	63	1133
Princeton University	90	98	4540
Providence College	20	55	3717
Purdue University at West Lafayette	29	60	26213
Queens College	32	62	630
Quincy University	22	66	1070
Quinnipiac College	17	45	2677
Radford University	15	37	8077
Ramapo College of New Jersey	6	29	2745
Randolph-Macon College	21	46	1071
Randolph-Macon Woman's College	35	66	653
Reed College	47	80	1199
Regis College	18	38	581
Rensselaer Polytechnic Institute	53	82	4291
Rhodes College	58	82	1345
Rider University	16	31	2748
Ripon College	28	52	735
Rivier College	6	28	590
Roanoke College	27	54	1460
Rockhurst College	22	50	1127
Rocky Mountain College	11	31	743
Roger Williams University	10	20	2111
Rollins College	31	55	1668
Rosary College	28	53	624
Rowan College of New Jersey	21	70	5303
Rutgers at New Brunswick	36	79	21401
Rutgers State University at Camden	27	79	2585

Rutgers State University at Newark	26	62	4005
Sacred Heart University	19	51	1707
Saint Ambrose University	12	48	1345
Saint Anselm College	15	40	1873
Saint Cloud State University	10	34	11493
Saint Francis College IN	13	36	513
Saint Francis College	21	45	1223
Saint John's University	18	45	1691
Saint Joseph's College IN	24	42	815
Saint Joseph's College	12	33	716
Saint Joseph's University	39	71	2473
Saint Joseph College	20	52	543
Saint Louis University	44	67	4576
Saint Mary's College	26	60	1433
Saint Mary's College of Minnesota	14	35	1263
Saint Mary-of-the-Woods College	23	50	341
Saint Michael's College	16	64	1715
Saint Olaf College	38	73	2888
Saint Peter's College	23	38	1921
Saint Vincent College	19	35	1035
Saint Xavier University	15	65	1670
Salem-Teikyo University	23	52	700
Salem College	28	69	534
Salisbury State University	20	52	4296
Samford University	34	76	2959
San Diego State University	20	70	16407
Santa Clara University	40	73	3891
Sarah Lawrence College	57	82	1000
Savannah Coll. of Art and Design	20	65	1897
Schreiner College	19	51	521
Scripps College	60	83	569
Seattle Pacific University	42	82	1922
Seattle University	28	72	2993
Seton Hall University	16	36	4384
Seton Hill College	24	56	752
Shippensburg University of Penn.	14	53	5268
Shorter College	23	70	1115
Siena College	24	68	2669
Siena Heights College	10	31	686
Simmons College	23	53	1144
Simpson College	27	57	1116
Sioux Falls College	13	35	614
Skidmore College	25	62	2322

Smith College	51	88	2479
South Dakota State University	13	37	7000
Southeast Missouri State University	18	43	6553
Southeastern Oklahoma State Univ.	20	50	2962
Southern California College	18	38	784
Southern Illinois University at Edwardsville	13	40	6063
Southern Methodist University	41	69	4892
Southwest Baptist University	12	32	1770
Southwest Missouri State University	15	37	13131
Southwest State University	13	33	2091
Southwestern Adventist College	11	27	620
Southwestern College	28	66	504
Southwestern University	44	77	1177
Spalding University	10	45	589
Spelman College	47	83	1971
Spring Arbor College	15	32	1501
St. Bonaventure University	13	45	1688
St. John's College	31	51	393
St. John Fisher College	19	51	1687
St. Lawrence University	31	56	1801
St. Martin's College	5	25	494
St. Mary's College of California	36	80	2615
St. Mary's College of Maryland	42	73	1315
St. Mary's University of San Antonio	33	60	2149
St. Norbert College	30	56	1946
St. Paul's College	8	17	617
St. Thomas Aquinas College	10	27	1117
Stephens College	17	34	614
Stetson University	37	69	1964
Stevens Institute of Technology	51	93	1263
Stockton College of New Jersey	23	65	4365
Stonehill College	25	69	2022
SUNY at Albany	16	61	10168
SUNY at Binghamton	60	94	8544
SUNY at Buffalo	36	100	13963
SUNY at Stony Brook	27	66	9744
SUNY College at Brockport	7	34	5758
SUNY College at Oswego	17	70	6943
SUNY College at Buffalo	8	29	7626
SUNY College at Cortland	6	40	5011
SUNY College at Fredonia	13	48	4123
SUNY College at Geneseo	56	93	5060
SUNY College at New Paltz	19	53	4658

SUNY College at Plattsburgh	9	40	5004
SUNY College at Potsdam	16	51	3598
SUNY College at Purchase	5	33	2478
Susquehanna University	27	59	1442
Sweet Briar College	36	68	527
Syracuse University	28	67	10142
Tabor College	19	41	396
Talladega College	30	60	908
Taylor University	41	80	1757
Tennessee Wesleyan College	7	29	402
Texas A&M Univ. at College Station	49	85	31643
Texas A&M University at Galveston	22	47	1206
Texas Christian University	33	64	5064
Texas Lutheran College	27	57	895
Texas Southern University	15	85	5584
Texas Wesleyan University	19	44	1204
The Citadel	12	36	2024
Thiel College	15	31	791
Tiffin University	5	21	662
Transylvania University	57	81	867
Trenton State College	55	94	5167
Tri-State University	14	40	978
Trinity College CT	46	84	1737
Trinity College DC	19	49	309
Trinity College VT	16	41	484
Trinity University	62	93	2110
Tulane University	47	75	4941
Tusculum College	12	34	983
Tuskegee University	20	59	2825
Union College KY	9	45	634
Union College NY	49	84	1915
Univ. of Wisconsin at OshKosh	14	48	7764
University of Alabama at Birmingham	24	35	6960
University of Arkansas at Fayetteville	25	65	9978
University of California at Berkeley	95	100	19532
University of California at Irvine	85	100	12677
University of Central Florida	25	60	12330
University of Charleston	22	43	771
University of Chicago	68	94	3340
University of Cincinnati	26	57	11036
University of Connecticut at Storrs	23	63	12478
University of Dallas	44	74	1058
University of Dayton	26	51	5889

University of Delaware	22	57	14130
University of Denver	29	60	2666
University of Detroit Mercy	24	50	2149
University of Dubuque	11	39	662
University of Evansville	35	67	2551
University of Florida	54	85	24470
University of Georgia	43	79	19553
University of Hartford	11	26	3768
University of Hawaii at Manoa	36	69	11028
University of Illinois - Urbana	52	88	25422
University of Illinois at Chicago	22	50	13518
University of Indianapolis	26	51	1417
University of Kansas	25	50	17880
University of La Verne	16	38	1431
University of Louisville	16	33	9844
University of Maine at Farmington	20	48	1906
University of Maine at Machias	17	45	633
University of Maine at Presque Isle	10	40	974
University of Maryland at Baltimore County	27	57	6476
University of Maryland at College Park	22	53	19340
University of Massachusetts at Amherst	12	39	16282
University of Massachusetts at Dartmouth	10	37	4664
University of Miami	42	69	7760
University of Michigan at Ann Arbor	66	92	22045
University of Minnesota at Duluth	15	45	5887
University of Minnesota at Morris	56	86	1846
University of Minnesota Twin Cities	26	55	16502
University of Mississippi	26	47	7524
University of Missouri at Columbia	32	62	14782
University of Missouri at Rolla	49	77	3926
University of Missouri at Saint Louis	18	54	4793
University of Mobile	17	54	1417
University of Montevallo	18	78	2385
University of Nebraska at Lincoln	33	63	16454
University of New England	19	54	820
University of New Hampshire	24	62	10358
University of North Carolina at Asheville	32	74	2033
University of North Carolina at Chapel Hill	75	92	14609
University of North Carolina at Charlotte	19	62	10099
University of North Carolina at Greensboro	15	44	7532
University of North Carolina at Wilmington	15	67	6635
University of North Dakota	20	54	8334
University of North Florida	44	85	3876

University of North Texas	23	51	14047
University of Northern Colorado	12	37	8463
University of Northern Iowa	18	52	10135
University of Notre Dame	79	96	7671
University of Oklahoma	32	63	13436
University of Oregon	25	61	11669
University of Pennsylvania	85	100	9205
University of Pittsburgh-Main Campus	25	59	13138
University of Portland	27	58	2041
University of Puget Sound	51	83	2738
University of Rhode Island	12	40	8894
University of Richmond	46	72	2854
University of Rochester	56	75	5071
University of San Diego	40	70	3698
University of San Francisco	23	48	4309
University of Sci. and Arts of Oklahoma	21	43	1140
University of Scranton	29	60	3674
University of South Carolina at Aiken	14	24	1855
University of South Carolina at Columbia	30	66	12594
University of South Florida	29	63	14770
University of Southern California	45	71	13259
University of Southern Colorado	10	34	3716
University of Southern Indiana	8	25	4283
University of Southern Mississippi	20	50	9260
University of St. Thomas MN	26	53	4106
University of St. Thomas TX	45	77	995
University of Tennessee at Knoxville	27	53	15749
University of Texas at Arlington	19	43	10975
University of Texas at Austin	48	85	30017
University of Texas at San Antonio	17	46	9375
University of the Arts	5	22	1145
University of the Pacific	36	66	2664
University of the South	46	83	1129
University of Tulsa	41	68	2936
University of Utah	27	53	13894
University of Vermont	18	51	7353
University of Virginia	74	95	11278
University of Washington	40	81	20356
University of West Florida	20	57	3754
University of Wisconsin-Stout	9	32	6038
University of Wisconsin-Superior	14	53	1434
University of Wisconsin-Whitewater	12	38	7804
University of Wisconsin at Green Bay	17	50	3819

University of Wisconsin at Madison	36	80	23945
University of Wisconsin at Milwaukee	12	37	11561
University of Wyoming	23	46	7535
Upper Iowa University	10	35	1481
Ursinus College	44	77	1131
Ursuline College	21	47	699
Valley City State University	5	27	863
Valparaiso University	49	81	2501
Vanderbilt University	71	92	5500
Vassar College	53	87	2164
Villanova University	30	68	6362
Virginia Commonwealth University	18	45	10262
Virginia State University	2	30	3006
Virginia Tech	29	53	18511
Virginia Union University	19	59	1298
Virginia Wesleyan College	20	49	1130
Viterbo College	17	43	1014
Voorhees College	10	30	703
Wabash College	41	76	801
Wagner College	10	44	1324
Wake Forest University	75	88	3499
Walsh University	27	92	847
Warren Wilson College	25	49	466
Wartburg College	34	66	1295
Washington and Jefferson College	42	64	1098
Washington and Lee University	68	93	1584
Washington College	31	60	822
Washington State University	31	70	14445
Washington University	62	93	4879
Wayne State College	6	21	2754
Waynesburg College	12	30	1280
Webber College	5	27	327
Webster University	17	44	1739
Wellesley College	80	96	2195
Wells College	40	85	416
Wentworth Institute of Technology	6	25	2961
Wesley College	10	25	872
Wesleyan University	60	86	2714
West Chester University of Penn.	11	51	7484
West Liberty State College	12	25	2138
West Virginia Wesleyan College	28	55	1509
Western Carolina University	11	31	5000
Western Maryland College	31	50	1071

Western Michigan University	24	53	15739
Western New England College	7	21	1803
Western State College of Colorado	7	24	2315
Western Washington University	30	71	8909
Westfield State College	3	20	3234
Westminster College MO	20	43	665
Westminster College	29	58	1411
Westminster College of Salt Lake City	21	60	979
Westmont College	42	72	1276
Wheaton College IL	56	84	2200
Westminster College PA	21	55	1335
Wheeling Jesuit College	15	49	971
Whitman College	45	77	1220
Whittier College	35	63	1235
Whitworth College	43	70	1270
Widener University	24	64	2186
Wilkes University	15	36	1803
Willamette University	49	80	1595
William Jewell College	32	67	1279
William Woods University	17	39	851
Williams College	81	96	1988
Wilson College	16	50	199
Wingate College	10	34	1207
Winona State University	20	45	5800
Winthrop University	24	61	3395
Wisconsin Lutheran College	17	41	282
Wittenberg University	42	68	1980
Wofford College	51	83	1059
Worcester Polytechnic Institute	49	86	2802
Worcester State College	4	26	3089
Xavier University	24	47	2849
Xavier University of Louisiana	34	61	2793
Yale University	95	99	5217
York College of Pennsylvania	28	63	2988
P. Undergrad Outstate Room. Board			
Abilene Christian University	537	7440	3300
Adelphi University	1227	12280	6450
Adrian College	99	11250	3750
Agnes Scott College	63	12960	5450
Alaska Pacific University	869	7560	4120
Albertson College	41	13500	3335
Albertus Magnus College	230	13290	5720
Albion College	32	13868	4826

Albright College	306	15595	4400
Alderson-Broadus College	78	10468	3380
Alfred University	110	16548	5406
Allegheny College	44	17080	4440
Allentown Coll. of St. Francis de Sales	638	9690	4785
Alma College	28	12572	4552
Alverno College	1235	8352	3640
American International College	287	8700	4780
Amherst College	5	19760	5300
Anderson University	281	10100	3520
Andrews University	326	9996	3090
Angelo State University	1512	5130	3592
Antioch University	23	15476	3336
Appalachian State University	1035	6806	2540
Aquinas College	767	11208	4124
Arizona State University Main campus	7585	7434	4850
Arkansas College (Lyon College)	182	8644	3922
Arkansas Tech University	939	3460	2650
Assumption College	689	12000	5920
Auburn University-Main Campus	1716	6300	3933
Augsburg College	726	11902	4372
Augustana College IL	38	13353	4173
Augustana College	300	10990	3244
Austin College	15	11280	4342
Averett College	538	9925	4135
Baker University	466	8620	4100
Baldwin-Wallace College	1460	10995	4410
Barat College	266	9690	4300
Bard College	15	19264	6206
Barnard College	69	17926	8124
Barry University	3144	11290	5360
Baylor University	484	6450	3920
Beaver College	519	12850	5400
Bellarmino College	605	8840	2950
Belmont Abbey College	131	9000	4850
Belmont University	623	7800	3664
Beloit College	81	16304	3616
Bemidji State University	824	4425	2700
Benedictine College	501	9550	3850
Bennington College	2	21700	4100
Bentley College	1533	13800	5510
Berry College	49	8050	3940
Bethany College	62	8740	3363

Bethel College KS	101	8540	3580
Bethel College	74	6200	2900
Bethune Cookman College	82	5188	3396
Birmingham-Southern College	207	11660	4325
Blackburn College	27	6500	2700
Bloomsburg Univ. of Pennsylvania	946	7844	2948
Bluefield College	129	7150	4350
Bluffton College	81	9900	3990
Boston University	3113	18420	6810
Bowdoin College	8	19030	5885
Bowling Green State University	1213	7452	3352
Bradford College	42	14080	6270
Bradley University	643	10870	4440
Brandeis University	62	19380	6750
Brenau University	479	9592	5879
Brewton-Parker College	822	4371	2370
Briar Cliff College	430	10260	3597
Bridgewater College	55	10265	4725
Brigham Young University at Provo	1253	2340	3580
Brown University	349	19528	5926
Bryn Mawr College	16	18165	6750
Bucknell University	31	18550	4750
Buena Vista College	442	13306	3797
Butler University	148	13130	4650
Cabrini College	446	10518	6250
Caldwell College	868	8900	4600
California Lutheran University	432	12950	5300
California Polytechnic-San Luis	1404	7380	4877
California State University at Fresno	1254	7706	4368
Calvin College	136	10230	3710
Campbell University	1204	7550	2790
Campbellsville College	184	6060	3070
Canisius College	434	10750	5340
Capital University	960	13050	4000
Capitol College	331	8400	2812
Carleton College	12	19292	3957
Carnegie Mellon University	291	17900	5690
Carroll College	737	12200	3880
Carson-Newman College	239	8150	3150
Carthage College	580	13125	3775
Case Western Reserve University	513	15700	4730
Castleton State College	294	7656	4690
Catawba College	80	9270	4100

Catholic University of America	211	13712	6408
Cazenovia College	12	9384	4840
Cedar Crest College	764	14340	5285
Cedarville College	82	7344	4410
Centenary College	526	11400	5400
Centenary College of Louisiana	44	8950	3490
Center for Creative Studies	323	11230	6643
Central College	40	10938	3660
Central Connecticut State University	3881	5962	4444
Central Missouri State University	1596	4620	3288
Central Washington University	898	7242	3603
Central Wesleyan College	33	8300	3080
Centre College	7	11850	4270
Chapman University	209	16624	5895
Chatham College	148	13500	5230
Chestnut Hill College	232	10335	5015
Christendom College	3	8730	3600
Christian Brothers University	364	9300	3260
Christopher Newport University	1749	7860	4750
Claflin College	13	4412	2460
Claremont McKenna College	1	17000	6010
Clark University	296	17500	4200
Clarke College	350	10740	3676
Clarkson University	53	15960	5580
Clemson University	770	8116	3610
Clinch Valley Coll. of the Univ. of Virginia	422	7168	3689
Coe College	205	13925	4390
Coker College	222	9888	4502
Colby College	35	18930	5590
Colgate University	25	19510	5565
College Misericordia	493	10860	5760
College of Charleston	1200	6120	3460
College of Mount St. Joseph	1232	9800	4430
College of Mount St. Vincent	432	11790	5770
College of Notre Dame	331	12600	5520
College of Notre Dame of Maryland	1983	11180	5620
College of Saint Benedict	103	12247	4221
College of Saint Catherine	562	12224	4440
College of Saint Elizabeth	968	10900	5250
College of Saint Rose	894	9990	5666
College of Santa Fe	683	11138	4138
College of St. Joseph	173	8300	4850
College of St. Scholastica	275	11844	3696

College of the Holy Cross	22	18000	6300
College of William and Mary	134	11720	4298
College of Wooster	1	16240	4690
Colorado College	7	17142	4190
Colorado State University	1829	8412	4180
Columbia College MO	5346	8294	3700
Columbia College	237	10425	3975
Columbia University	55	18624	6664
Concordia College at St. Paul	181	10500	3750
Concordia Lutheran College	172	6900	3800
Concordia University CA	101	10800	4440
Concordia University	145	9216	4191
Connecticut College	232	18740	6300
Converse College	80	12050	3700
Cornell College	10	15248	4323
Creighton University	644	10628	4372
Culver-Stockton College	112	8000	3700
Cumberland College	122	6230	3526
D'Youville College	336	8920	4310
Dana College	84	9130	3322
Daniel Webster College	536	12292	4934
Dartmouth College	32	19545	6070
Davidson College	6	17295	5070
Defiance College	283	10850	3670
Delta State University	538	4528	1880
Denison University	14	16900	4720
DePauw University	36	14300	5020
Dickinson College	62	18700	5000
Dickinson State University	237	4486	2146
Dillard University	45	6700	3650
Doane College	411	9570	3000
Dominican College of Blauvelt	863	8310	5500
Dordt College	56	9800	2650
Dowling College	2458	9000	3100
Drake University	726	13420	4770
Drew University	87	18432	5616
Drury College	48	8730	3523
Duke University	53	18590	5950
Earlham College	13	15036	4056
East Carolina University	1687	7248	3240
East Tennessee State University	2640	5800	3000
East Texas Baptist University	151	4950	2780
Eastern College	355	11190	4800

Eastern Connecticut State University	1531	5962	4316
Eastern Illinois University	845	5710	3066
Eastern Mennonite College	59	9650	3800
Eastern Nazarene College	30	8770	3500
Eckerd College	23	15360	4080
Elizabethtown College	299	14190	4400
Elmira College	502	14990	4980
Elms College	436	11800	4765
Elon College	334	9100	3883
Embry Riddle Aeronautical University	856	7800	3750
Emory & Henry College	32	8578	4408
Emory University	192	17600	6000
Emporia State University	588	5401	3144
Erskine College	35	10485	3840
Eureka College	16	10955	3450
Evergreen State College	363	6297	4600
Fairfield University	1037	15000	6200
Fayetteville State University	617	6806	2550
Ferrum College	82	9400	4200
Flagler College	44	5120	3200
Florida Institute of Technology	233	13900	4140
Florida International University	9310	6597	2494
Florida Southern College	970	8025	4865
Florida State University	3242	6680	4060
Fontbonne College	337	8390	4100
Fordham University	1646	14235	6965
Fort Lewis College	486	6198	3320
Francis Marion University	436	5840	3138
Franciscan University of Steubenville	242	9650	4400
Franklin College	68	10390	4040
Franklin Pierce College	1197	13320	4630
Freed-Hardeman University	50	5500	3340
Fresno Pacific College	63	9900	3670
Furman University	175	13440	4048
Gannon University	691	10970	4280
Gardner Webb University	374	8180	4270
Geneva College	258	9476	4820
George Fox College	43	12500	4130
George Mason University	3822	10800	4840
George Washington University	1470	17450	6328
Georgetown College	48	8100	3950
Georgetown University	406	18300	7131
Georgia Institute of Technology	654	6489	4438

Georgia State University	9054	6744	2655
Georgian Court College	785	9150	3950
Gettysburg College	46	19964	4328
Goldey Beacom College	963	6120	2985
Gonzaga University	296	13000	4450
Gordon College	39	12200	4070
Goshen College	166	9420	3730
Goucher College	80	15588	6174
Grace College and Seminary	113	8958	3670
Graceland College	2281	9100	3100
Grand Valley State University	2619	6108	3800
Green Mountain College	42	11750	2700
Greensboro College	314	8330	3770
Greenville College	53	10310	4530
Grinnell College	30	15688	4618
Grove City College	35	5224	3048
Guilford College	299	13404	5160
Gustavus Adolphus College	50	14125	3600
Gwynedd Mercy College	1108	11000	5550
Hamilton College	24	19700	5050
Hamline University	102	13252	4194
Hampden - Sydney College	1	13218	4773
Hampton University	740	7161	3518
Hanover College	15	8200	3485
Hardin-Simmons University	334	6300	2980
Harding University	213	5504	3528
Hartwick College	67	17480	4780
Harvard University	320	18485	6410
Harvey Mudd College	5	17230	6690
Hastings College	37	9376	3272
Hendrix College	6	8800	3195
Hillsdale College	42	11090	4700
Hiram College	275	14067	4560
Hobart and William Smith Colleges	5	19029	5841
Hofstra University	1350	11600	5920
Hollins College	74	13470	5515
Hood College	399	13960	6040
Hope College	208	12275	4341
Houghton College	26	9990	3550
Huntingdon College	126	8080	3920
Huntington College	43	9950	3920
Huron University	69	7260	3090
Husson College	706	7800	4000

Illinois Benedictine College	519	10500	4348
Illinois College	28	8050	3850
Illinois Institute of Technology	626	14550	4620
Illinois State University	1823	7799	3403
Illinois Wesleyan University	23	14360	4090
Immaculata College	1305	10000	5364
Incarnate Word College	556	8840	4689
Indiana State University	1949	6892	3706
Indiana University at Bloomington	2717	9766	3990
Indiana Wesleyan University	707	9210	3782
Iona College	1446	10690	6790
Iowa State University	1715	7550	3224
Ithaca College	166	14424	6192
James Madison University	742	7994	4544
Jamestown College	71	7620	3050
Jersey City State College	1394	3946	4800
John Brown University	99	6398	3672
John Carroll University	392	11700	5550
Johns Hopkins University	1569	18800	6740
Johnson State College	345	7656	4690
Judson College	67	9414	4554
Juniata College	43	14850	4460
Kansas State University	2246	6995	3120
Kansas Wesleyan University	258	8400	3250
Keene State College	776	7870	4157
Kentucky Wesleyan College	121	8000	4150
Kenyon College	1	19240	3690
Keuka College	55	9600	4550
King's College	541	10910	5160
King College	44	8664	3350
Knox College	24	15747	4062
La Roche College	819	8842	4782
La Salle University	1662	12600	5610
Lafayette College	226	18730	5740
LaGrange College	363	6987	3585
Lake Forest College	20	16880	3970
Lakeland College	1957	9400	4005
Lamar University	4058	4752	3040
Lambuth University	325	5170	3430
Lander University	341	4938	2987
Lawrence University	74	17163	3891
Le Moyne College	558	11040	4840
Lebanon Valley College	502	13850	4755

Lehigh University	132	18700	5580
Lenoir-Rhyne College	166	10100	4000
Lesley College	336	11700	5300
LeTourneau University	77	8840	4240
Lewis and Clark College	59	15800	4790
Lewis University	1423	10560	4520
Lincoln Memorial University	605	5950	2890
Lincoln University	33	4818	3400
Lindenwood College	191	9200	4800
Linfield College	840	13380	4210
Livingstone College	11	4400	3400
Lock Haven University of Pennsylvania	325	7352	3620
Longwood College	118	7920	3962
Loras College	170	11200	4000
Louisiana College	158	5150	3036
Louisiana State University at Baton Rouge	3757	5925	2980
Louisiana Tech University	1822	3957	2325
Loyola College	184	12990	6300
Loyola Marymount University	436	13592	5916
Loyola University	761	11100	5870
Loyola University Chicago	3417	11500	5330
Luther College	85	13240	3560
Lycoming College	74	13900	4300
Lynchburg College	280	12450	5400
Lyndon State College	150	7320	4640
Macalester College	113	15909	4772
MacMurray College	63	9620	3750
Malone College	246	9858	3700
Manchester College	51	10440	3850
Manhattan College	254	12370	6800
Manhattanville College	150	14700	6550
Mankato State University	1792	4300	2643
Marian College of Fond du Lac	653	9400	3400
Marietta College	210	13850	3920
Marist College	658	10700	5925
Marquette University	804	11610	4760
Marshall University	2339	5094	4010
Mary Baldwin College	377	11200	7400
Mary Washington College	736	6490	4942
Marymount College Tarrytown	370	11510	6450
Marymount Manhattan College	785	10200	7000
Marymount University	776	11390	5280
Maryville College	128	11200	4208

Maryville University	1751	9250	4550
Marywood College	402	11040	4500
Massachusetts Institute of Technology	28	20100	5975
Mayville State University	58	4486	2516
McKendree College	684	7680	3740
McMurry University	477	6930	3452
McPherson College	80	7950	3750
Mercer University	1260	11985	4081
Mercyhurst College	433	9813	4050
Meredith College	470	6720	3250
Merrimack College	1084	12500	6200
Mesa State College	911	5016	3798
Messiah College	53	10300	5080
Miami University at Oxford	807	8856	3960
Michigan State University	4120	10658	3734
Michigan Technological University	414	8127	3978
MidAmerica Nazarene College	166	6840	3720
Millersville University of Penn.	1532	7844	3830
Milligan College	49	8200	3300
Millikin University	95	11910	4378
Millsaps College	179	11320	4402
Milwaukee School of Engineering	884	11505	3255
Mississippi College	721	5580	2830
Mississippi State University	1621	9866	3084
Mississippi University for Women	1014	4386	2217
Missouri Southern State College	2200	3840	2852
Missouri Valley College	175	8550	5050
Monmouth College IL	11	13000	4100
Monmouth College	847	12480	5290
Montana College of Mineral Sci. & Tech.	416	6073	3400
Montana State University	993	5552	3710
Montclair State University	3186	3648	4834
Montreat-Anderson College	20	8438	3372
Moorhead State University	1075	4426	2664
Moravian College	485	14990	4730
Morehouse College	153	7050	5490
Morningside College	228	10520	3678
Morris College	12	4515	2550
Mount Holyoke College	40	19300	5700
Mount Marty College	435	6844	2980
Mount Mary College	487	8950	3119
Mount Mercy College	542	10500	3555
Mount Saint Clare College	88	9900	3650

Mount Saint Mary's College	79	12850	6200
Mount Saint Mary College	429	7470	4600
Mount St. Mary's College	466	12474	5678
Mount Union College	144	12250	3530
Mount Vernon Nazarene College	94	7400	3346
Muhlenberg College	352	16975	4565
Murray State University	955	4738	3110
Muskingum College	70	13240	3914
National-Louis University	505	9090	4500
Nazareth College of Rochester	471	10850	5150
New Jersey Institute of Technology	1646	8832	5376
New Mexico Institute of Mining and Tech.	411	5376	3214
New York University	2814	17748	7262
Newberry College	36	10194	2600
Niagara University	334	10320	4762
North Adams State College	136	5542	4330
North Carolina A. & T. State University	871	6806	1780
North Carolina State University at Raleigh	5481	8400	6540
North Carolina Wesleyan College	84	8242	4230
North Central College	766	11718	7398
North Dakota State University	1128	5834	2744
North Park College	156	12580	4345
Northeast Missouri State University	266	4856	3416
Northeastern University	10221	13380	7425
Northern Arizona University	2682	6746	3728
Northern Illinois University	1979	7799	3296
Northwest Missouri State University	472	3735	3136
Northwest Nazarene College	60	9840	2820
Northwestern College	52	9900	3075
Northwestern University	45	16404	5520
Norwich University	382	14134	5270
Notre Dame College	311	9990	4900
Oakland University	3982	9114	4030
Oberlin College	120	19670	5820
Occidental College	35	16560	5140
Oglethorpe University	377	12900	4340
Ohio Northern University	66	15990	4080
Ohio University	1310	7629	4095
Ohio Wesleyan University	48	16732	5650
Oklahoma Baptist University	705	5390	3140
Oklahoma Christian University	228	6400	3150
Oklahoma State University	1658	5336	3344
Otterbein College	936	12888	4440

Ouachita Baptist University	61	6530	2800
Our Lady of the Lake University	942	8530	3644
Pace University	4379	11000	5160
Pacific Lutheran University	302	13312	4488
Pacific Union College	139	11925	3825
Pacific University	35	14210	3994
Pembroke State University	529	6360	2760
Pennsylvania State Univ. Main Campus	2025	10645	4060
Pepperdine University	625	18200	6770
Peru State College	457	2580	2624
Pfeiffer College	162	8640	3700
Philadelphia Coll. of Textiles and Sci.	1042	11690	5062
Phillips University	83	10500	3860
Piedmont College	63	5640	3620
Pikeville College	100	6000	3000
Pitzer College	30	17688	5900
Point Loma Nazarene College	217	10178	4190
Point Park College	1402	9700	4830
Polytechnic University	214	16200	4200
Prairie View A. and M. University	448	4290	3500
Presbyterian College	30	11859	3635
Princeton University	146	19900	5910
Providence College	1358	14400	6200
Purdue University at West Lafayette	4065	9556	3990
Queens College	549	11020	4970
Quincy University	72	10100	4140
Quinnipiac College	714	12030	6140
Radford University	472	6684	4110
Ramapo College of New Jersey	1938	4449	4860
Randolph-Macon College	27	13840	3735
Randolph-Macon Woman's College	56	13970	6110
Reed College	61	19960	5490
Regis College	533	12700	5800
Rensselaer Polytechnic Institute	16	17475	5976
Rhodes College	59	15200	4768
Rider University	1309	13250	5420
Ripon College	28	15200	4100
Rivier College	1196	9870	4860
Roanoke College	239	13425	4425
Rockhurst College	754	9490	4100
Rocky Mountain College	118	8734	3362
Roger Williams University	1489	12520	6050
Rollins College	1052	16425	5220

Rosary College	269	10950	4600
Rowan College of New Jersey	3942	4356	4830
Rutgers at New Brunswick	3712	7410	4748
Rutgers State University at Camden	1300	7411	4748
Rutgers State University at Newark	1886	7410	4748
Sacred Heart University	1889	11070	5780
Saint Ambrose University	390	10450	4020
Saint Anselm College	94	12950	5400
Saint Cloud State University	2206	4259	2625
Saint Francis College IN	247	8670	3820
Saint Francis College	451	10880	5050
Saint John's University	72	12247	4081
Saint Joseph's College IN	222	11200	4250
Saint Joseph's College	2196	9985	5180
Saint Joseph's University	1314	12750	6350
Saint Joseph College	712	12200	4600
Saint Louis University	1140	11690	4730
Saint Mary's College	27	12730	4514
Saint Mary's College of Minnesota	118	10800	3600
Saint Mary-of-the-Woods College	768	10300	4130
Saint Michael's College	106	13030	5860
Saint Olaf College	105	14350	3750
Saint Peter's College	1154	9408	5520
Saint Vincent College	182	10850	3936
Saint Xavier University	726	10860	4624
Salem-Teikyo University	45	10575	3952
Salem College	216	10475	6300
Salisbury State University	1027	5130	4690
Samford University	402	8236	3700
San Diego State University	5550	8384	5110
Santa Clara University	128	13584	5928
Sarah Lawrence College	105	19300	6694
Savannah Coll. of Art and Design	208	8325	5000
Schreiner College	99	8955	5900
Scripps College	7	17238	7350
Seattle Pacific University	704	12669	4875
Seattle University	347	12825	4375
Seton Hall University	1530	12000	6484
Seton Hill College	210	11240	4180
Shippensburg University of Penn.	300	7844	3504
Shorter College	111	7210	3600
Siena College	616	10800	5100
Siena Heights College	287	9240	3880

Simmons College	160	16160	6950
Simpson College	602	11250	4980
Sioux Falls College	271	8990	3064
Skidmore College	263	18710	5970
Smith College	95	18820	6390
South Dakota State University	1103	3811	2190
Southeast Missouri State University	1246	4680	3540
Southeastern Oklahoma State Univ.	651	3738	2619
Southern California College	127	9520	4124
Southern Illinois University at Edwardsville	2550	5472	3598
Southern Methodist University	387	12772	5078
Southwest Baptist University	967	7070	2500
Southwest Missouri State University	3374	4740	2590
Southwest State University	546	4285	2750
Southwestern Adventist College	280	7536	3736
Southwestern College	147	7200	3532
Southwestern University	43	11850	4675
Spalding University	263	8400	2800
Spelman College	107	7000	5565
Spring Arbor College	353	8600	3550
St. Bonaventure University	131	10456	4927
St. John's College	4	16150	5450
St. John Fisher College	677	10570	5600
St. Lawrence University	45	18720	5730
St. Martin's College	574	11550	4270
St. Mary's College of California	248	13332	6354
St. Mary's College of Maryland	209	6800	4730
St. Mary's University of San Antonio	418	8678	3858
St. Norbert College	95	12140	4450
St. Paul's College	34	5000	3650
St. Thomas Aquinas College	815	8650	5700
Stephens College	388	13900	5200
Stetson University	81	12315	4565
Stevens Institute of Technology	11	16900	5680
Stockton College of New Jersey	765	3040	4351
Stonehill College	926	12170	6172
SUNY at Albany	1231	6550	4355
SUNY at Binghamton	671	6550	4598
SUNY at Buffalo	3124	6550	4731
SUNY at Stony Brook	1351	6550	4712
SUNY College at Brockport	1363	6550	4460
SUNY College at Oswego	869	6550	4810
SUNY College at Buffalo	2091	6550	4040

SUNY College at Cortland	346	6550	4680
SUNY College at Fredonia	298	6550	4420
SUNY College at Geneseo	146	6550	4170
SUNY College at New Paltz	1478	6550	4240
SUNY College at Plattsburgh	475	6550	4176
SUNY College at Potsdam	234	6840	4660
SUNY College at Purchase	1441	6550	4760
Susquehanna University	166	16130	4710
Sweet Briar College	41	14500	6000
Syracuse University	117	15150	6870
Tabor College	38	7850	3410
Talladega College	119	5666	2964
Taylor University	81	10965	4000
Tennessee Wesleyan College	237	7070	3640
Texas A&M Univ. at College Station	2798	5130	3412
Texas A&M University at Galveston	134	4860	3122
Texas Christian University	660	8490	3320
Texas Lutheran College	429	7850	3410
Texas Southern University	3101	7860	3360
Texas Wesleyan University	392	6400	3484
The Citadel	292	7070	2439
Thiel College	140	11172	4958
Tiffin University	351	7600	3800
Transylvania University	51	10900	4450
Trenton State College	902	5391	5411
Tri-State University	98	9456	4350
Trinity College CT	244	18810	5690
Trinity College DC	639	11412	6430
Trinity College VT	541	11010	5208
Trinity University	95	12240	5150
Tulane University	1534	19040	5950
Tusculum College	40	7700	3400
Tuskegee University	144	6735	3395
Union College KY	78	7800	2950
Union College NY	123	18732	6204
Univ. of Wisconsin at OshKosh	1472	6874	2394
University of Alabama at Birmingham	4698	4440	5175
University of Arkansas at Fayetteville	1530	5028	3300
University of California at Berkeley	2061	11648	6246
University of California at Irvine	864	12024	5302
University of Central Florida	7152	6618	4234
University of Charleston	611	9500	3540
University of Chicago	39	18930	6380

University of Cincinnati	2011	8907	4697
University of Connecticut at Storrs	1660	11656	5072
University of Dallas	73	10760	6230
University of Dayton	665	11380	4220
University of Delaware	4522	10220	4230
University of Denver	554	15192	4695
University of Detroit Mercy	2217	11130	3996
University of Dubuque	131	10430	3620
University of Evansville	407	11800	4340
University of Florida	3286	7090	4180
University of Georgia	2748	5697	3600
University of Hartford	1415	14220	6000
University of Hawaii at Manoa	2411	4460	3038
University of Illinois - Urbana	911	7560	4574
University of Illinois at Chicago	2916	7230	5088
University of Indianapolis	1646	11120	4080
University of Kansas	1673	6994	3384
University of La Verne	1522	13540	5050
University of Louisville	6198	6540	3600
University of Maine at Farmington	344	6810	3970
University of Maine at Machias	317	6600	3680
University of Maine at Presque Isle	503	6600	3630
University of Maryland at Baltimore County	2592	8594	4408
University of Maryland at College Park	3991	8723	5146
University of Massachusetts at Amherst	1940	8566	3897
University of Massachusetts at Dartmouth	1630	6919	4500
University of Miami	876	16500	6526
University of Michigan at Ann Arbor	1339	15732	4659
University of Minnesota at Duluth	1254	8828	3474
University of Minnesota at Morris	154	9843	3180
University of Minnesota Twin Cities	21836	8949	3744
University of Mississippi	804	4916	3810
University of Missouri at Columbia	1583	9057	3485
University of Missouri at Rolla	561	9057	3600
University of Missouri at Saint Louis	4552	7246	3964
University of Mobile	301	6150	3680
University of Montevallo	331	4440	3030
University of Nebraska at Lincoln	3171	5595	3145
University of New England	159	11450	5045
University of New Hampshire	1338	11180	3862
University of North Carolina at Asheville	1078	5972	3420
University of North Carolina at Chapel Hill	1100	8400	4200
University of North Carolina at Charlotte	3255	7248	3109

University of North Carolina at Greensboro	1847	8677	3505
University of North Carolina at Wilmington	1145	7558	3680
University of North Dakota	1435	5634	2703
University of North Florida	3588	6634	4360
University of North Texas	5134	4104	3579
University of Northern Colorado	1498	7731	4128
University of Northern Iowa	1448	6197	2930
University of Notre Dame	30	16850	4400
University of Oklahoma	2582	5173	3526
University of Oregon	1605	10602	3660
University of Pennsylvania	531	17020	7270
University of Pittsburgh-Main Campus	4289	10786	4560
University of Portland	174	12040	4100
University of Puget Sound	138	16230	4500
University of Rhode Island	2456	10330	5558
University of Richmond	594	14500	3285
University of Rochester	438	17840	6582
University of San Diego	217	13600	5940
University of San Francisco	549	13226	6452
University of Sci. and Arts of Oklahoma	473	3687	1920
University of Scranton	493	11584	5986
University of South Carolina at Aiken	1412	5800	3066
University of South Carolina at Columbia	3661	8074	3522
University of South Florida	10962	6760	3776
University of Southern California	1429	17230	6482
University of Southern Colorado	675	7100	4380
University of Southern Indiana	2973	4973	3192
University of Southern Mississippi	1387	4652	2470
University of St. Thomas MN	982	11712	4037
University of St. Thomas TX	408	8550	4050
University of Tennessee at Knoxville	3237	5764	3262
University of Texas at Arlington	8431	4422	2780
University of Texas at Austin	5189	5130	3309
University of Texas at San Antonio	5457	4104	5376
University of the Arts	39	12520	3860
University of the Pacific	299	16320	5326
University of the South	24	15350	4080
University of Tulsa	433	11750	4160
University of Utah	8374	6857	3975
University of Vermont	1674	15516	4928
University of Virginia	114	12212	3792
University of Washington	4582	8199	4218
University of West Florida	2477	6172	3994

University of Wisconsin-Stout	579	6704	2592
University of Wisconsin-Superior	417	7032	2780
University of Wisconsin-Whitewater	1552	6950	2500
University of Wisconsin at Green Bay	1347	6900	2800
University of Wisconsin at Madison	2200	9096	4290
University of Wisconsin at Milwaukee	7443	8786	2964
University of Wyoming	1488	5988	3422
Upper Iowa University	1160	8840	3060
Ursinus College	17	14900	5160
Ursuline College	717	9600	4202
Valley City State University	189	4286	2570
Valparaiso University	198	11800	3260
Vanderbilt University	90	17865	6525
Vassar College	77	18920	5950
Villanova University	1292	15925	6507
Virginia Commonwealth University	5065	10217	4182
Virginia State University	338	5587	4845
Virginia Tech	604	10260	3176
Virginia Union University	67	7384	3494
Virginia Wesleyan College	417	10900	5100
Viterbo College	387	9140	3365
Voorhees College	20	4450	2522
Wabash College	5	12925	4195
Wagner College	117	13500	5800
Wake Forest University	172	13850	4360
Walsh University	497	8670	4180
Warren Wilson College	7	10000	3052
Wartburg College	105	11600	3610
Washington and Jefferson College	151	16260	4005
Washington and Lee University	3	13750	4619
Washington College	46	15276	5318
Washington State University	1344	8200	4210
Washington University	1274	18350	5775
Wayne State College	474	2700	2660
Waynesburg College	61	8840	3620
Webber College	110	5590	2900
Webster University	1550	9160	4340
Wellesley College	156	18345	5995
Wells College	19	14900	5550
Wentworth Institute of Technology	572	9850	6050
Wesley College	448	9890	4674
Wesleyan University	27	19130	5600
West Chester University of Penn.	1904	7844	4108

West Liberty State College	227	4470	2890	
West Virginia Wesleyan College	170	14200	3775	
Western Carolina University	706	6390	2380	
Western Maryland College	98	14510	5340	
Western Michigan University	4278	6940	4100	
Western New England College	1116	8994	5500	
Western State College of Colorado	146	5918	3755	
Western Washington University	506	8124	4144	
Westfield State College	941	5542	3788	
Westminster College MO	37	10720	4050	
Westminster College	72	12065	3615	
Westminster College of Salt Lake City	743	8820	4050	
Westmont College	9	14320	5304	
Wheaton College IL	56	11480	4200	
Westminster College PA	30	18460	5970	
Wheeling Jesuit College	305	10500	4545	
Whitman College	46	16670	4900	
Whittier College	30	16249	5699	
Whitworth College	160	12660	4500	
Widener University	2171	12350	5370	
Wilkes University	603	11150	5130	
Willamette University	159	14800	4620	
William Jewell College	75	10060	2970	
William Woods University	120	10535	4365	
Williams College	29	19629	5790	
Wilson College	676	11428	5084	
Wingate College	157	7820	3400	
Winona State University	872	4200	2700	
Winthrop University	670	6400	3392	
Wisconsin Lutheran College	22	9100	3700	
Wittenberg University	144	15948	4404	
Wofford College	34	12680	4150	
Worcester Polytechnic Institute	86	15884	5370	
Worcester State College	2029	6797	3900	
Xavier University	1107	11520	4960	
Xavier University of Louisiana	166	6900	4200	
Yale University	83	19840	6510	
York College of Pennsylvania	1726	4990	3560	
	Books	Personal	PhD	Terminal
Abilene Christian University	450	2200	70	78
Adelphi University	750	1500	29	30
Adrian College	400	1165	53	66
Agnes Scott College	450	875	92	97

Alaska Pacific University	800	1500	76	72
Albertson College	500	675	67	73
Albertus Magnus College	500	1500	90	93
Albion College	450	850	89	100
Albright College	300	500	79	84
Alderson-Broadbudd College	660	1800	40	41
Alfred University	500	600	82	88
Allegheny College	400	600	73	91
Allentown Coll. of St. Francis de Sales	600	1000	60	84
Alma College	400	400	79	87
Alverno College	650	2449	36	69
American International College	450	1400	78	84
Amherst College	660	1598	93	98
Anderson University	550	1100	48	61
Andrews University	900	1320	62	66
Angelo State University	500	2000	60	62
Antioch University	400	1100	69	82
Appalachian State University	96	2000	83	96
Aquinas College	350	1615	55	65
Arizona State University Main campus	700	2100	88	93
Arkansas College (Lyon College)	500	800	79	88
Arkansas Tech University	450	1000	57	60
Assumption College	500	500	93	93
Auburn University-Main Campus	600	1908	85	91
Augsburg College	540	950	65	65
Augustana College IL	540	821	78	83
Augustana College	600	1021	66	70
Austin College	400	1150	81	95
Averett College	750	1350	59	67
Baker University	400	2250	58	68
Baldwin-Wallace College	1000	1000	68	74
Barat College	500	500	57	77
Bard College	750	750	98	98
Barnard College	600	850	83	93
Barry University	600	1800	76	78
Baylor University	600	1346	71	76
Beaver College	400	800	78	89
Bellarmino College	750	1290	74	82
Belmont Abbey College	300	2480	78	85
Belmont University	650	900	61	61
Beloit College	355	715	87	95
Bemidji State University	660	1800	57	62
Benedictine College	350	250	64	84

Bennington College	600	500	35	59
Bentley College	630	850	87	87
Berry College	350	2375	80	80
Bethany College	550	1700	62	68
Bethel College KS	500	1400	61	80
Bethel College	600	800	63	63
Bethune Cookman College	650	2500	48	48
Birmingham-Southern College	400	900	74	79
Blackburn College	500	1000	76	76
Bloomsburg Univ. of Pennsylvania	500	1680	66	68
Bluefield College	450	1500	61	67
Bluffton College	400	900	76	71
Boston University	475	1025	80	81
Bowdoin College	1495	875	93	96
Bowling Green State University	600	1700	81	89
Bradford College	500	900	57	80
Bradley University	2000	1522	75	81
Brandeis University	410	1000	90	97
Brenau University	500	700	71	80
Brewton-Parker College	500	2000	62	62
Briar Cliff College	600	1500	39	66
Bridgewater College	560	875	68	73
Brigham Young University at Provo	860	1220	76	76
Brown University	720	1100	99	100
Bryn Mawr College	500	1200	100	100
Bucknell University	800	1200	95	97
Buena Vista College	450	950	62	69
Butler University	500	1600	77	81
Cabrini College	300	300	59	76
Caldwell College	425	1000	87	96
California Lutheran University	612	576	72	74
California Polytechnic-San Luis	612	2091	72	81
California State University at Fresno	600	1926	90	90
Calvin College	400	1210	75	81
Campbell University	600	500	77	77
Campbellsville College	600	1300	62	66
Canisius College	400	1130	90	92
Capital University	500	800	64	69
Capitol College	300	2134	10	50
Carleton College	550	550	81	93
Carnegie Mellon University	450	1250	86	93
Carroll College	480	930	74	81
Carson-Newman College	400	500	61	62

Carthage College	500	1300	74	89
Case Western Reserve University	525	1460	95	95
Castleton State College	400	700	89	91
Catawba College	600	1860	75	82
Catholic University of America	526	1100	90	96
Cazenovia College	600	500	22	47
Cedar Crest College	500	1000	58	83
Cedarville College	570	1000	50	52
Centenary College	500	760	41	85
Centenary College of Louisiana	600	1900	86	92
Center for Creative Studies	2340	620	8	58
Central College	650	600	76	90
Central Connecticut State University	500	985	69	73
Central Missouri State University	300	2250	69	80
Central Washington University	654	1416	67	89
Central Wesleyan College	600	600	62	62
Centre College	600	900	95	99
Chapman University	600	1100	72	80
Chatham College	400	850	95	98
Chestnut Hill College	700	850	71	71
Christendom College	400	800	92	92
Christian Brothers University	600	900	81	81
Christopher Newport University	525	1889	80	82
Claflin College	500	1000	69	69
Claremont McKenna College	500	850	99	99
Clark University	500	950	94	95
Clarke College	350	900	67	71
Clarkson University	700	1300	95	95
Clemson University	800	1618	82	88
Clinch Valley Coll. of the Univ. of Virginia	600	1900	67	67
Coe College	500	2200	73	86
Coker College	400	1000	64	77
Colby College	500	1000	83	94
Colgate University	500	750	95	98
College Misericordia	550	900	56	62
College of Charleston	666	2316	73	78
College of Mount St. Joseph	400	1150	46	46
College of Mount St. Vincent	500	1000	75	77
College of Notre Dame	630	2250	77	80
College of Notre Dame of Maryland	600	700	64	64
College of Saint Benedict	500	600	70	88
College of Saint Catherine	450	1000	63	87
College of Saint Elizabeth	380	1000	68	70

College of Saint Rose	800	1500	66	71
College of Santa Fe	600	1200	40	74
College of St. Joseph	450	1300	53	53
College of St. Scholastica	450	1146	54	76
College of the Holy Cross	400	900	92	96
College of William and Mary	600	800	89	92
College of Wooster	500	500	84	96
Colorado College	450	1200	85	97
Colorado State University	470	1800	87	89
Columbia College MO	400	900	87	87
Columbia College	500	1500	61	77
Columbia University	550	300	97	98
Concordia College at St. Paul	450	950	69	75
Concordia Lutheran College	450	1825	67	76
Concordia University CA	570	1515	55	60
Concordia University	400	1000	56	64
Connecticut College	600	500	86	95
Converse College	500	900	63	76
Cornell College	550	800	71	76
Creighton University	650	2055	85	90
Culver-Stockton College	400	500	51	52
Cumberland College	400	600	42	44
D'Youville College	680	1320	68	68
Dana College	450	1450	46	51
Daniel Webster College	500	500	61	61
Dartmouth College	550	1100	95	99
Davidson College	600	1011	95	97
Defiance College	400	1159	58	60
Delta State University	500	1200	49	63
Denison University	500	600	88	97
DePauw University	550	950	78	94
Dickinson College	595	1250	87	94
Dickinson State University	600	2000	50	64
Dillard University	500	2307	52	52
Doane College	400	1000	67	72
Dominican College of Blauvelt	600	1800	43	43
Dordt College	450	2800	61	60
Dowling College	450	1413	77	78
Drake University	560	1675	88	93
Drew University	520	660	93	97
Drury College	500	750	82	92
Duke University	625	1162	95	96
Earlham College	600	600	90	94

East Carolina University	500	1700	74	78
East Tennessee State University	600	2200	73	75
East Texas Baptist University	530	1500	62	62
Eastern College	450	1230	60	60
Eastern Connecticut State University	650	500	71	76
Eastern Illinois University	120	1730	62	71
Eastern Mennonite College	600	1300	46	65
Eastern Nazarene College	450	700	58	58
Eckerd College	600	1000	82	89
Elizabethtown College	500	750	65	68
Elmira College	450	550	77	98
Elms College	450	1700	71	71
Elon College	490	1777	70	74
Embry Riddle Aeronautical University	570	3020	37	43
Emory & Henry College	700	1600	79	88
Emory University	600	870	97	98
Emporia State University	450	1888	72	75
Erskine College	475	1246	76	80
Eureka College	330	670	62	87
Evergreen State College	600	1323	75	78
Fairfield University	700	1100	86	90
Fayetteville State University	350	766	75	75
Ferrum College	500	1600	53	58
Flagler College	500	2140	52	60
Florida Institute of Technology	750	1500	90	90
Florida International University	800	3028	81	96
Florida Southern College	400	650	65	74
Florida State University	600	1020	80	89
Fontbonne College	350	1500	45	55
Fordham University	600	1735	86	97
Fort Lewis College	500	2500	89	97
Francis Marion University	400	2430	76	76
Franciscan University of Steubenville	600	1000	57	69
Franklin College	525	1345	54	78
Franklin Pierce College	500	800	50	56
Freed-Hardeman University	600	1600	68	76
Fresno Pacific College	630	1818	59	59
Furman University	600	1250	92	95
Gannon University	500	1380	47	51
Gardner Webb University	500	500	65	58
Geneva College	500	1100	67	67
George Fox College	400	1050	53	53
George Mason University	580	1050	93	96

George Washington University	700	950	92	93
Georgetown College	550	550	73	76
Georgetown University	670	1700	91	92
Georgia Institute of Technology	795	1164	92	92
Georgia State University	720	3450	87	89
Georgian Court College	500	800	56	59
Gettysburg College	500	500	94	95
Goldey Beacom College	531	1830	25	25
Gonzaga University	600	2400	78	90
Gordon College	400	1200	73	82
Goshen College	600	1230	51	56
Goucher College	500	1200	78	90
Grace College and Seminary	300	1000	53	59
Graceland College	550	880	51	61
Grand Valley State University	500	1000	64	66
Green Mountain College	400	850	77	83
Greensboro College	550	1300	64	80
Greenville College	400	800	57	61
Grinnell College	400	400	88	92
Grove City College	525	350	65	65
Guilford College	450	1050	78	86
Gustavus Adolphus College	400	700	79	89
Gwynedd Mercy College	500	500	36	41
Hamilton College	300	800	91	96
Hamline University	450	550	89	93
Hampden - Sydney College	660	600	95	97
Hampton University	600	2000	60	64
Hanover College	500	1200	84	84
Hardin-Simmons University	700	2140	75	79
Harding University	700	910	71	77
Hartwick College	500	700	75	87
Harvard University	500	1920	97	97
Harvey Mudd College	700	900	100	100
Hastings College	500	1902	57	63
Hendrix College	500	1200	82	99
Hillsdale College	400	750	80	80
Hiram College	400	1000	75	95
Hobart and William Smith Colleges	600	600	99	99
Hofstra University	1000	1000	81	90
Hollins College	500	850	78	91
Hood College	450	690	82	88
Hope College	465	1100	72	81
Houghton College	500	1500	85	90

Huntingdon College	500	1100	63	72
Huntington College	300	1300	76	76
Huron University	600	1840	31	35
Husson College	350	1500	36	44
Illinois Benedictine College	650	1500	81	91
Illinois College	600	1000	75	75
Illinois Institute of Technology	500	700	80	88
Illinois State University	537	2605	77	84
Illinois Wesleyan University	400	650	77	92
Immaculata College	500	1000	56	64
Incarnate Word College	750	2775	67	69
Indiana State University	600	2500	72	76
Indiana University at Bloomington	600	2000	77	88
Indiana Wesleyan University	700	1000	49	51
Iona College	570	1150	66	83
Iowa State University	640	2055	81	88
Ithaca College	634	1000	58	79
James Madison University	500	732	77	81
Jamestown College	400	400	51	53
Jersey City State College	400	1500	63	67
John Brown University	400	1350	68	68
John Carroll University	600	450	89	90
Johns Hopkins University	500	1040	96	97
Johnson State College	500	624	80	91
Judson College	500	1700	34	55
Juniata College	450	420	97	97
Kansas State University	600	2000	76	86
Kansas Wesleyan University	500	1400	63	55
Keene State College	500	1150	73	73
Kentucky Wesleyan College	500	1300	57	65
Kenyon College	750	480	95	95
Keuka College	600	750	55	94
King's College	400	1795	66	72
King College	600	3000	65	68
Knox College	400	800	88	95
La Roche College	600	1100	57	73
La Salle University	450	3160	90	90
Lafayette College	600	1000	93	96
LaGrange College	750	1500	77	83
Lake Forest College	920	1320	91	94
Lakeland College	500	1000	49	65
Lamar University	508	1463	48	82
Lambuth University	600	1590	61	61

Lander University	528	1702	67	77
Lawrence University	525	975	76	92
Le Moyne College	400	900	89	92
Lebanon Valley College	400	1125	84	84
Lehigh University	750	1130	96	99
Lenoir-Rhyne College	400	1000	88	92
Lesley College	550	805	71	88
LeTourneau University	600	1400	58	70
Lewis and Clark College	450	950	97	98
Lewis University	500	1200	36	48
Lincoln Memorial University	600	1300	67	72
Lincoln University	350	1400	71	72
Lindenwood College	1000	4200	65	85
Linfield College	500	900	89	91
Livingstone College	800	900	53	93
Lock Haven University of Pennsylvania	225	500	47	55
Longwood College	550	2200	74	80
Loras College	500	1200	61	62
Louisiana College	500	1655	64	74
Louisiana State University at Baton Rouge	600	2242	83	87
Louisiana Tech University	618	1656	66	77
Loyola College	600	900	86	88
Loyola Marymount University	545	1328	84	88
Loyola University	600	750	77	88
Loyola University Chicago	700	2000	94	95
Luther College	600	400	73	85
Lycoming College	500	900	75	81
Lynchburg College	450	870	62	66
Lyndon State College	500	600	48	65
Macalester College	500	700	85	91
MacMurray College	550	950	49	55
Malone College	450	1200	42	45
Manchester College	525	1450	63	72
Manhattan College	500	1800	92	92
Manhattanville College	450	400	97	97
Mankato State University	450	1660	57	68
Marian College of Fond du Lac	500	1100	37	37
Marietta College	470	810	80	97
Marist College	550	1200	74	81
Marquette University	600	1950	86	94
Marshall University	700	1560	77	86
Mary Baldwin College	600	1300	66	79
Mary Washington College	650	2102	75	80

Marymount College Tarrytown	575	1075	71	93
Marymount Manhattan College	350	1100	63	76
Marymount University	500	750	77	82
Maryville College	500	1642	80	90
Maryville University	425	1350	52	58
Marywood College	600	700	65	76
Massachusetts Institute of Technology	725	1600	99	99
Mayville State University	600	1900	68	68
McKendree College	500	800	70	74
McMurry University	400	1525	57	64
McPherson College	600	2740	54	54
Mercer University	400	1500	93	95
Mercyhurst College	425	1000	45	63
Meredith College	450	1520	77	82
Merrimack College	375	1000	73	75
Mesa State College	540	2256	48	48
Messiah College	475	1200	68	75
Miami University at Oxford	500	1382	81	89
Michigan State University	504	600	93	95
Michigan Technological University	900	1200	82	82
MidAmerica Nazarene College	1100	4913	33	33
Millersville University of Penn.	450	1258	72	74
Milligan College	550	1000	63	69
Millikin University	450	965	60	77
Millsaps College	550	1350	82	89
Milwaukee School of Engineering	1000	2075	35	46
Mississippi College	600	700	77	79
Mississippi State University	480	1479	77	77
Mississippi University for Women	600	1500	49	54
Missouri Southern State College	200	400	52	54
Missouri Valley College	400	900	35	67
Monmouth College IL	400	460	91	91
Monmouth College	530	1740	70	85
Montana College of Mineral Sci. & Tech.	550	1400	71	71
Montana State University	550	2300	75	83
Montclair State University	700	950	82	87
Montreat-Anderson College	500	2958	42	50
Moorhead State University	600	1000	76	81
Moravian College	550	1250	86	92
Morehouse College	250	600	71	74
Morningside College	500	1000	48	68
Morris College	850	2100	53	60
Mount Holyoke College	750	750	79	91

Mount Marty College	500	500	45	55
Mount Mary College	550	1125	51	51
Mount Mercy College	500	2285	44	50
Mount Saint Clare College	500	1200	32	37
Mount Saint Mary's College	550	900	77	82
Mount Saint Mary College	250	1400	74	75
Mount St. Mary's College	630	1278	53	71
Mount Union College	400	1150	85	87
Mount Vernon Nazarene College	600	600	57	57
Muhlenberg College	600	850	76	86
Murray State University	700	940	72	76
Muskingum College	600	800	73	85
National-Louis University	650	500	62	65
Nazareth College of Rochester	550	800	77	93
New Jersey Institute of Technology	700	1850	92	98
New Mexico Institute of Mining and Tech.	600	1100	99	100
New York University	450	1000	87	98
Newberry College	500	1500	57	63
Niagara University	450	650	68	100
North Adams State College	500	1000	65	71
North Carolina A. & T. State University	600	1651	72	72
North Carolina State University at Raleigh	600	1300	92	98
North Carolina Wesleyan College	600	1295	77	77
North Central College	450	1800	73	87
North Dakota State University	600	2000	79	83
North Park College	400	970	76	79
Northeast Missouri State University	400	1100	69	72
Northeastern University	600	1750	73	82
Northern Arizona University	620	2342	78	83
Northern Illinois University	470	1750	73	78
Northwest Missouri State University	250	1630	62	65
Northwest Nazarene College	450	822	59	59
Northwestern College	300	1800	68	68
Northwestern University	759	1585	96	100
Norwich University	500	800	71	74
Notre Dame College	400	600	44	47
Oakland University	400	650	88	90
Oberlin College	575	1119	77	96
Occidental College	558	1152	91	93
Oglethorpe University	600	4110	91	95
Ohio Northern University	600	825	73	78
Ohio University	550	2300	79	87
Ohio Wesleyan University	550	550	93	93

Oklahoma Baptist University	515	1290	63	71
Oklahoma Christian University	500	1900	58	64
Oklahoma State University	800	3100	84	92
Otterbein College	420	840	62	68
Ouachita Baptist University	500	1500	63	67
Our Lady of the Lake University	616	1576	56	64
Pace University	660	1115	90	95
Pacific Lutheran University	600	1516	78	78
Pacific Union College	630	1926	48	87
Pacific University	450	1100	76	76
Pembroke State University	550	1498	77	77
Pennsylvania State Univ. Main Campus	512	2394	77	96
Pepperdine University	500	700	95	98
Peru State College	500	900	48	100
Pfeiffer College	400	1915	62	62
Philadelphia Coll. of Textiles and Sci.	600	1664	48	80
Phillips University	600	940	58	64
Piedmont College	600	750	89	89
Pikeville College	500	500	48	57
Pitzer College	650	850	100	100
Point Loma Nazarene College	800	750	71	71
Point Park College	400	1200	45	90
Polytechnic University	436	2486	90	90
Prairie View A. and M. University	598	1582	55	93
Presbyterian College	554	1429	80	85
Princeton University	675	1575	91	96
Providence College	450	1100	66	74
Purdue University at West Lafayette	570	1060	86	86
Queens College	610	1900	73	75
Quincy University	450	1080	69	71
Quinnipiac College	1000	500	63	73
Radford University	500	900	73	83
Ramapo College of New Jersey	600	1655	74	95
Randolph-Macon College	400	900	77	80
Randolph-Macon Woman's College	370	920	88	97
Reed College	500	450	90	90
Regis College	450	700	81	85
Rensselaer Polytechnic Institute	1230	1100	94	98
Rhodes College	550	1500	90	96
Rider University	700	3100	84	92
Ripon College	350	650	87	90
Rivier College	600	1100	59	59
Roanoke College	450	1200	85	89

Rockhurst College	500	1500	60	79
Rocky Mountain College	600	625	56	78
Roger Williams University	500	730	44	54
Rollins College	955	750	81	85
Rosary College	550	950	79	82
Rowan College of New Jersey	800	800	76	81
Rutgers at New Brunswick	690	2009	90	95
Rutgers State University at Camden	690	2009	90	95
Rutgers State University at Newark	690	2009	90	95
Sacred Heart University	400	600	71	73
Saint Ambrose University	500	1500	56	56
Saint Anselm College	450	1120	70	82
Saint Cloud State University	350	1884	70	75
Saint Francis College IN	450	1000	43	78
Saint Francis College	400	1235	64	64
Saint John's University	500	600	76	85
Saint Joseph's College IN	600	950	55	60
Saint Joseph's College	500	800	53	89
Saint Joseph's University	350	1690	84	90
Saint Joseph College	650	950	87	90
Saint Louis University	800	6800	84	94
Saint Mary's College	500	1525	74	95
Saint Mary's College of Minnesota	400	820	68	74
Saint Mary-of-the-Woods College	500	1700	44	58
Saint Michael's College	500	750	79	88
Saint Olaf College	550	550	82	88
Saint Peter's College	500	450	78	78
Saint Vincent College	500	900	62	64
Saint Xavier University	600	794	87	100
Salem-Teikyo University	400	620	46	24
Salem College	500	2000	68	68
Salisbury State University	600	1450	73	75
Samford University	569	1650	74	75
San Diego State University	612	2400	87	93
Santa Clara University	630	1278	88	92
Sarah Lawrence College	600	700	89	93
Savannah Coll. of Art and Design	1200	1600	14	98
Schreiner College	500	1488	51	56
Scripps College	600	800	95	100
Seattle Pacific University	600	1250	83	85
Seattle University	500	1500	85	85
Seton Hall University	650	1000	81	84
Seton Hill College	350	2000	71	71

Shippensburg University of Penn.	450	1700	80	83
Shorter College	500	2000	62	65
Siena College	575	1090	71	82
Siena Heights College	475	1090	29	49
Simmons College	500	1200	74	81
Simpson College	550	1400	66	73
Sioux Falls College	500	1700	73	73
Skidmore College	500	700	87	92
Smith College	500	1050	85	97
South Dakota State University	500	1970	62	65
Southeast Missouri State University	200	2150	75	76
Southeastern Oklahoma State Univ.	450	1022	55	59
Southern California College	630	1818	63	65
Southern Illinois University at Edwardsville	221	2216	76	81
Southern Methodist University	576	1802	74	88
Southwest Baptist University	400	1000	52	54
Southwest Missouri State University	500	1360	70	75
Southwest State University	600	1800	58	75
Southwestern Adventist College	430	1651	44	77
Southwestern College	550	1500	56	56
Southwestern University	600	1050	83	89
Spalding University	600	900	50	56
Spelman College	660	2400	73	80
Spring Arbor College	385	665	48	48
St. Bonaventure University	500	1050	91	91
St. John's College	275	800	63	72
St. John Fisher College	400	800	86	81
St. Lawrence University	650	825	90	94
St. Martin's College	300	500	43	77
St. Mary's College of California	630	1584	88	89
St. Mary's College of Maryland	675	1250	84	89
St. Mary's University of San Antonio	700	1736	82	83
St. Norbert College	425	1100	74	78
St. Paul's College	600	600	45	45
St. Thomas Aquinas College	500	1750	69	73
Stephens College	450	2150	46	63
Stetson University	600	1365	85	90
Stevens Institute of Technology	450	750	89	89
Stockton College of New Jersey	711	1125	78	92
Stonehill College	480	800	79	79
SUNY at Albany	700	1560	93	96
SUNY at Binghamton	700	1000	83	100
SUNY at Buffalo	708	957	90	97

SUNY at Stony Brook	600	1200	91	96
SUNY College at Brockport	500	705	79	83
SUNY College at Oswego	500	1500	69	85
SUNY College at Buffalo	550	1230	71	78
SUNY College at Cortland	630	1274	82	85
SUNY College at Fredonia	620	1481	82	90
SUNY College at Geneseo	600	650	79	84
SUNY College at New Paltz	550	1500	85	93
SUNY College at Plattsburgh	600	1380	80	90
SUNY College at Potsdam	500	1000	71	75
SUNY College at Purchase	1125	1362	80	100
Susquehanna University	400	800	83	86
Sweet Briar College	500	600	91	99
Syracuse University	635	960	73	84
Tabor College	400	1500	55	70
Talladega College	1000	1400	56	58
Taylor University	450	1250	60	61
Tennessee Wesleyan College	400	3158	59	65
Texas A&M Univ. at College Station	600	2144	89	91
Texas A&M University at Galveston	600	650	103	88
Texas Christian University	650	2400	81	93
Texas Lutheran College	490	1700	54	58
Texas Southern University	600	1700	65	75
Texas Wesleyan University	600	1800	80	83
The Citadel	400	779	95	94
Thiel College	700	1350	68	76
Tiffin University	600	1200	59	74
Transylvania University	500	1000	81	91
Trenton State College	700	1000	81	87
Tri-State University	468	1323	53	53
Trinity College CT	500	680	91	96
Trinity College DC	500	900	89	93
Trinity College VT	550	500	58	78
Trinity University	500	490	94	96
Tulane University	350	800	98	98
Tusculum College	450	800	70	70
Tuskegee University	600	1425	70	74
Union College KY	500	600	60	88
Union College NY	450	1024	94	96
Univ. of Wisconsin at OshKosh	518	1890	73	78
University of Alabama at Birmingham	750	2200	96	96
University of Arkansas at Fayetteville	500	2000	73	89
University of California at Berkeley	636	1933	93	97

University of California at Irvine	790	1818	96	96
University of Central Florida	700	1600	80	98
University of Charleston	400	750	26	58
University of Chicago	500	1254	99	99
University of Cincinnati	556	1851	89	95
University of Connecticut at Storrs	700	2300	89	95
University of Dallas	500	1200	85	93
University of Dayton	500	900	81	85
University of Delaware	530	1300	82	87
University of Denver	400	1350	84	91
University of Detroit Mercy	600	2166	72	79
University of Dubuque	400	1500	85	98
University of Evansville	700	960	60	81
University of Florida	630	1530	88	97
University of Georgia	525	1755	88	95
University of Hartford	500	1440	61	76
University of Hawaii at Manoa	687	1281	85	87
University of Illinois - Urbana	500	1982	87	90
University of Illinois at Chicago	630	3228	82	84
University of Indianapolis	525	1405	55	56
University of Kansas	700	2681	88	94
University of La Verne	630	2298	66	68
University of Louisville	530	2440	84	92
University of Maine at Farmington	450	1647	67	75
University of Maine at Machias	600	400	46	46
University of Maine at Presque Isle	400	1675	67	67
University of Maryland at Baltimore County	494	2768	82	88
University of Maryland at College Park	550	1550	89	92
University of Massachusetts at Amherst	500	1400	88	92
University of Massachusetts at Dartmouth	500	1250	74	90
University of Miami	630	1985	82	94
University of Michigan at Ann Arbor	476	1600	90	98
University of Minnesota at Duluth	753	2610	79	91
University of Minnesota at Morris	600	1500	74	78
University of Minnesota Twin Cities	714	2910	88	90
University of Mississippi	600	550	81	86
University of Missouri at Columbia	600	1983	87	87
University of Missouri at Rolla	700	1435	88	88
University of Missouri at Saint Louis	500	4288	71	73
University of Mobile	550	1200	59	63
University of Montevallo	300	600	72	72
University of Nebraska at Lincoln	500	2070	86	92
University of New England	900	2500	72	75

University of New Hampshire	650	2450	89	87
University of North Carolina at Asheville	600	750	77	83
University of North Carolina at Chapel Hill	550	1200	88	93
University of North Carolina at Charlotte	600	1900	79	91
University of North Carolina at Greensboro	600	1300	75	94
University of North Carolina at Wilmington	500	1500	82	85
University of North Dakota	450	1200	97	97
University of North Florida	600	2604	82	85
University of North Texas	450	1700	86	94
University of Northern Colorado	540	2286	75	75
University of Northern Iowa	595	2380	78	82
University of Notre Dame	600	1350	96	92
University of Oklahoma	765	3176	86	90
University of Oregon	570	1530	79	87
University of Pennsylvania	500	1544	95	96
University of Pittsburgh-Main Campus	400	900	93	93
University of Portland	600	1100	92	96
University of Puget Sound	630	1800	79	86
University of Rhode Island	500	1250	84	89
University of Richmond	700	1125	75	89
University of Rochester	500	882	93	99
University of San Diego	630	1820	93	96
University of San Francisco	750	2450	86	86
University of Sci. and Arts of Oklahoma	600	1800	67	77
University of Scranton	650	800	83	83
University of South Carolina at Aiken	500	1500	62	62
University of South Carolina at Columbia	495	2941	84	88
University of South Florida	500	2180	84	89
University of Southern California	600	2210	90	94
University of Southern Colorado	540	2948	63	88
University of Southern Indiana	500	1425	56	65
University of Southern Mississippi	500	500	78	99
University of St. Thomas MN	500	800	80	80
University of St. Thomas TX	500	1344	75	75
University of Tennessee at Knoxville	750	3300	86	92
University of Texas at Arlington	500	2850	73	73
University of Texas at Austin	650	3140	91	99
University of Texas at San Antonio	452	1200	94	100
University of the Arts	1300	700	16	59
University of the Pacific	646	1171	87	94
University of the South	450	810	89	93
University of Tulsa	1200	2350	94	96
University of Utah	858	3093	89	93

University of Vermont	500	990	87	90
University of Virginia	500	1000	90	92
University of Washington	708	2172	96	94
University of West Florida	541	1387	83	87
University of Wisconsin-Stout	376	1750	78	78
University of Wisconsin-Superior	550	1960	75	81
University of Wisconsin-Whitewater	300	1200	90	95
University of Wisconsin at Green Bay	475	1200	81	89
University of Wisconsin at Madison	535	1545	93	96
University of Wisconsin at Milwaukee	570	1980	79	87
University of Wyoming	600	1500	91	94
Upper Iowa University	500	1000	69	75
Ursinus College	500	800	82	85
Ursuline College	450	750	39	69
Valley City State University	600	2000	39	41
Valparaiso University	500	800	87	89
Vanderbilt University	630	952	93	98
Vassar College	600	800	90	98
Villanova University	400	300	89	90
Virginia Commonwealth University	500	3630	81	87
Virginia State University	500	600	61	63
Virginia Tech	740	2200	85	89
Virginia Union University	500	1763	51	67
Virginia Wesleyan College	500	550	70	81
Viterbo College	500	2245	51	65
Voorhees College	500	1200	43	43
Wabash College	500	635	78	85
Wagner College	585	1700	67	78
Wake Forest University	500	1250	95	97
Walsh University	500	1450	42	58
Warren Wilson College	400	1100	65	75
Wartburg College	400	850	66	91
Washington and Jefferson College	300	500	91	91
Washington and Lee University	680	1115	81	96
Washington College	500	300	79	86
Washington State University	800	2719	84	87
Washington University	768	1512	91	98
Wayne State College	540	1660	60	68
Waynesburg College	500	1200	57	58
Webber College	650	1952	53	63
Webster University	500	500	68	68
Wellesley College	500	700	94	98
Wells College	600	500	93	98

Wentworth Institute of Technology	850	920	10	68
Wesley College	500	1350	52	57
Wesleyan University	1400	1400	90	94
West Chester University of Penn.	400	2000	76	79
West Liberty State College	600	1210	33	33
West Virginia Wesleyan College	450	1100	58	81
Western Carolina University	110	1622	67	78
Western Maryland College	500	1400	84	91
Western Michigan University	500	1700	80	84
Western New England College	498	2065	74	97
Western State College of Colorado	500	2050	76	79
Western Washington University	639	2385	83	89
Westfield State College	500	1300	75	79
Westminster College MO	600	1650	66	70
Westminster College	430	685	62	78
Westminster College of Salt Lake City	600	2025	68	83
Westmont College	490	1410	77	77
Wheaton College IL	530	1400	81	83
Westminster College PA	700	850	92	96
Wheeling Jesuit College	600	600	66	71
Whitman College	750	800	80	83
Whittier College	500	1998	84	92
Whitworth College	678	2424	80	80
Widener University	500	1350	88	86
Wilkes University	550	1260	78	92
Willamette University	400	790	91	94
William Jewell College	500	2600	74	80
William Woods University	550	3700	39	66
Williams College	500	1200	94	99
Wilson College	450	475	67	76
Wingate College	550	1550	69	81
Winona State University	300	1200	53	60
Winthrop University	580	2150	71	80
Wisconsin Lutheran College	500	1400	48	48
Wittenberg University	400	800	82	95
Wofford College	605	1440	91	92
Worcester Polytechnic Institute	530	730	92	94
Worcester State College	500	1200	60	60
Xavier University	600	1250	73	75
Xavier University of Louisiana	617	781	67	75
Yale University	630	2115	96	96
York College of Pennsylvania	500	1250	75	75
S.F.Ratio perc.alumni Expend				

Abilene Christian University	18.1	12	7041
Adelphi University	12.2	16	10527
Adrian College	12.9	30	8735
Agnes Scott College	7.7	37	19016
Alaska Pacific University	11.9	2	10922
Albertson College	9.4	11	9727
Albertus Magnus College	11.5	26	8861
Albion College	13.7	37	11487
Albright College	11.3	23	11644
Alderson-Broadus College	11.5	15	8991
Alfred University	11.3	31	10932
Allegheny College	9.9	41	11711
Allentown Coll. of St. Francis de Sales	13.3	21	7940
Alma College	15.3	32	9305
Alverno College	11.1	26	8127
American International College	14.7	19	7355
Amherst College	8.4	63	21424
Anderson University	12.1	14	7994
Andrews University	11.5	18	10908
Angelo State University	23.1	5	4010
Antioch University	11.3	35	42926
Appalachian State University	18.3	14	5854
Aquinas College	12.7	25	6584
Arizona State University Main campus	18.9	5	4602
Arkansas College (Lyon College)	12.6	24	14579
Arkansas Tech University	19.6	5	4739
Assumption College	13.8	30	7100
Auburn University-Main Campus	16.7	18	6642
Augsburg College	12.8	31	7836
Augustana College IL	12.7	40	9220
Augustana College	10.4	30	6871
Austin College	13.0	33	11361
Averett College	22.4	11	6523
Baker University	11.0	21	6136
Baldwin-Wallace College	17.6	20	8086
Barat College	9.7	35	9337
Bard College	10.4	30	13894
Barnard College	10.3	33	12580
Barry University	12.6	11	9084
Baylor University	18.5	38	7503
Beaver College	12.2	30	8954
Bellarmino College	13.1	31	6668
Belmont Abbey College	13.2	10	7550

Belmont University	11.1	19	7614
Beloit College	11.1	26	12957
Bemidji State University	19.6	16	3752
Benedictine College	14.1	18	5922
Bennington College	10.1	33	16364
Bentley College	17.5	20	10941
Berry College	16.3	17	10511
Bethany College	11.6	29	7718
Bethel College KS	8.8	32	8324
Bethel College	11.7	13	7623
Bethune Cookman College	13.8	9	6817
Birmingham-Southern College	14.0	34	8649
Blackburn College	14.3	53	8377
Bloomsburg Univ. of Pennsylvania	18.0	19	7041
Bluefield College	17.8	3	6259
Bluffton College	13.3	19	9073
Boston University	11.9	16	16836
Bowdoin College	11.2	52	20447
Bowling Green State University	21.1	14	6918
Bradford College	10.2	21	15387
Bradley University	14.4	21	7671
Brandeis University	9.8	24	17150
Brenau University	13.7	12	5935
Brewton-Parker College	12.6	10	4900
Briar Cliff College	13.1	26	8355
Bridgewater College	13.2	24	8655
Brigham Young University at Provo	20.5	40	7916
Brown University	7.6	39	20440
Bryn Mawr College	12.3	49	17449
Bucknell University	14.2	36	13675
Buena Vista College	8.8	10	6333
Butler University	10.9	29	9511
Cabrini College	16.5	36	7117
Caldwell College	13.9	25	7922
California Lutheran University	12.4	17	8985
California Polytechnic-San Luis	19.8	13	8453
California State University at Fresno	21.2	8	7268
Calvin College	14.8	41	7786
Campbell University	21.8	34	3739
Campbellsville College	17.7	13	5391
Canisius College	14.6	26	7972
Capital University	12.1	27	9557
Capitol College	12.1	24	7976

Carleton College	10.4	60	17960
Carnegie Mellon University	9.2	31	24386
Carroll College	17.8	25	7666
Carson-Newman College	13.6	16	6716
Carthage College	15.9	22	7364
Case Western Reserve University	2.9	29	19733
Castleton State College	14.7	8	6318
Catawba College	13.5	27	8425
Catholic University of America	9.3	18	12751
Cazenovia College	14.3	20	7697
Cedar Crest College	11.7	39	10961
Cedarville College	15.3	34	6897
Centenary College	9.5	20	9583
Centenary College of Louisiana	11.3	25	9685
Center for Creative Studies	6.8	4	13025
Central College	13.5	29	8444
Central Connecticut State University	16.7	4	4900
Central Missouri State University	19.7	4	5501
Central Washington University	18.1	0	6413
Central Wesleyan College	15.2	18	3365
Centre College	11.4	60	13118
Chapman University	12.8	6	12692
Chatham College	9.3	37	16095
Chestnut Hill College	8.3	29	7729
Christendom College	9.3	17	10922
Christian Brothers University	11.1	24	8129
Christopher Newport University	21.2	16	4639
Claflin College	16.9	31	7083
Claremont McKenna College	9.6	52	18443
Clark University	10.5	35	11951
Clarke College	11.0	27	7963
Clarkson University	15.8	32	11659
Clemson University	18.0	17	7597
Clinch Valley Coll. of the Univ. of Virginia	18.1	9	4417
Coe College	12.7	32	10141
Coker College	12.1	39	8741
Colby College	10.2	41	15954
Colgate University	10.5	45	15494
College Misericordia	12.9	23	8604
College of Charleston	17.2	18	4776
College of Mount St. Joseph	11.1	35	6889
College of Mount St. Vincent	11.9	35	10015
College of Notre Dame	10.4	7	9773

College of Notre Dame of Maryland	11.5	32	7477
College of Saint Benedict	13.1	26	8847
College of Saint Catherine	11.5	32	7315
College of Saint Elizabeth	11.4	23	9447
College of Saint Rose	14.3	28	6084
College of Santa Fe	14.0	7	8820
College of St. Joseph	9.5	19	6936
College of St. Scholastica	11.6	33	8996
College of the Holy Cross	11.3	55	12138
College of William and Mary	12.1	31	9534
College of Wooster	11.1	43	14140
Colorado College	11.3	51	14664
Colorado State University	19.2	10	7850
Columbia College MO	15.3	2	5015
Columbia College	14.7	34	8693
Columbia University	5.9	21	30639
Concordia College at St. Paul	12.8	18	6955
Concordia Lutheran College	12.1	9	6875
Concordia University CA	13.1	13	8415
Concordia University	12.1	13	7309
Connecticut College	10.7	40	14773
Converse College	10.2	31	10965
Cornell College	12.2	31	10340
Creighton University	6.5	32	22906
Culver-Stockton College	14.1	28	5807
Cumberland College	13.0	4	8189
D'Youville College	14.6	42	6898
Dana College	12.6	25	8686
Daniel Webster College	22.2	10	8643
Dartmouth College	4.7	49	29619
Davidson College	12.0	46	17581
Defiance College	12.8	19	7505
Delta State University	17.1	16	5113
Denison University	11.6	45	12423
DePauw University	11.1	31	11525
Dickinson College	11.2	39	13861
Dickinson State University	16.5	28	4525
Dillard University	14.1	12	7566
Doane College	15.1	42	6852
Dominican College of Blauvelt	12.7	5	5480
Dordt College	12.5	17	7325
Dowling College	12.4	7	11178
Drake University	15.0	24	9473

Drew University	10.2	28	14907
Drury College	13.2	35	9303
Duke University	5.0	44	27206
Earlham College	10.6	46	14634
East Carolina University	13.2	18	9002
East Tennessee State University	14.0	9	9825
East Texas Baptist University	15.7	7	5619
Eastern College	13.6	22	8135
Eastern Connecticut State University	16.9	14	5719
Eastern Illinois University	16.2	5	5682
Eastern Mennonite College	11.4	29	10188
Eastern Nazarene College	17.3	17	6430
Eckerd College	12.8	26	15003
Elizabethtown College	12.8	25	9815
Elmira College	21.5	21	7502
Elms College	11.3	21	8952
Elon College	18.9	34	6329
Embry Riddle Aeronautical University	16.5	4	12878
Emory & Henry College	13.9	51	8061
Emory University	5.0	28	28457
Emporia State University	19.3	4	5527
Erskine College	13.5	47	7527
Eureka College	10.6	31	9552
Evergreen State College	18.1	14	8355
Fairfield University	15.1	30	11220
Fayetteville State University	15.1	10	6972
Ferrum College	12.5	9	7967
Flagler College	18.1	9	3930
Florida Institute of Technology	10.6	7	8923
Florida International University	13.9	20	6722
Florida Southern College	17.4	10	6339
Florida State University	23.1	15	7250
Fontbonne College	21.5	24	4607
Fordham University	14.4	14	10864
Fort Lewis College	19.1	6	4362
Francis Marion University	19.1	8	5039
Franciscan University of Steubenville	14.9	8	6336
Franklin College	12.5	37	11751
Franklin Pierce College	17.6	16	6418
Freed-Hardeman University	16.1	13	6078
Fresno Pacific College	10.5	14	8095
Furman University	13.5	28	12940
Gannon University	13.3	18	7711

Gardner Webb University	15.2	12	5664
Geneva College	20.1	26	6786
George Fox College	13.5	22	7136
George Mason University	19.3	7	6751
George Washington University	7.6	15	14745
Georgetown College	13.3	28	7508
Georgetown University	7.2	27	19635
Georgia Institute of Technology	19.3	33	11271
Georgia State University	19.0	10	7762
Georgian Court College	12.2	27	7348
Gettysburg College	12.1	32	14720
Goldey Beacom College	27.6	4	6081
Gonzaga University	14.7	32	9553
Gordon College	14.2	32	9226
Goshen College	9.9	46	10270
Goucher College	9.2	34	16623
Grace College and Seminary	15.3	26	9798
Graceland College	23.6	24	5609
Grand Valley State University	20.6	9	5063
Green Mountain College	14.0	24	6475
Greensboro College	13.0	31	7949
Greenville College	14.3	16	8222
Grinnell College	9.5	54	18979
Grove City College	18.4	18	4957
Guilford College	15.6	30	9114
Gustavus Adolphus College	12.5	58	9907
Gwynedd Mercy College	7.8	22	7483
Hamilton College	9.6	60	17761
Hamline University	13.0	33	10296
Hampden - Sydney College	13.3	53	12263
Hampton University	14.0	9	6791
Hanover College	10.6	26	9248
Hardin-Simmons University	13.7	10	7054
Harding University	17.7	37	6466
Hartwick College	12.3	32	11625
Harvard University	9.9	52	37219
Harvey Mudd College	8.2	46	21569
Hastings College	13.0	17	7335
Hendrix College	13.1	26	8588
Hillsdale College	12.0	31	12639
Hiram College	10.6	34	12165
Hobart and William Smith Colleges	12.1	37	13040
Hofstra University	13.9	10	10093

Hollins College	11.1	48	13957
Hood College	14.4	34	12434
Hope College	12.5	40	9284
Houghton College	15.0	24	8187
Huntingdon College	11.4	9	7703
Huntington College	11.8	25	9466
Huron University	12.9	4	9249
Husson College	22.0	4	4923
Illinois Benedictine College	11.6	29	8324
Illinois College	15.6	30	7348
Illinois Institute of Technology	12.3	26	12851
Illinois State University	21.0	16	5569
Illinois Wesleyan University	12.9	34	9605
Immaculata College	11.2	33	7305
Incarnate Word College	11.4	21	6095
Indiana State University	16.6	8	6996
Indiana University at Bloomington	21.3	24	8686
Indiana Wesleyan University	39.8	15	6562
Iona College	16.0	14	8107
Iowa State University	19.2	22	8420
Ithaca College	11.5	25	9812
James Madison University	17.9	29	5212
Jamestown College	17.0	21	3186
Jersey City State College	14.9	10	8367
John Brown University	13.3	19	8118
John Carroll University	14.5	28	7738
Johns Hopkins University	3.3	38	56233
Johnson State College	14.4	15	6564
Judson College	10.6	30	7840
Juniata College	12.7	37	12067
Kansas State University	18.5	22	6122
Kansas Wesleyan University	12.4	14	6535
Keene State College	16.1	13	6195
Kentucky Wesleyan College	11.3	32	7058
Kenyon College	11.1	46	14067
Keuka College	13.3	43	7863
King's College	15.6	37	7649
King College	10.7	25	8954
Knox College	12.7	33	13224
La Roche College	14.2	14	7022
La Salle University	15.1	9	9084
Lafayette College	10.5	38	15365
LaGrange College	12.5	12	9067

Lake Forest College	10.7	19	15687
Lakeland College	17.2	25	4054
Lamar University	18.4	12	5879
Lambuth University	16.1	10	5531
Lander University	17.0	11	6119
Lawrence University	10.1	57	13965
Le Moyne College	13.3	28	8118
Lebanon Valley College	12.3	30	8196
Lehigh University	12.5	43	14665
Lenoir-Rhyne College	12.0	20	8539
Lesley College	27.8	18	8694
LeTourneau University	20.8	23	6863
Lewis and Clark College	12.3	21	12999
Lewis University	14.3	10	7701
Lincoln Memorial University	14.6	35	5177
Lincoln University	12.6	8	10912
Lindenwood College	24.1	9	3480
Linfield College	17.8	34	8747
Livingstone College	10.4	16	9268
Lock Haven University of Pennsylvania	16.1	14	6374
Longwood College	18.4	23	5553
Loras College	14.2	24	7578
Louisiana College	10.5	11	7547
Louisiana State University at Baton Rouge	15.9	11	6741
Louisiana Tech University	20.0	13	4546
Loyola College	14.7	27	9448
Loyola Marymount University	14.2	10	11677
Loyola University	11.7	14	9456
Loyola University Chicago	6.2	15	13009
Luther College	13.8	38	8949
Lycoming College	14.0	32	8024
Lynchburg College	12.4	24	8832
Lyndon State College	12.6	15	7114
Macalester College	11.9	37	14213
MacMurray College	10.8	33	10642
Malone College	17.6	16	4796
Manchester College	11.8	20	7940
Manhattan College	13.6	25	10062
Manhattanville College	11.3	24	11291
Mankato State University	19.0	11	5801
Marian College of Fond du Lac	8.4	21	5352
Marietta College	13.2	30	10223
Marist College	17.6	34	8408

Marquette University	13.5	25	9982
Marshall University	16.6	10	6203
Mary Baldwin College	6.8	50	10819
Mary Washington College	17.6	30	5358
Marymount College Tarrytown	10.3	30	10502
Marymount Manhattan College	11.7	20	10622
Marymount University	10.6	17	8575
Maryville College	11.1	43	8317
Maryville University	13.1	13	5925
Marywood College	11.8	30	9034
Massachusetts Institute of Technology	10.1	35	33541
Mayville State University	15.7	11	6971
McKendree College	17.7	21	6652
McMurry University	11.0	11	6383
McPherson College	9.8	45	9754
Mercer University	9.2	15	8995
Mercyhurst College	16.7	29	7307
Meredith College	13.9	33	6881
Merrimack College	16.8	22	8707
Mesa State College	28.8	12	3871
Messiah College	14.1	30	7762
Miami University at Oxford	17.6	20	7846
Michigan State University	14.0	9	10520
Michigan Technological University	17.0	25	7473
MidAmerica Nazarene College	15.4	20	5524
Millersville University of Penn.	16.8	20	7832
Milligan College	12.0	16	8128
Millikin University	11.4	25	8149
Millsaps College	12.7	38	11218
Milwaukee School of Engineering	16.7	23	7140
Mississippi College	16.5	18	6170
Mississippi State University	15.9	20	6223
Mississippi University for Women	15.8	8	5704
Missouri Southern State College	20.3	9	4172
Missouri Valley College	17.4	16	4333
Monmouth College IL	11.6	43	11087
Monmouth College	14.2	15	9492
Montana College of Mineral Sci. & Tech.	16.4	31	6112
Montana State University	17.6	8	6324
Montclair State University	21.5	9	6717
Montreat-Anderson College	11.1	4	11989
Moorhead State University	18.1	19	4795
Moravian College	15.2	28	9566

Morehouse College	17.8	10	8122
Morningside College	13.0	32	8111
Morris College	18.6	34	6990
Mount Holyoke College	9.0	51	18359
Mount Marty College	11.7	38	5073
Mount Mary College	10.7	26	7016
Mount Mercy College	11.3	30	6695
Mount Saint Clare College	13.6	43	6525
Mount Saint Mary's College	12.8	36	8536
Mount Saint Mary College	15.3	23	6898
Mount St. Mary's College	11.9	19	10613
Mount Union College	16.7	35	7215
Mount Vernon Nazarene College	19.8	7	6869
Muhlenberg College	12.8	39	10888
Murray State University	20.2	27	5972
Muskingum College	13.4	27	9333
National-Louis University	18.3	2	7905
Nazareth College of Rochester	13.6	24	8797
New Jersey Institute of Technology	13.5	19	12529
New Mexico Institute of Mining and Tech.	13.7	11	9241
New York University	7.8	16	21227
Newberry College	11.4	32	5788
Niagara University	14.2	20	7788
North Adams State College	14.2	17	6562
North Carolina A. & T. State University	16.7	9	7090
North Carolina State University at Raleigh	17.5	21	9670
North Carolina Wesleyan College	12.7	11	10090
North Central College	16.4	33	8871
North Dakota State University	17.0	24	6310
North Park College	13.1	24	10889
Northeast Missouri State University	15.7	13	6601
Northeastern University	12.9	17	9563
Northern Arizona University	21.7	7	6157
Northern Illinois University	17.3	11	6086
Northwest Missouri State University	21.7	23	5284
Northwest Nazarene College	14.8	20	6261
Northwestern College	14.9	34	6357
Northwestern University	6.8	25	26385
Norwich University	13.1	22	9209
Notre Dame College	12.1	26	4948
Oakland University	19.7	13	6637
Oberlin College	10.1	47	16593
Occidental College	10.5	30	16196

Oglethorpe University	13.1	27	8568
Ohio Northern University	14.5	31	9979
Ohio University	20.4	13	8811
Ohio Wesleyan University	12.1	32	12011
Oklahoma Baptist University	15.1	18	5511
Oklahoma Christian University	16.2	8	6578
Oklahoma State University	15.3	14	6433
Otterbein College	13.9	30	8802
Ouachita Baptist University	13.3	10	6413
Our Lady of the Lake University	14.9	25	7114
Pace University	13.8	10	10059
Pacific Lutheran University	11.0	23	9431
Pacific Union College	12.3	12	9157
Pacific University	10.9	22	11216
Pembroke State University	15.0	5	6443
Pennsylvania State Univ. Main Campus	18.1	19	8992
Pepperdine University	11.6	13	16185
Peru State College	20.1	24	4870
Pfeiffer College	12.2	13	7634
Philadelphia Coll. of Textiles and Sci.	12.9	15	8028
Phillips University	11.6	19	8990
Piedmont College	13.2	17	7309
Pikeville College	13.4	14	5557
Pitzer College	10.4	11	14820
Point Loma Nazarene College	16.1	19	7895
Point Park College	14.5	10	7652
Polytechnic University	10.4	14	14329
Prairie View A. and M. University	19.4	1	5967
Presbyterian College	13.4	42	8354
Princeton University	8.4	54	28320
Providence College	18.4	35	8135
Purdue University at West Lafayette	18.2	15	8604
Queens College	14.0	36	9315
Quincy University	16.3	32	6880
Quinnipiac College	12.0	33	8847
Radford University	19.6	9	4519
Ramapo College of New Jersey	17.8	8	7333
Randolph-Macon College	10.7	38	11080
Randolph-Macon Woman's College	9.2	24	16358
Reed College	11.8	37	15886
Regis College	10.3	37	11758
Rensselaer Polytechnic Institute	15.4	21	15605
Rhodes College	10.8	47	13388

Rider University	12.3	23	11299
Ripon College	9.4	49	12472
Rivier College	12.2	19	6744
Roanoke College	13.0	26	9405
Rockhurst College	10.7	21	7519
Rocky Mountain College	11.3	27	6422
Roger Williams University	16.4	8	7957
Rollins College	13.3	23	11561
Rosary College	12.9	30	9264
Rowan College of New Jersey	22.1	6	7252
Rutgers at New Brunswick	19.5	19	10474
Rutgers State University at Camden	18.6	12	10134
Rutgers State University at Newark	17.4	16	11878
Sacred Heart University	14.8	16	7120
Saint Ambrose University	14.1	16	7444
Saint Anselm College	14.5	29	6719
Saint Cloud State University	18.9	10	4629
Saint Francis College IN	12.5	4	7440
Saint Francis College	19.3	24	7344
Saint John's University	12.0	38	9853
Saint Joseph's College IN	14.8	19	7360
Saint Joseph's College	27.2	8	4322
Saint Joseph's University	17.4	13	8243
Saint Joseph College	11.2	32	8680
Saint Louis University	4.6	19	18367
Saint Mary's College	9.9	31	11165
Saint Mary's College of Minnesota	18.8	19	5081
Saint Mary-of-the-Woods College	10.2	37	9678
Saint Michael's College	14.5	34	10190
Saint Olaf College	10.0	31	12502
Saint Peter's College	12.1	22	7669
Saint Vincent College	12.3	31	8534
Saint Xavier University	13.7	15	8953
Salem-Teikyo University	13.0	9	8946
Salem College	11.2	46	9599
Salisbury State University	17.9	18	5125
Samford University	14.7	17	9533
San Diego State University	19.5	7	7930
Santa Clara University	13.9	19	10872
Sarah Lawrence College	6.1	18	14779
Savannah Coll. of Art and Design	16.1	26	6874
Schreiner College	11.8	23	8545
Scripps College	8.2	41	18372

Seattle Pacific University	16.8	20	10368
Seattle University	12.2	16	10175
Seton Hall University	14.4	15	10080
Seton Hill College	11.2	37	10065
Shippensburg University of Penn.	18.8	13	6719
Shorter College	13.2	18	7356
Siena College	14.1	42	8189
Siena Heights College	7.2	17	9431
Simmons College	8.9	33	14086
Simpson College	15.8	36	7411
Sioux Falls College	14.8	7	7881
Skidmore College	12.7	29	14837
Smith College	10.3	44	21199
South Dakota State University	15.0	29	5084
Southeast Missouri State University	17.1	8	5916
Southeastern Oklahoma State Univ.	19.6	9	4444
Southern California College	18.6	11	8219
Southern Illinois University at Edwardsville	16.5	8	7498
Southern Methodist University	13.5	17	12726
Southwest Baptist University	15.9	13	4718
Southwest Missouri State University	19.9	11	4632
Southwest State University	16.5	31	6591
Southwestern Adventist College	13.0	12	5309
Southwestern College	11.8	12	7818
Southwestern University	11.3	35	12995
Spalding University	10.6	40	6860
Spelman College	12.5	18	9988
Spring Arbor College	15.4	9	10938
St. Bonaventure University	17.7	32	9828
St. John's College	7.2	26	15622
St. John Fisher College	14.5	29	7908
St. Lawrence University	11.5	38	14980
St. Martin's College	14.5	8	9209
St. Mary's College of California	16.1	17	9619
St. Mary's College of Maryland	11.6	23	10357
St. Mary's University of San Antonio	16.2	7	7651
St. Norbert College	15.1	36	8595
St. Paul's College	14.0	8	8426
St. Thomas Aquinas College	16.1	13	6534
Stephens College	10.9	17	9995
Stetson University	12.5	24	10307
Stevens Institute of Technology	19.0	33	12837
Stockton College of New Jersey	19.5	7	5599

Stonehill College	13.0	30	7495
SUNY at Albany	17.4	16	9075
SUNY at Binghamton	18.0	15	8055
SUNY at Buffalo	13.6	15	11177
SUNY at Stony Brook	10.5	7	13705
SUNY College at Brockport	19.0	14	6632
SUNY College at Oswego	22.0	21	5280
SUNY College at Buffalo	18.7	12	7511
SUNY College at Cortland	17.8	17	5563
SUNY College at Fredonia	16.3	10	6442
SUNY College at Geneseo	19.1	25	5716
SUNY College at New Paltz	15.3	8	6608
SUNY College at Plattsburgh	17.9	16	6174
SUNY College at Potsdam	15.1	17	6436
SUNY College at Purchase	14.9	8	8170
Susquehanna University	13.9	37	10554
Sweet Briar College	6.5	48	18953
Syracuse University	11.3	13	14231
Tabor College	10.0	15	7233
Talladega College	15.5	7	5970
Taylor University	14.2	32	8294
Tennessee Wesleyan College	8.9	16	6286
Texas A&M Univ. at College Station	23.1	29	8471
Texas A&M University at Galveston	17.4	16	6415
Texas Christian University	14.8	23	9158
Texas Lutheran College	13.8	24	7002
Texas Southern University	18.2	21	3605
Texas Wesleyan University	14.5	10	7936
The Citadel	17.1	17	7744
Thiel College	11.6	16	9186
Tiffin University	19.0	40	5096
Transylvania University	12.1	41	10219
Trenton State College	14.4	6	8504
Tri-State University	12.8	24	7603
Trinity College CT	10.4	48	18034
Trinity College DC	8.3	37	11806
Trinity College VT	10.4	26	9586
Trinity University	9.6	20	14703
Tulane University	9.1	21	16920
Tusculum College	21.9	28	4933
Tuskegee University	12.2	7	10872
Union College KY	14.1	9	6864
Union College NY	11.5	49	15411

Univ. of Wisconsin at OshKosh	19.2	14	5901
University of Alabama at Birmingham	6.7	16	16352
University of Arkansas at Fayetteville	14.8	10	6820
University of California at Berkeley	15.8	10	13919
University of California at Irvine	16.1	11	15934
University of Central Florida	22.2	9	6742
University of Charleston	2.5	10	7683
University of Chicago	5.3	36	36854
University of Cincinnati	10.8	6	13889
University of Connecticut at Storrs	16.0	16	10178
University of Dallas	13.4	26	8731
University of Dayton	14.8	25	8894
University of Delaware	18.3	15	10650
University of Denver	15.9	21	11762
University of Detroit Mercy	13.5	14	10891
University of Dubuque	16.5	18	8767
University of Evansville	15.8	26	7780
University of Florida	13.4	20	14737
University of Georgia	14.7	22	7881
University of Hartford	10.7	9	10625
University of Hawaii at Manoa	11.8	6	12833
University of Illinois - Urbana	17.4	13	8559
University of Illinois at Chicago	10.0	6	13883
University of Indianapolis	11.1	23	6735
University of Kansas	13.7	17	9657
University of La Verne	14.1	23	10139
University of Louisville	11.1	24	10207
University of Maine at Farmington	15.9	26	5712
University of Maine at Machias	15.1	4	5935
University of Maine at Presque Isle	15.2	11	6408
University of Maryland at Baltimore County	18.4	6	7618
University of Maryland at College Park	18.1	12	9021
University of Massachusetts at Amherst	16.7	15	10276
University of Massachusetts at Dartmouth	15.0	20	7462
University of Miami	5.9	17	17500
University of Michigan at Ann Arbor	11.5	26	14847
University of Minnesota at Duluth	19.0	11	6393
University of Minnesota at Morris	14.6	16	6716
University of Minnesota Twin Cities	12.2	37	16122
University of Mississippi	20.3	14	6971
University of Missouri at Columbia	12.7	15	10145
University of Missouri at Rolla	14.4	23	9699
University of Missouri at Saint Louis	13.4	15	6433

University of Mobile	16.6	4	5412
University of Montevallo	18.9	8	5883
University of Nebraska at Lincoln	15.1	48	6813
University of New England	11.4	13	9718
University of New Hampshire	17.5	16	7855
University of North Carolina at Asheville	13.0	11	7011
University of North Carolina at Chapel Hill	8.9	23	15893
University of North Carolina at Charlotte	16.8	7	6227
University of North Carolina at Greensboro	15.5	17	7392
University of North Carolina at Wilmington	19.1	15	6005
University of North Dakota	15.9	16	9424
University of North Florida	17.8	14	6104
University of North Texas	22.6	6	5657
University of Northern Colorado	21.5	8	6309
University of Northern Iowa	16.3	26	6333
University of Notre Dame	13.1	46	13936
University of Oklahoma	11.5	11	10244
University of Oregon	19.7	13	8020
University of Pennsylvania	6.3	38	25765
University of Pittsburgh-Main Campus	7.8	10	13789
University of Portland	13.2	17	9060
University of Puget Sound	15.0	17	11217
University of Rhode Island	16.6	7	9158
University of Richmond	11.7	32	11984
University of Rochester	5.9	23	26037
University of San Diego	15.6	13	10813
University of San Francisco	13.6	8	10074
University of Sci. and Arts of Oklahoma	23.6	3	3864
University of Scranton	14.1	41	9131
University of South Carolina at Aiken	14.8	3	5035
University of South Carolina at Columbia	16.9	18	8246
University of South Florida	17.0	7	11020
University of Southern California	11.4	10	17007
University of Southern Colorado	19.4	0	5389
University of Southern Indiana	22.0	21	4078
University of Southern Mississippi	18.7	23	5917
University of St. Thomas MN	13.8	13	8546
University of St. Thomas TX	12.6	17	7237
University of Tennessee at Knoxville	16.5	22	8612
University of Texas at Arlington	21.0	4	4696
University of Texas at Austin	19.7	11	7837
University of Texas at San Antonio	25.3	3	4329
University of the Arts	7.5	9	11641

University of the Pacific	11.2	14	13706
University of the South	10.3	52	18784
University of Tulsa	11.5	10	11743
University of Utah	12.8	9	9275
University of Vermont	9.9	10	12646
University of Virginia	9.5	22	13597
University of Washington	9.0	10	16527
University of West Florida	23.4	12	8488
University of Wisconsin-Stout	21.0	17	6254
University of Wisconsin-Superior	15.2	15	6490
University of Wisconsin-Whitewater	23.1	16	5559
University of Wisconsin at Green Bay	22.2	1	5968
University of Wisconsin at Madison	11.5	20	11006
University of Wisconsin at Milwaukee	15.9	8	8094
University of Wyoming	15.1	13	8745
Upper Iowa University	17.4	19	3733
Ursinus College	11.6	40	12082
Ursuline College	10.5	15	7164
Valley City State University	14.9	25	4958
Valparaiso University	14.2	23	9681
Vanderbilt University	5.8	26	23850
Vassar College	9.7	39	17089
Villanova University	13.4	24	10458
Virginia Commonwealth University	8.7	11	11183
Virginia State University	16.0	11	5733
Virginia Tech	13.8	20	8944
Virginia Union University	13.7	8	6757
Virginia Wesleyan College	15.7	14	7804
Viterbo College	10.7	31	8050
Voorhees College	22.9	3	5861
Wabash College	9.9	55	14904
Wagner College	13.2	23	9006
Wake Forest University	4.3	37	41766
Walsh University	11.3	33	5738
Warren Wilson College	11.4	20	9430
Wartburg College	12.4	37	7735
Washington and Jefferson College	12.1	40	10162
Washington and Lee University	9.6	45	15736
Washington College	11.2	37	10830
Washington State University	16.9	30	10912
Washington University	3.9	31	45702
Wayne State College	20.3	29	4550
Waynesburg College	16.2	26	6563

Webber College	15.1	4	4839
Webster University	20.6	14	6951
Wellesley College	10.6	51	21409
Wells College	8.3	42	13935
Wentworth Institute of Technology	15.4	8	17858
Wesley College	14.4	15	6243
Wesleyan University	12.1	39	16262
West Chester University of Penn.	15.3	16	6773
West Liberty State College	16.3	10	4249
West Virginia Wesleyan College	16.4	42	8080
Western Carolina University	14.6	9	6554
Western Maryland College	12.5	39	10026
Western Michigan University	24.7	11	5983
Western New England College	15.4	15	8409
Western State College of Colorado	19.4	4	4599
Western Washington University	22.7	10	7203
Westfield State College	15.7	20	4222
Westminster College MO	12.5	20	7925
Westminster College	12.5	41	8596
Westminster College of Salt Lake City	10.5	34	7170
Westmont College	14.9	17	8837
Wheaton College IL	12.7	40	11916
Westminster College PA	13.2	41	22704
Wheeling Jesuit College	14.1	27	7494
Whitman College	10.5	51	13198
Whittier College	13.6	29	11778
Whitworth College	16.9	20	8328
Widener University	12.6	19	9603
Wilkes University	13.3	24	8543
Willamette University	13.3	37	10779
William Jewell College	11.2	19	7885
William Woods University	12.9	16	7438
Williams College	9.0	64	22014
Wilson College	8.3	43	10291
Wingate College	13.9	8	7264
Winona State University	20.2	18	5318
Winthrop University	12.8	26	6729
Wisconsin Lutheran College	8.5	26	8960
Wittenberg University	12.8	29	10414
Wofford College	15.3	42	7875
Worcester Polytechnic Institute	15.2	34	10774
Worcester State College	21.0	14	4469
Xavier University	13.3	31	9189

Xavier University of Louisiana	14.4	20	8323
Yale University	5.8	49	40386
York College of Pennsylvania	18.1	28	4509
	Grad.Rate		
Abilene Christian University	60		
Adelphi University	56		
Adrian College	54		
Agnes Scott College	59		
Alaska Pacific University	15		
Albertson College	55		
Albertus Magnus College	63		
Albion College	73		
Albright College	80		
Alderson-Broaddus College	52		
Alfred University	73		
Allegheny College	76		
Allentown Coll. of St. Francis de Sales	74		
Alma College	68		
Alverno College	55		
American International College	69		
Amherst College	100		
Anderson University	59		
Andrews University	46		
Angelo State University	34		
Antioch University	48		
Appalachian State University	70		
Aquinas College	65		
Arizona State University Main campus	48		
Arkansas College (Lyon College)	54		
Arkansas Tech University	48		
Assumption College	88		
Auburn University-Main Campus	69		
Augsburg College	58		
Augustana College IL	71		
Augustana College	69		
Austin College	71		
Averett College	48		
Baker University	65		
Baldwin-Wallace College	85		
Barat College	71		
Bard College	79		
Barnard College	91		
Barry University	72		

Baylor University	72
Beaver College	73
Bellarmino College	84
Belmont Abbey College	52
Belmont University	49
Beloit College	69
Bemidji State University	46
Benedictine College	58
Bennington College	55
Bentley College	82
Berry College	63
Bethany College	48
Bethel College KS	56
Bethel College	35
Bethune Cookman College	58
Birmingham-Southern College	72
Blackburn College	51
Bloomsburg Univ. of Pennsylvania	75
Bluefield College	53
Bluffton College	58
Boston University	72
Bowdoin College	96
Bowling Green State University	67
Bradford College	46
Bradley University	85
Brandeis University	84
Brenau University	49
Brewton-Parker College	18
Briar Cliff College	58
Bridgewater College	82
Brigham Young University at Provo	33
Brown University	97
Bryn Mawr College	89
Bucknell University	93
Buena Vista College	78
Butler University	83
Cabrini College	71
Caldwell College	55
California Lutheran University	60
California Polytechnic-San Luis	59
California State University at Fresno	61
Calvin College	81
Campbell University	63

Campbellsville College	49
Canisius College	64
Capital University	83
Capitol College	52
Carleton College	91
Carnegie Mellon University	74
Carroll College	79
Carson-Newman College	67
Carthage College	62
Case Western Reserve University	67
Castleton State College	79
Catawba College	55
Catholic University of America	75
Cazenovia College	118
Cedar Crest College	74
Cedarville College	64
Centenary College	24
Centenary College of Louisiana	66
Center for Creative Studies	47
Central College	67
Central Connecticut State University	49
Central Missouri State University	50
Central Washington University	51
Central Wesleyan College	58
Centre College	74
Chapman University	47
Chatham College	52
Chestnut Hill College	73
Christendom College	58
Christian Brothers University	63
Christopher Newport University	48
Claflin College	21
Claremont McKenna College	87
Clark University	79
Clarke College	74
Clarkson University	77
Clemson University	73
Clinch Valley Coll. of the Univ. of Virginia	46
Coe College	67
Coker College	75
Colby College	91
Colgate University	93
College Misericordia	96

College of Charleston	51
College of Mount St. Joseph	100
College of Mount St. Vincent	83
College of Notre Dame	43
College of Notre Dame of Maryland	75
College of Saint Benedict	72
College of Saint Catherine	77
College of Saint Elizabeth	78
College of Saint Rose	64
College of Santa Fe	80
College of St. Joseph	76
College of St. Scholastica	72
College of the Holy Cross	95
College of William and Mary	93
College of Wooster	69
Colorado College	84
Colorado State University	59
Columbia College MO	37
Columbia College	76
Columbia University	99
Concordia College at St. Paul	45
Concordia Lutheran College	42
Concordia University CA	55
Concordia University	75
Connecticut College	91
Converse College	75
Cornell College	64
Creighton University	85
Culver-Stockton College	51
Cumberland College	63
D'Youville College	46
Dana College	54
Daniel Webster College	72
Dartmouth College	98
Davidson College	94
Defiance College	56
Delta State University	58
Denison University	81
DePauw University	82
Dickinson College	87
Dickinson State University	46
Dillard University	61
Doane College	60

Dominican College of Blauvelt	54
Dordt College	87
Dowling College	42
Drake University	77
Drew University	83
Drury College	67
Duke University	97
Earlham College	78
East Carolina University	58
East Tennessee State University	42
East Texas Baptist University	38
Eastern College	54
Eastern Connecticut State University	50
Eastern Illinois University	76
Eastern Mennonite College	82
Eastern Nazarene College	70
Eckerd College	59
Elizabethtown College	81
Elmira College	64
Elms College	86
Elon College	63
Embry Riddle Aeronautical University	44
Emory & Henry College	82
Emory University	96
Emporia State University	50
Erskine College	67
Eureka College	53
Evergreen State College	68
Fairfield University	94
Fayetteville State University	24
Ferrum College	22
Flagler College	69
Florida Institute of Technology	57
Florida International University	66
Florida Southern College	68
Florida State University	58
Fontbonne College	62
Fordham University	80
Fort Lewis College	46
Francis Marion University	43
Franciscan University of Steubenville	83
Franklin College	60
Franklin Pierce College	51

Freed-Hardeman University	62
Fresno Pacific College	54
Furman University	82
Gannon University	65
Gardner Webb University	29
Geneva College	74
George Fox College	52
George Mason University	46
George Washington University	72
Georgetown College	55
Georgetown University	95
Georgia Institute of Technology	70
Georgia State University	34
Georgian Court College	76
Gettysburg College	83
Goldey Beacom College	36
Gonzaga University	69
Gordon College	66
Goshen College	72
Goucher College	77
Grace College and Seminary	64
Graceland College	47
Grand Valley State University	57
Green Mountain College	76
Greensboro College	39
Greenville College	60
Grinnell College	83
Grove City College	100
Guilford College	65
Gustavus Adolphus College	80
Gwynedd Mercy College	96
Hamilton College	91
Hamline University	65
Hampden - Sydney College	69
Hampton University	70
Hanover College	64
Hardin-Simmons University	38
Harding University	73
Hartwick College	73
Harvard University	100
Harvey Mudd College	100
Hastings College	52
Hendrix College	63

Hillsdale College	79
Hiram College	79
Hobart and William Smith Colleges	79
Hofstra University	60
Hollins College	72
Hood College	72
Hope College	72
Houghton College	67
Huntingdon College	44
Huntington College	47
Huron University	21
Husson College	84
Illinois Benedictine College	75
Illinois College	52
Illinois Institute of Technology	56
Illinois State University	54
Illinois Wesleyan University	83
Immaculata College	69
Incarnate Word College	95
Indiana State University	40
Indiana University at Bloomington	68
Indiana Wesleyan University	34
Iona College	66
Iowa State University	65
Ithaca College	75
James Madison University	98
Jamestown College	54
Jersey City State College	26
John Brown University	75
John Carroll University	89
Johns Hopkins University	90
Johnson State College	36
Judson College	56
Juniata College	80
Kansas State University	54
Kansas Wesleyan University	68
Keene State College	61
Kentucky Wesleyan College	62
Kenyon College	88
Keuka College	51
King's College	87
King College	65
Knox College	79

La Roche College	52
La Salle University	84
Lafayette College	92
LaGrange College	75
Lake Forest College	77
Lakeland College	57
Lamar University	26
Lambuth University	60
Lander University	51
Lawrence University	77
Le Moyne College	94
Lebanon Valley College	85
Lehigh University	91
Lenoir-Rhyne College	66
Lesley College	58
LeTourneau University	56
Lewis and Clark College	69
Lewis University	61
Lincoln Memorial University	53
Lincoln University	45
Lindenwood College	100
Linfield College	81
Livingstone College	92
Lock Haven University of Pennsylvania	63
Longwood College	62
Loras College	70
Louisiana College	59
Louisiana State University at Baton Rouge	37
Louisiana Tech University	45
Loyola College	80
Loyola Marymount University	84
Loyola University	53
Loyola University Chicago	65
Luther College	77
Lycoming College	72
Lynchburg College	70
Lyndon State College	51
Macalester College	77
MacMurray College	59
Malone College	55
Manchester College	64
Manhattan College	79
Manhattanville College	70

Mankato State University	68
Marian College of Fond du Lac	59
Marietta College	96
Marist College	69
Marquette University	77
Marshall University	50
Mary Baldwin College	90
Mary Washington College	84
Marymount College Tarrytown	77
Marymount Manhattan College	68
Marymount University	55
Maryville College	51
Maryville University	61
Marywood College	66
Massachusetts Institute of Technology	94
Mayville State University	51
McKendree College	52
McMurry University	32
McPherson College	48
Mercer University	91
Mercyhurst College	78
Meredith College	82
Merrimack College	80
Mesa State College	59
Messiah College	89
Miami University at Oxford	85
Michigan State University	71
Michigan Technological University	65
MidAmerica Nazarene College	49
Millersville University of Penn.	71
Milligan College	64
Millikin University	75
Millsaps College	58
Milwaukee School of Engineering	67
Mississippi College	61
Mississippi State University	53
Mississippi University for Women	63
Missouri Southern State College	100
Missouri Valley College	27
Monmouth College IL	56
Monmouth College	54
Montana College of Mineral Sci. & Tech.	74
Montana State University	37

Montclair State University	58
Montreat-Anderson College	15
Moorhead State University	60
Moravian College	74
Morehouse College	83
Morningside College	56
Morris College	60
Mount Holyoke College	84
Mount Marty College	44
Mount Mary College	78
Mount Mercy College	64
Mount Saint Clare College	21
Mount Saint Mary's College	80
Mount Saint Mary College	88
Mount St. Mary's College	72
Mount Union College	81
Mount Vernon Nazarene College	58
Muhlenberg College	83
Murray State University	52
Muskingum College	73
National-Louis University	71
Nazareth College of Rochester	61
New Jersey Institute of Technology	72
New Mexico Institute of Mining and Tech.	34
New York University	71
Newberry College	83
Niagara University	65
North Adams State College	57
North Carolina A. & T. State University	44
North Carolina State University at Raleigh	62
North Carolina Wesleyan College	52
North Central College	76
North Dakota State University	42
North Park College	74
Northeast Missouri State University	76
Northeastern University	46
Northern Arizona University	41
Northern Illinois University	56
Northwest Missouri State University	54
Northwest Nazarene College	58
Northwestern College	68
Northwestern University	92
Norwich University	63

Notre Dame College	33
Oakland University	53
Oberlin College	83
Occidental College	79
Oglethorpe University	67
Ohio Northern University	83
Ohio University	64
Ohio Wesleyan University	75
Oklahoma Baptist University	50
Oklahoma Christian University	45
Oklahoma State University	48
Otterbein College	87
Ouachita Baptist University	65
Our Lady of the Lake University	37
Pace University	62
Pacific Lutheran University	83
Pacific Union College	69
Pacific University	42
Pembroke State University	48
Pennsylvania State Univ. Main Campus	63
Pepperdine University	66
Peru State College	44
Pfeiffer College	48
Philadelphia Coll. of Textiles and Sci.	68
Phillips University	39
Piedmont College	31
Pikeville College	61
Pitzer College	73
Point Loma Nazarene College	54
Point Park College	66
Polytechnic University	62
Prairie View A. and M. University	35
Presbyterian College	85
Princeton University	99
Providence College	96
Purdue University at West Lafayette	67
Queens College	58
Quincy University	80
Quinnipiac College	86
Radford University	62
Ramapo College of New Jersey	47
Randolph-Macon College	74
Randolph-Macon Woman's College	68

Reed College	68
Regis College	84
Rensselaer Polytechnic Institute	70
Rhodes College	77
Rider University	70
Ripon College	64
Rivier College	81
Roanoke College	72
Rockhurst College	79
Rocky Mountain College	68
Roger Williams University	61
Rollins College	90
Rosary College	81
Rowan College of New Jersey	51
Rutgers at New Brunswick	77
Rutgers State University at Camden	57
Rutgers State University at Newark	58
Sacred Heart University	82
Saint Ambrose University	70
Saint Anselm College	97
Saint Cloud State University	58
Saint Francis College IN	48
Saint Francis College	69
Saint John's University	70
Saint Joseph's College IN	67
Saint Joseph's College	85
Saint Joseph's University	83
Saint Joseph College	76
Saint Louis University	67
Saint Mary's College	98
Saint Mary's College of Minnesota	78
Saint Mary-of-the-Woods College	75
Saint Michael's College	84
Saint Olaf College	83
Saint Peter's College	53
Saint Vincent College	88
Saint Xavier University	55
Salem-Teikyo University	98
Salem College	60
Salisbury State University	56
Samford University	61
San Diego State University	41
Santa Clara University	100

Sarah Lawrence College	83
Savannah Coll. of Art and Design	55
Schreiner College	52
Scripps College	73
Seattle Pacific University	66
Seattle University	89
Seton Hall University	64
Seton Hill College	71
Shippensburg University of Penn.	72
Shorter College	58
Siena College	100
Siena Heights College	47
Simmons College	79
Simpson College	70
Sioux Falls College	48
Skidmore College	81
Smith College	90
South Dakota State University	67
Southeast Missouri State University	45
Southeastern Oklahoma State Univ.	53
Southern California College	43
Southern Illinois University at Edwardsville	43
Southern Methodist University	72
Southwest Baptist University	71
Southwest Missouri State University	56
Southwest State University	51
Southwestern Adventist College	36
Southwestern College	52
Southwestern University	67
Spalding University	89
Spelman College	65
Spring Arbor College	49
St. Bonaventure University	78
St. John's College	64
St. John Fisher College	66
St. Lawrence University	85
St. Martin's College	40
St. Mary's College of California	78
St. Mary's College of Maryland	63
St. Mary's University of San Antonio	72
St. Norbert College	88
St. Paul's College	45
St. Thomas Aquinas College	67

Stephens College	59
Stetson University	73
Stevens Institute of Technology	79
Stockton College of New Jersey	64
Stonehill College	97
SUNY at Albany	74
SUNY at Binghamton	80
SUNY at Buffalo	56
SUNY at Stony Brook	57
SUNY College at Brockport	49
SUNY College at Oswego	63
SUNY College at Buffalo	42
SUNY College at Cortland	53
SUNY College at Fredonia	66
SUNY College at Geneseo	76
SUNY College at New Paltz	53
SUNY College at Plattsburgh	65
SUNY College at Potsdam	59
SUNY College at Purchase	46
Susquehanna University	90
Sweet Briar College	61
Syracuse University	67
Tabor College	53
Talladega College	46
Taylor University	98
Tennessee Wesleyan College	36
Texas A&M Univ. at College Station	69
Texas A&M University at Galveston	43
Texas Christian University	64
Texas Lutheran College	50
Texas Southern University	10
Texas Wesleyan University	43
The Citadel	84
Thiel College	60
Tiffin University	39
Transylvania University	70
Trenton State College	81
Tri-State University	65
Trinity College CT	91
Trinity College DC	96
Trinity College VT	78
Trinity University	93
Tulane University	74

Tusculum College	52
Tuskegee University	65
Union College KY	64
Union College NY	88
Univ. of Wisconsin at OshKosh	56
University of Alabama at Birmingham	33
University of Arkansas at Fayetteville	39
University of California at Berkeley	78
University of California at Irvine	66
University of Central Florida	46
University of Charleston	57
University of Chicago	90
University of Cincinnati	54
University of Connecticut at Storrs	71
University of Dallas	63
University of Dayton	93
University of Delaware	75
University of Denver	67
University of Detroit Mercy	51
University of Dubuque	45
University of Evansville	77
University of Florida	66
University of Georgia	63
University of Hartford	66
University of Hawaii at Manoa	54
University of Illinois - Urbana	81
University of Illinois at Chicago	34
University of Indianapolis	69
University of Kansas	57
University of La Verne	47
University of Louisville	31
University of Maine at Farmington	59
University of Maine at Machias	64
University of Maine at Presque Isle	35
University of Maryland at Baltimore County	55
University of Maryland at College Park	63
University of Massachusetts at Amherst	68
University of Massachusetts at Dartmouth	56
University of Miami	59
University of Michigan at Ann Arbor	87
University of Minnesota at Duluth	53
University of Minnesota at Morris	51
University of Minnesota Twin Cities	45

University of Mississippi	53
University of Missouri at Columbia	58
University of Missouri at Rolla	49
University of Missouri at Saint Louis	48
University of Mobile	52
University of Montevallo	51
University of Nebraska at Lincoln	53
University of New England	64
University of New Hampshire	75
University of North Carolina at Asheville	37
University of North Carolina at Chapel Hill	83
University of North Carolina at Charlotte	62
University of North Carolina at Greensboro	53
University of North Carolina at Wilmington	55
University of North Dakota	49
University of North Florida	47
University of North Texas	35
University of Northern Colorado	40
University of Northern Iowa	77
University of Notre Dame	97
University of Oklahoma	44
University of Oregon	54
University of Pennsylvania	93
University of Pittsburgh-Main Campus	66
University of Portland	72
University of Puget Sound	63
University of Rhode Island	63
University of Richmond	100
University of Rochester	80
University of San Diego	66
University of San Francisco	62
University of Sci. and Arts of Oklahoma	43
University of Scranton	92
University of South Carolina at Aiken	48
University of South Carolina at Columbia	63
University of South Florida	47
University of Southern California	68
University of Southern Colorado	36
University of Southern Indiana	38
University of Southern Mississippi	45
University of St. Thomas MN	89
University of St. Thomas TX	62
University of Tennessee at Knoxville	53

University of Texas at Arlington	29
University of Texas at Austin	65
University of Texas at San Antonio	50
University of the Arts	57
University of the Pacific	65
University of the South	82
University of Tulsa	47
University of Utah	37
University of Vermont	79
University of Virginia	95
University of Washington	65
University of West Florida	53
University of Wisconsin-Stout	65
University of Wisconsin-Superior	36
University of Wisconsin-Whitewater	67
University of Wisconsin at Green Bay	46
University of Wisconsin at Madison	72
University of Wisconsin at Milwaukee	38
University of Wyoming	45
Upper Iowa University	78
Ursinus College	79
Ursuline College	68
Valley City State University	40
Valparaiso University	95
Vanderbilt University	83
Vassar College	90
Villanova University	96
Virginia Commonwealth University	45
Virginia State University	31
Virginia Tech	73
Virginia Union University	30
Virginia Wesleyan College	68
Viterbo College	73
Voorhees College	58
Wabash College	72
Wagner College	75
Wake Forest University	89
Walsh University	68
Warren Wilson College	63
Wartburg College	67
Washington and Jefferson College	86
Washington and Lee University	90
Washington College	65

Washington State University	56
Washington University	90
Wayne State College	52
Waynesburg College	63
Webber College	90
Webster University	48
Wellesley College	91
Wells College	69
Wentworth Institute of Technology	64
Wesley College	84
Wesleyan University	92
West Chester University of Penn.	52
West Liberty State College	60
West Virginia Wesleyan College	67
Western Carolina University	55
Western Maryland College	60
Western Michigan University	55
Western New England College	59
Western State College of Colorado	52
Western Washington University	61
Westfield State College	65
Westminster College MO	62
Westminster College	80
Westminster College of Salt Lake City	50
Westmont College	87
Wheaton College IL	85
Westminster College PA	71
Wheeling Jesuit College	72
Whitman College	72
Whittier College	52
Whitworth College	80
Widener University	63
Wilkes University	67
Willamette University	68
William Jewell College	59
William Woods University	52
Williams College	99
Wilson College	67
Wingate College	91
Winona State University	58
Winthrop University	59
Wisconsin Lutheran College	50
Wittenberg University	78

Wofford College	75
Worcester Polytechnic Institute	82
Worcester State College	40
Xavier University	83
Xavier University of Louisiana	49
Yale University	99
York College of Pennsylvania	99

```
x <- model.matrix(Apps ~ ., College)[, -1]
y <- College$Apps
```

#a

```
set.seed(66)
train <- sample(1:nrow(x), nrow(x) / 2)
test <- setdiff(1:nrow(x), train)
y.test <- y[test]
```

#b)

```
lm.fit.1 <- lm(Apps ~ ., data = College[train, ] )
summary(lm.fit.1)
```

Call:

```
lm(formula = Apps ~ ., data = College[train, ])
```

Residuals:

Min	1Q	Median	3Q	Max
-2684.4	-417.8	-53.0	298.3	6016.1

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	4.306e+01	5.244e+02	0.082	0.934609	
PrivateYes	-6.214e+02	1.676e+02	-3.708	0.000241	***
Accept	1.287e+00	7.473e-02	17.227	< 2e-16	***
Enroll	-8.334e-02	3.317e-01	-0.251	0.801722	
Top10perc	5.201e+01	7.177e+00	7.247	2.5e-12	***
Top25perc	-1.776e+01	5.804e+00	-3.059	0.002384	**
F.Undergrad	4.592e-02	5.522e-02	0.832	0.406170	
P.Undergrad	-3.848e-03	5.770e-02	-0.067	0.946874	

```

Outstate    -2.446e-02  2.488e-02  -0.983  0.326179
Room.Board   1.904e-01  5.839e-02   3.261  0.001215 **
Books        -1.804e-01  2.835e-01  -0.636  0.525069
Personal     -6.574e-02  7.699e-02  -0.854  0.393688
PhD          -9.922e+00  5.569e+00  -1.782  0.075607 .
Terminal     2.603e+00  6.433e+00   0.405  0.686007
S.F.Ratio   -1.042e+01  1.802e+01  -0.579  0.563248
perc.alumni  -1.241e+01  5.459e+00  -2.273  0.023585 *
Expend       3.063e-02  1.615e-02   1.897  0.058643 .
Grad.Rate    7.833e+00  3.717e+00   2.107  0.035754 *

```

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 926.2 on 370 degrees of freedom

Multiple R-squared: 0.9243, Adjusted R-squared: 0.9209

F-statistic: 265.9 on 17 and 370 DF, p-value: < 2.2e-16

```

y.pred <- predict(lm.fit.1, College[test, ])
MSE <- mean((y.pred - y.test)^2)
MSE

```

```
[1] 1538930
```

#c)

```

ridge.pred <- predict(ridge.mod, s = 0, newx = x[test, ],
                      exact = T, x = x[train, ], y = y[train])
mean((ridge.pred - y.test)^2)

```

```
[1] 1538949
```

```
lm(y ~ x, subset = train)
```

Call:

```
lm(formula = y ~ x, subset = train)
```

Coefficients:

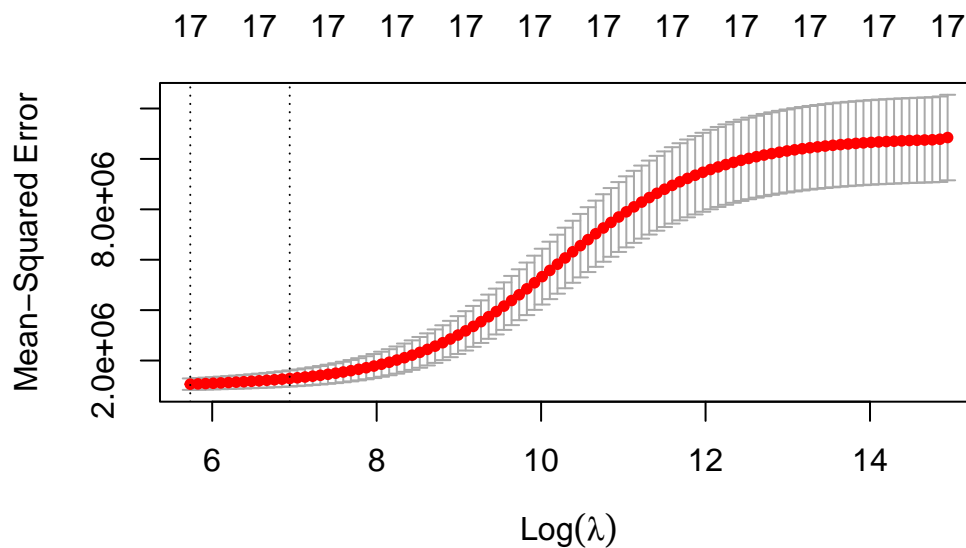
(Intercept)	xPrivateYes	xAccept	xEnroll	xTop10perc
4.306e+01	-6.214e+02	1.287e+00	-8.334e-02	5.201e+01

xTop25perc	xF.Undergrad	xP.Undergrad	xOutstate	xRoom.Board
-1.776e+01	4.592e-02	-3.848e-03	-2.446e-02	1.904e-01
xBooks	xPersonal	xPhD	xTerminal	xS.F.Ratio
-1.804e-01	-6.574e-02	-9.922e+00	2.603e+00	-1.042e+01
xperc.alumni	xExpend	xGrad.Rate		
-1.241e+01	3.063e-02	7.833e+00		

```
predict(ridge.mod, s = 0, exact = T, type = "coefficients",
        x = x[train, ],
        y = y[train])[1:18, ]
```

(Intercept)	PrivateYes	Accept	Enroll	Top10perc
4.302614e+01	-6.214387e+02	1.287315e+00	-8.324727e-02	5.201315e+01
Top25perc	F.Undergrad	P.Undergrad	Outstate	Room.Board
-1.775479e+01	4.591055e-02	-3.842871e-03	-2.445872e-02	1.903759e-01
Books	Personal	PhD	Terminal	S.F.Ratio
-1.803518e-01	-6.574141e-02	-9.922122e+00	2.602757e+00	-1.042355e+01
perc.alumni	Expend	Grad.Rate		
-1.240993e+01	3.063033e-02	7.832817e+00		

```
set.seed(1)
cv.out <- cv.glmnet(x[train, ], y[train], alpha = 0)
plot(cv.out)
```



```
bestlam <- cv.out$lambda.min
bestlam
```

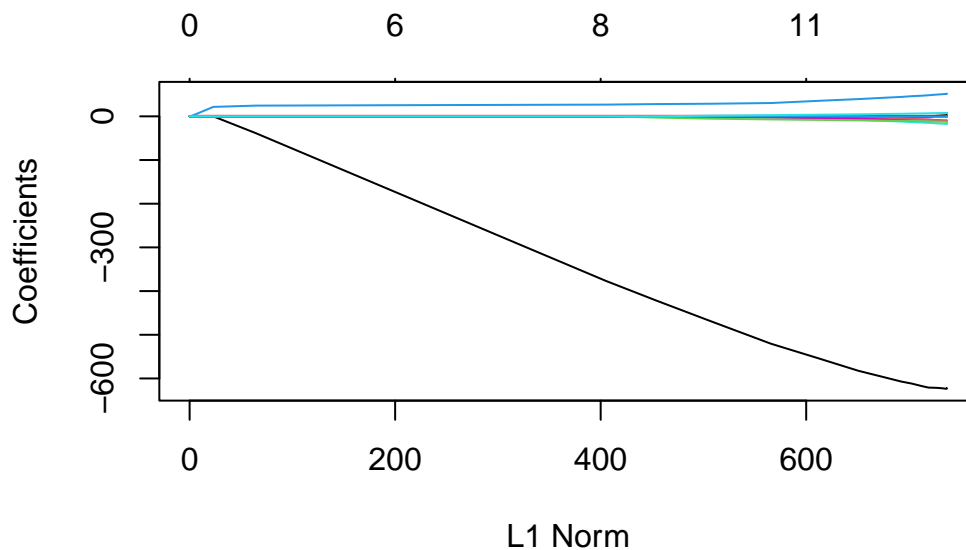
```
[1] 309.0057
```

```
#ridge.pred <- predict(ridge.mod, s = bestlam,
                        #newx = x[test, ])
#mean((ridge.pred - y.test)^2)
```

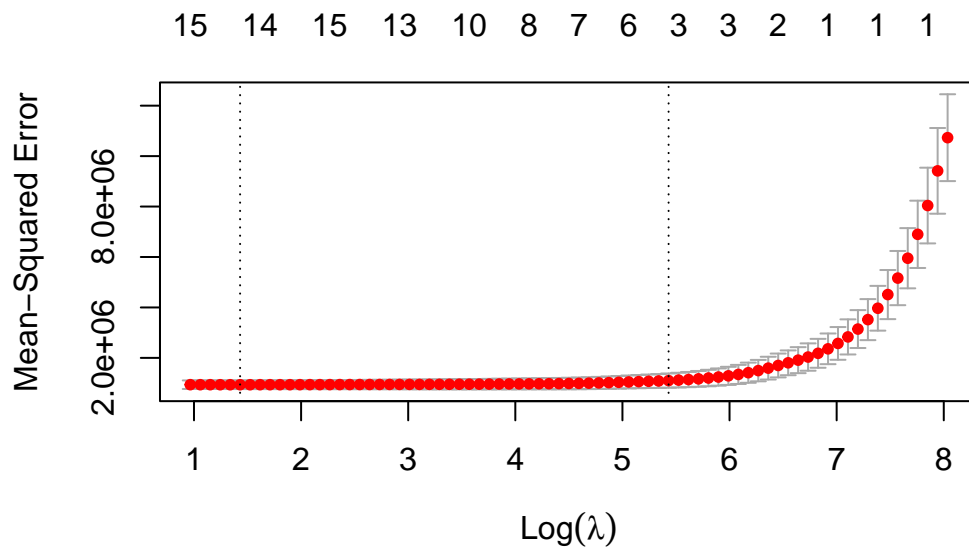
```
#a lasso model
```

```
lasso.mod <- glmnet(x[train, ], y[train], alpha = 1,
                    lambda = grid)
plot(lasso.mod)
```

Warning in regularize.values(x, y, ties, missing(ties), na.rm = na.rm):
collapsing to unique 'x' values



```
set.seed(1)
cv.out <- cv.glmnet(x[train, ], y[train], alpha = 1, nfolds=10)
plot(cv.out)
```



```
bestlam <- cv.out$lambda.min
lasso.pred <- predict(lasso.mod, s = bestlam,
                      newx = x[test, ])
mean((lasso.pred - y.test)^2)
```

```
[1] 1550283
```

```
out <- glmnet(x, y, alpha = 1, lambda = grid)
lasso.coef <- predict(out, type = "coefficients",
                      s = bestlam)[1:18, ]
lasso.coef
```

(Intercept)	PrivateYes	Accept	Enroll	Top10perc
-4.864654e+02	-4.886947e+02	1.558295e+00	-6.645932e-01	4.661506e+01
Top25perc	F.Undergrad	P.Undergrad	Outstate	Room.Board
-1.167702e+01	2.918964e-02	4.365853e-02	-8.091141e-02	1.473479e-01
Books	Personal	PhD	Terminal	S.F.Ratio
9.887412e-03	2.696750e-02	-8.147590e+00	-3.181940e+00	1.364561e+01
perc.alumni	Expend	Grad.Rate		
-1.833496e-01	7.630459e-02	7.928185e+00		

```
lasso.coef[lasso.coef != 0]
```

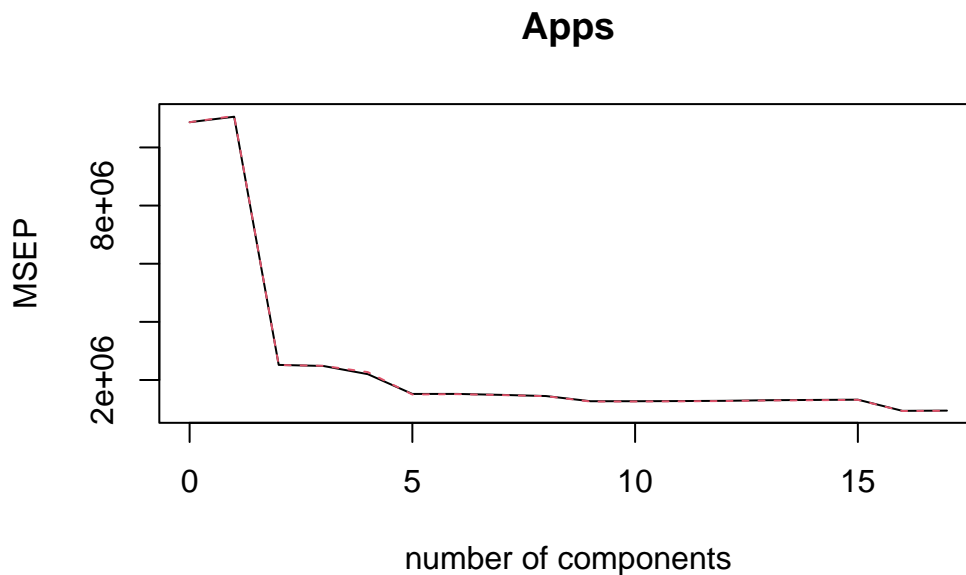
(Intercept)	PrivateYes	Accept	Enroll	Top10perc
-------------	------------	--------	--------	-----------

-4.864654e+02	-4.886947e+02	1.558295e+00	-6.645932e-01	4.661506e+01
Top25perc	F.Undergrad	P.Undergrad	Outstate	Room.Board
-1.167702e+01	2.918964e-02	4.365853e-02	-8.091141e-02	1.473479e-01
Books	Personal	PhD	Terminal	S.F.Ratio
9.887412e-03	2.696750e-02	-8.147590e+00	-3.181940e+00	1.364561e+01
perc.alumni	Expend	Grad.Rate		
-1.833496e-01	7.630459e-02	7.928185e+00		

```
#all non-zero
```

```
#e)PCR
```

```
pcr.fit <- pcr(Apps ~ ., data = College, subset = train,
               scale = TRUE, validation = "CV")
validationplot(pcr.fit, val.type = "MSEP")
```



```
#17 the least MSE
pcr.pred <- predict(pcr.fit, x[test, ], ncomp = 17)
mean((pcr.pred - y.test)^2)
```

```
[1] 1538930
```

```
#f
```

```
set.seed(1)
pls.fit <- plsr(Apps ~ ., data = College, subset = train, scale
               = TRUE, validation = "CV")
summary(pls.fit)
```

Data: X dimension: 388 17
 Y dimension: 388 1
 Fit method: kernelpls
 Number of components considered: 17

VALIDATION: RMSEP

Cross-validated using 10 random segments.

	(Intercept)	1 comps	2 comps	3 comps	4 comps	5 comps	6 comps
CV	3297	1446	1142	1106	1070	1045	992.8
adjCV	3297	1444	1136	1107	1066	1042	988.0

	7 comps	8 comps	9 comps	10 comps	11 comps	12 comps	13 comps
CV	986.2	982.4	981.6	982.5	982.3	982.6	982.5
adjCV	981.8	978.4	977.7	978.4	978.2	978.5	978.3

	14 comps	15 comps	16 comps	17 comps
CV	983.1	983.5	983.5	983.5
adjCV	978.8	979.2	979.3	979.3

TRAINING: % variance explained

	1 comps	2 comps	3 comps	4 comps	5 comps	6 comps	7 comps	8 comps
X	25.99	34.15	61.61	66.02	71.12	73.42	78.43	81.94
Apps	81.67	88.97	89.65	90.66	91.30	92.25	92.36	92.38

	9 comps	10 comps	11 comps	12 comps	13 comps	14 comps	15 comps
X	84.59	86.67	89.64	91.85	94.19	95.82	97.52
Apps	92.39	92.40	92.41	92.43	92.43	92.43	92.43

	16 comps	17 comps
X	99.25	100.00
Apps	92.43	92.43

```
pls.pred <- predict(pls.fit, x[test, ], ncomp = 17)
mean((pls.pred - y.test)^2)
```

[1] 1538930

1541230 1732033 1550283 1538930 1538930 MSE are closed in each methods

#10

```
set.seed(1)
n <- 1000
p <- 20

X <- matrix(rnorm(n * p), n, p)

non_zero_coefficients <- sample(1:p, 5) # Randomly pick 5 indices to be non-zero
beta <- rep(0, p)
beta[non_zero_coefficients] <- rnorm(5)

epsi <- rnorm(n)
Y <- X %*% beta + epsi

df <- data.frame(Y = Y, X = X)

head(df)
```

	Y	X.1	X.2	X.3	X.4	X.5	
1	-0.5552995	-0.6264538	1.13496509	-0.88614959	0.7391149	-1.1346302	
2	-4.5743317	0.1836433	1.11193185	-1.92225490	0.3866087	0.7645571	
3	3.3993789	-0.8356286	-0.87077763	1.61970074	1.2963972	0.5707101	
4	0.1120416	1.5952808	0.21073159	0.51926990	-0.8035584	-1.3516939	
5	-4.2016074	0.3295078	0.06939565	-0.05584993	-1.6026257	-2.0298855	
6	2.5004061	-0.8204684	-1.66264885	0.69641761	0.9332510	0.5904787	
	X.6	X.7	X.8	X.9	X.10	X.11	X.12
1	-1.5163733	-0.61882708	-1.3254177	0.2637034	-1.2171201	-0.8043316	-1.4115219
2	0.6291412	-1.10942196	0.9519797	-0.8294518	-0.9462293	-1.0565257	1.0838697
3	-1.6781940	-2.17033523	0.8600044	-1.4616348	0.0914098	-1.0353958	1.1702224
4	1.1797811	-0.03130307	1.0607903	1.6839902	0.7013513	-1.1855604	0.2947545
5	1.1176545	-0.26039848	-0.3505840	-1.5443243	0.6734224	-0.5004395	-0.5544277
6	-1.2377359	0.53443047	-0.1307656	-0.1908871	1.2655534	-0.5249887	-0.4034407
	X.13	X.14	X.15	X.16	X.17	X.18	X.19
1	-0.93910663	0.2264537	0.5232667	-0.2139090	0.8576341	1.0496171	0.9514099
2	1.39366493	-0.8185942	0.9935537	-0.1067233	-1.6253951	0.2903237	0.4570987
3	1.62581486	-0.8471526	0.2737370	-0.4645893	-0.2342783	1.2421262	-0.3586935
4	0.40900106	-1.9843326	-0.6949193	-0.6842725	-1.0326545	-0.6850857	-1.0458614
5	-0.09255856	-0.8127788	-0.7180502	-0.7908007	-1.1411412	-0.6677681	0.3075345

```

6  0.20609871  1.4616707 -0.1019895 -0.3389638 -1.5219369  0.9409138  1.9943876
      X.20
1 -2.07771241
2 -0.45446091
3 -0.16555991
4  0.89765209
5 -0.02948916
6  1.85838843

```

```

train <- sample(1:nrow(X), 100)
test <- setdiff(1:nrow(X), train)

y.test <- Y[test]

head(y.test)

```

```
[1] -0.5552995 -4.5743317  3.3993789  0.1120416 -4.2016074  2.5004061
```

```
#c
```

```

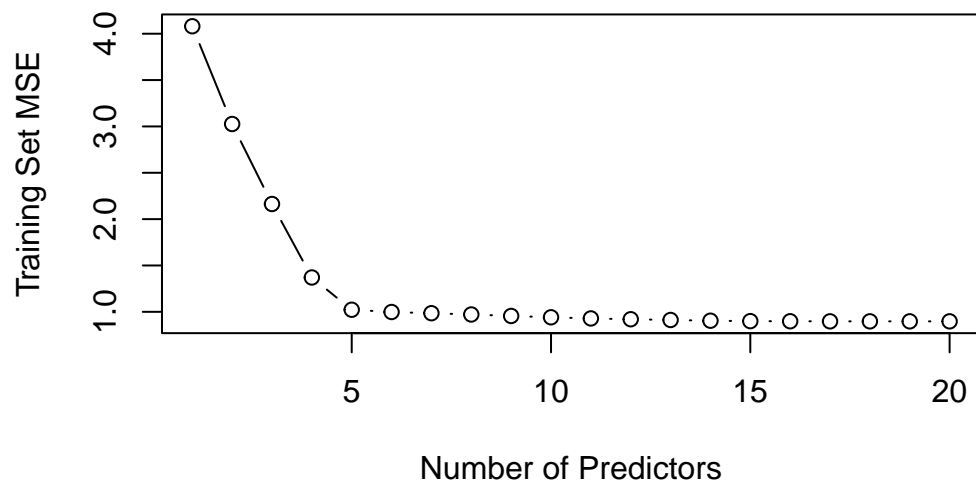
regfit.best <- regsubsets(Y ~ .,
                          data = df[train, ], nvmax = 20)

train.errors <- rep(NA, 20)
for (i in 1:20) {
  pred <- predict.regsubsets(regfit.best, df[train, ], id = i)
  train.errors[i] <- mean((df$Y[train] - pred)^2)
}

plot(1:20, train.errors, type = "b", xlab = "Number of Predictors",
     ylab = "Training Set MSE", main = "Training Set MSE vs Model Size")

```

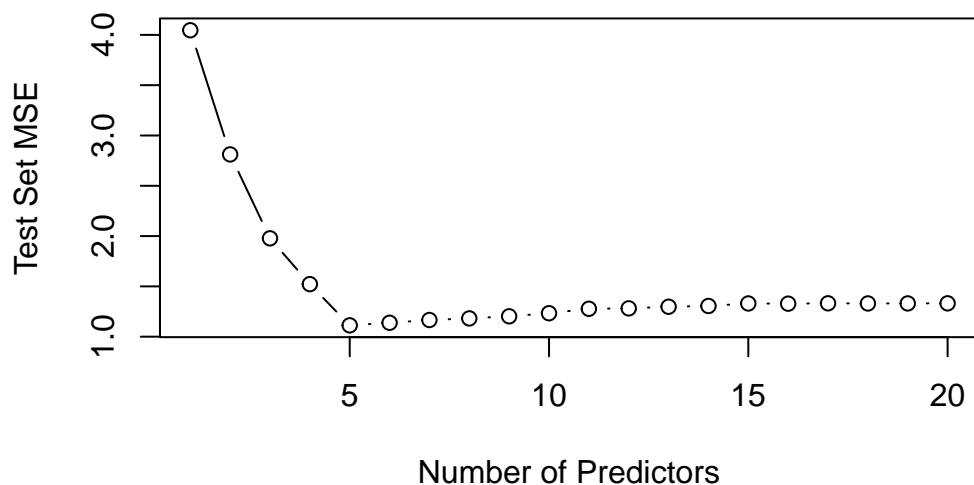
Training Set MSE vs Model Size



#d

```
test.mat <- model.matrix(Y ~ ., data = df[test, ])  
  
val.errors <- rep(NA, 20)  
for (i in 1:20) {  
  coefi <- coef(regfit.best, id = i)  
  pred <- test.mat[, names(coefi)] %*% coefi  
  val.errors[i] <- mean((df$Y[test] - pred)^2)  
}  
  
plot(1:20, val.errors, type = "b", xlab = "Number of Predictors",  
     ylab = "Test Set MSE", main = "Test Set MSE vs Model Size")
```

Test Set MSE vs Model Size



#e model size = 5, same with a), where `non_zero_coefficients <- sample(1:p, 5)` # Randomly pick 5 indices to be non-zero #f

```
coef(regfit.best, 5)
```

```
(Intercept)      X.2      X.4      X.8      X.10      X.17
-0.04594334 -1.22402199  1.13279962 -0.78788040  0.92665805  0.57767090
```

```
non_zero_coefficients
```

```
[1] 17 10  2  4  8
```

#the the model at which the test set MSE is minimized chooses the same predictors to the true model

```
model_summary <- summary(regfit.best)
```

```
feature_dist <- rep(NA, 20)
```

```
# Calculate feature distance for each subset size
```

```
for (j in 1:20) {
```

```
  features <- data.frame(feature = colnames(model_summary$which)[-1], actual = beta) %>%
```

```
  left_join(data.frame(feature = names(coef(regfit.best, id = j)), estimated = coef(regfit.b
```

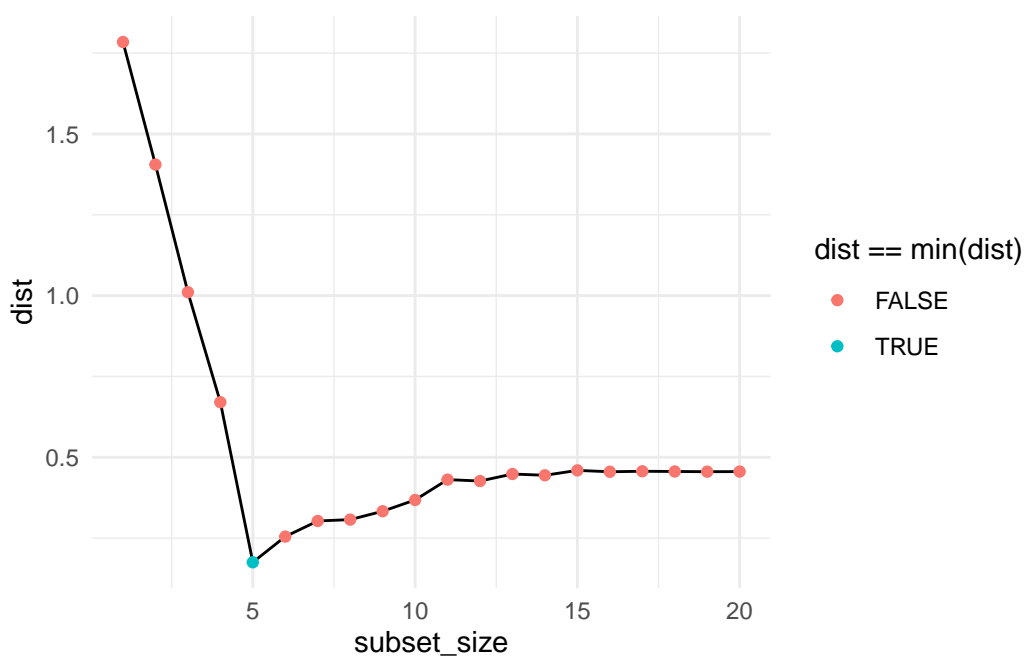
```
    mutate(estimated = ifelse(is.na(estimated), 0, estimated))
```

```
feature_dist[j] <- sqrt(sum((features$actual - features$estimated)^2))
}
```

```
feature_dist
```

```
[1] 1.7843816 1.4052510 1.0105683 0.6703836 0.1752958 0.2547197 0.3029942
[8] 0.3071980 0.3331105 0.3679901 0.4309086 0.4265365 0.4482596 0.4443450
[15] 0.4594871 0.4552200 0.4567207 0.4560362 0.4554189 0.4557498
```

```
data.frame(dist = feature_dist, subset_size = 1:20) %>%
  ggplot(aes(subset_size, dist)) + geom_line() + geom_point(aes(col = dist == min(dist))) +
```



#the bottom point in the same size, while increase more obviously after 5

#PCR

```
set.seed(66)

x <- model.matrix(crim ~ ., Boston)[, -1]
y <- Boston$crim
train <- sample(1:nrow(x), nrow(x) / 2)
test <- (-train)
```

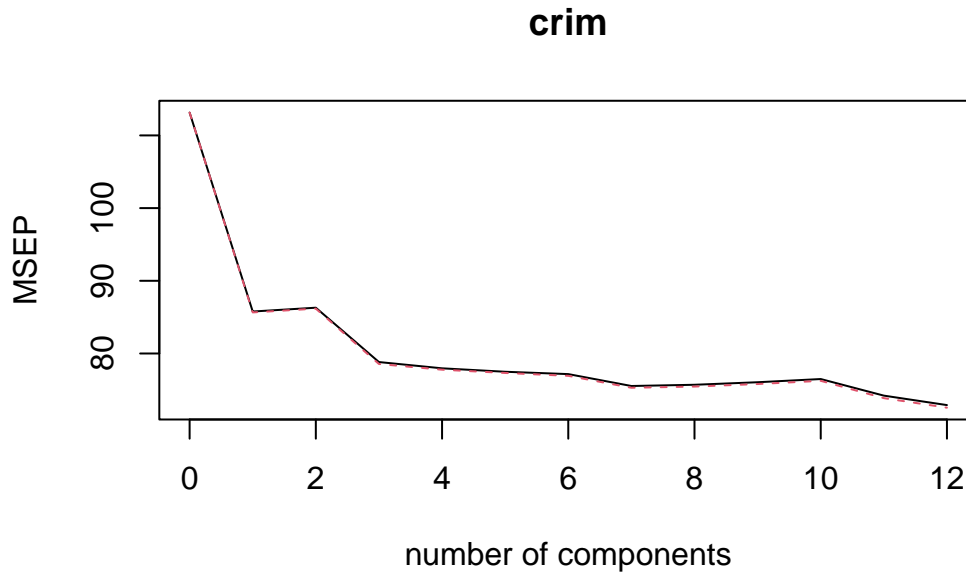
```

y.test <- y[test]

pcr.fit <- pcr(crim ~ ., data = Boston, subset = train,
               scale = TRUE, validation = "CV")

validationplot(pcr.fit, val.type = "MSEP")

```



```

pcr.pred <- predict(pcr.fit, x[test, ], ncomp = 12)
mean((pcr.pred - y.test)^2)

```

```
[1] 17.80416
```

#PCL

```

set.seed(1)
pls.fit <- pls(crim ~ ., data = Boston, subset = train, scale= TRUE, validation = "CV")
summary(pls.fit)

```

```

Data:   X dimension: 253 12
        Y dimension: 253 1
Fit method: kernelpls
Number of components considered: 12

```


VALIDATION: RMSEP

Cross-validated using 10 random segments.

	(Intercept)	1 comps	2 comps	3 comps	4 comps	5 comps	6 comps
CV	10.64	9.040	8.605	8.510	8.522	8.468	8.455
adjCV	10.64	9.036	8.597	8.493	8.503	8.452	8.438

	7 comps	8 comps	9 comps	10 comps	11 comps	12 comps
CV	8.437	8.421	8.418	8.424	8.424	8.424
adjCV	8.423	8.407	8.403	8.409	8.409	8.409

TRAINING: % variance explained

	1 comps	2 comps	3 comps	4 comps	5 comps	6 comps	7 comps	8 comps
X	50.76	59.80	63.42	71.31	78.83	84.23	88.64	92.52
crim	28.70	36.56	39.46	40.07	40.49	40.75	40.86	40.94

	9 comps	10 comps	11 comps	12 comps
X	94.64	96.58	98.17	100.00
crim	40.99	40.99	40.99	40.99

#9

```
pls.pred <- predict(pls.fit, x[test, ], ncomp = 9)
mean((pls.pred - y.test)^2)
```

[1] 17.82843

#the MSE for these two methods are almost identical