Comparing the Bayesian Linear Regression Model to Ordinary Least Squares

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Abstract

Linear regression is often used to model relationships between a response variable and one or more explanatory variables. In traditional settings, the ordinary least squares method is used to estimate the model. In this paper, our goal is to develop a linear model by estimating the model parameters under a Bayesian framework and compare the model against the traditional ordinary least squares model using a dataset.

Introduction

To model the relationship between a response variable and one or more explanatory variables, the simplest way to estimate a model is to assume that there is a linear relationship between the response variable and the predictor variables. The formulation of the model is

$$\boldsymbol{y} = X\boldsymbol{\beta} + \boldsymbol{\epsilon},$$

where X is an $n \times k$ matrix with the observations of the explanatory variables, $\boldsymbol{y}$ is an $n \times 1$ vector of observations of the response variables, $\boldsymbol{\beta}$ is a $k \times 1$ vector of model parameters, and $\boldsymbol{\epsilon}$ is an $n \times 1$ vector of random errors with each observation, n is the number of observations, and k is the number of parameters. The goal is to estimate $\boldsymbol{\beta}$ and then construct and evaluate the model from the estimated values. In other words, we have

$$\boldsymbol{y} = \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{bmatrix}, \quad X = \begin{bmatrix} 1 & x_{11} & x_{12} & \cdots & x_{1k} \\ 1 & x_{21} & x_{22} & \cdots & x_{2k} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ 1 & x_{n1} & x_{n2} & \cdots & x_{nk} \end{bmatrix}, \quad \boldsymbol{\beta} = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_{k-1} \end{bmatrix}, \quad \boldsymbol{\epsilon} = \begin{bmatrix} \epsilon_1 \\ \epsilon_2 \\ \vdots \\ \epsilon_n \end{bmatrix}$$

The most well-known way is to use the ordinary least squares method to estimate the parameters. The goal of this paper is to compare the ordinary least squares method with the Bayesian method of estimating parameters.

Ordinary Least Squares Regression Revisited

Estimation of Model Parameters

Consider a multiple linear regression model

$$\boldsymbol{y} = X\boldsymbol{\beta} + \boldsymbol{\epsilon},$$

assume that the random errors have mean 0, variance σ^2, are uncorrelated, and they follow a normal distribution. In other words, we assume that $\boldsymbol{\epsilon} \sim N(\boldsymbol{0}, \sigma^2 I)$, where $\boldsymbol{0}$ is the zero vector, and I is the identity matrix.

To estimate the coefficients, the following quantity should be minimized:

$$S(\boldsymbol{\beta}) = \sum_{i=1}^{n} \epsilon_i = \boldsymbol{\epsilon}^T \boldsymbol{\epsilon} = (\boldsymbol{y} - X\boldsymbol{\beta})^T (\boldsymbol{y} - X\boldsymbol{\beta})$$

We need to take derivatives of $S(\boldsymbol{\beta})$ with respect to $\boldsymbol{\beta}$. We get that

$$\frac{\partial S(\boldsymbol{\beta})}{\partial \boldsymbol{\beta}} = -2X^T \boldsymbol{y} + 2X^T X\boldsymbol{\beta}$$

If we set this equation to 0 and we solve for $\boldsymbol{\beta}$, we get

$$X^T X\boldsymbol{\beta} = X^T \boldsymbol{y}$$

If we multiply both sides by the inverse of $X^T X$, assuming that it is invertible, then the least squares estimator of $\boldsymbol{\beta}$ is

$$\hat{\boldsymbol{\beta}} = (X^T X)^{-1} X^T \boldsymbol{y}$$

The least squares estimator of $\boldsymbol{\beta}$ has the following properties:

- $\mathbb{E}[\hat{\boldsymbol{\beta}}] = \boldsymbol{\beta}$
- $Var[\hat{\boldsymbol{\beta}}] = \sigma^2 (X^T X)^{-1}$

Estimation of Variance

In the frequentist approach, we estimate σ^2 using the residual sum of squares. We have

$$SS_{res} = \sum_{i=1}^{n} (y_i - \hat{y}_i)^2 = \sum_{i=1}^{n} e_i^2 = \boldsymbol{e}^T \boldsymbol{e}$$

where $\hat{y}_i$ are the fitted values of y_i using the least squares model and $e_i = y_i - \hat{y}_i$ are the residuals. $\boldsymbol{e}$ is the vector of the residuals. If we simplify further, we get

$$SS_{res} = \boldsymbol{y}^T \boldsymbol{y} - \hat{\boldsymbol{\beta}}^T X^T \boldsymbol{y}$$

The residual sum of squares has $n - k$ degrees of freedom. The residual mean square is

$$MS_{res} = \frac{SS_{res}}{n - p}$$

We can show that

$$\mathbb{E}[MS_{res}] = \sigma^2$$

Therefore, an unbiased estimator for σ^2 is given by

$$\hat{\sigma^2} = MS_{res} = \frac{\boldsymbol{y}^T \boldsymbol{y} - \hat{\boldsymbol{\beta}}^T X^T \boldsymbol{y}}{n - k}$$

Inference on model parameters

After obtaining the estimates of the model parameters, we need to make inference on them. The main goal of inference is to determine if all the explanatory variables are significant to the model. Sometimes when there are too many variables, the accuracy of predictions using the model can decrease significantly. Making inferences can help decide if some variables should not be included in the model.

We have assumed that $\boldsymbol{\epsilon} \sim N(\mathbf{0}, \sigma^2 I)$. This consequently leads to that $\boldsymbol{y} \sim N(X\boldsymbol{\beta}, \sigma^2 I)$. Under this assumption, we can also get that

$$\hat{\boldsymbol{\beta}} \sim N(\boldsymbol{\beta}, \sigma^2 (X^T X)^{-1})$$

From this, we can also deduce that

$$\hat{\beta}_j \sim N(\beta_j, \sigma^2 (X^T X)^{-1}_{jj})$$

for $j = 1, 2, ..., k$ and $(X^T X)^{-1}_{jj}$ is the j-th diagonal element of the matrix $(X^T X)^{-1}$.

If we standardize $\hat{\beta}$, we get that

$$\frac{\hat{\beta}_j - \beta_j}{\sigma \sqrt{(X^T X)^{-1}_{jj}}} \sim N(0, 1)$$

In practice, we do not know the value of σ^2, which we will need to use in order to make inference on the model parameters. Therefore, the best way is to use the estimate for σ^2, which is MS_{res}. However, if we replace σ^2 with MS_{res}, we get

$$\frac{\hat{\beta}_j - \beta_j}{\sqrt{MS_{res}(X^T X)^{-1}_{jj}}} \sim t(n - k)$$

If we want to test the null hypothesis $H_0 : \beta_j = \beta_{j_0}$ against the hypothesis $H_1 : \beta_j \neq \beta_{j_0}$, we have that under H_0 that

$$t_0 = \frac{\hat{\beta}_j - \beta_{j_0}}{\sqrt{MS_{res}(X^T X)^{-1}_{jj}}} \sim t(n - k)$$

t_0 is the test statistic for the hypothesis $\beta_j = \beta_{j_0}$. We reject H_0 if $t_0 > t_{\alpha/2}(n - k)$, where α is the significance level and $t_{\alpha/2}(n - k)$ is the $100(1 - \alpha/2)$th quantile of the Student t distribution with $n - k$ degrees of freedom. We can also compute the p-value, which is

$$p\text{-value} = P(|T| > t_0) = 2P(T > t_0)$$

and we reject H_0 if it is less than α.

Another way to test the hypothesis H_0 against H_1 is to construct confidence intervals for the model parameters β_j. We can deduce that a $100(1 - \alpha)\%$ confidence interval for β_j is

$$\hat{\beta}_j \pm t_{\alpha/2}(n - k) \cdot \sqrt{MS_{res}(X^T X)^{-1}_{jj}}$$

From the confidence interval, we can reject H_0 if β_{j_0} is contained in the interval. Otherwise, we accept H_0.

Prediction

The purpose of constructing a model between a response variable and several explanatory variables is to make predictions of future values of the response given certain values of the explanatory variables. To predict $\boldsymbol{y}$ at a given X, we simply use the fitted model

$$\hat{\boldsymbol{y}} = X\hat{\boldsymbol{\beta}}$$

To construct a confidence interval for a prediction, we have that

Bayesian Linear Regression

Now, we turn to the Bayesian approach to estimate a linear regression model between a response variable and several explanatory variables. The form of the model is the same as in the ordinary least squares framework

$$\boldsymbol{y} = X\boldsymbol{\beta} + \boldsymbol{\epsilon}$$

Estimation of Parameters

We make the same assumptions as in the ordinary least squares framework, where $\boldsymbol{\epsilon} \sim N_n(\boldsymbol{0}, \sigma^2 I)$. We need to estimate $k+1$ parameters: the k model coefficients, and σ^2.

Likelihood Function

With the assumption, we have that

$$\boldsymbol{y} \sim N_n(X\boldsymbol{\beta}, \sigma^2 I)$$

Therefore, the likelihood function is

$$f(\boldsymbol{y}|X, \boldsymbol{\beta}, \sigma^2) = \frac{1}{(2\pi)^{n/2}(\sigma^2)^{n/2}} \exp\left[\frac{1}{2\sigma^2}(\boldsymbol{y} - X\boldsymbol{\beta})^T(\boldsymbol{y} - X\boldsymbol{\beta})\right]$$

Choosing a prior distribution

To estimate $\boldsymbol{\beta}$ and σ^2, we treat them as random variables and we make a prior assumption on their distribution. The assumption we will use are

$$\boldsymbol{\beta}|\sigma^2 \sim N_k(\boldsymbol{m}, \sigma^2 V)$$

and

$$\sigma^2 \sim IG(a, b)$$

where $\boldsymbol{m}$ is a $k \times 1$ vector of real numbers, V is a $k \times k$ matrix of real numbers, and a and b are both real numbers.

Then, we get that the prior for $(\boldsymbol{\beta}, \sigma^2)$ is

$$g(\boldsymbol{\beta}, \sigma^2) = g(\boldsymbol{\beta}|\sigma^2)g(\sigma^2)$$

where

$$g(\boldsymbol{\beta}|\sigma^2) = \frac{1}{(2\pi\sigma^2)^{k/2}}|V|^{-\frac{k}{2}} \exp\left(-\frac{1}{2\sigma^2}(\boldsymbol{\beta} - \boldsymbol{m})^T V^{-1}(\boldsymbol{\beta} - \boldsymbol{m})\right)$$

and

$$g(\sigma^2) = \frac{b^a}{\Gamma(a)}(\sigma^2)^{-(a+1)} \exp\left(-\frac{b}{\sigma^2}\right)$$

Computation of posterior distribution

Now that we have the likelihood function and the prior probability distribution of the parameters, we can now compute the posterior distribution of the parameters. We let $h(\boldsymbol{\beta}, \sigma^2|\boldsymbol{y}, X)$ represent the posterior distribution function:

$$h(\boldsymbol{\beta}, \sigma^2 | \boldsymbol{y}, X) \propto f(\boldsymbol{y} | X, \boldsymbol{\beta}, \sigma^2) g(\boldsymbol{\beta}, \sigma^2)$$
$$\propto f(\boldsymbol{y} | X, \boldsymbol{\beta}, \sigma^2) g(\boldsymbol{\beta} | \sigma^2) g(\sigma^2)$$
$$\propto (2\pi\sigma^2)^{-\frac{n}{2}} \exp\left(-\frac{1}{2\sigma^2}(\boldsymbol{y} - X\boldsymbol{\beta})^T(\boldsymbol{y} - X\boldsymbol{\beta})\right) (2\pi\sigma^2)^{-\frac{k}{2}} |V|^{-\frac{k}{2}} \exp\left(-\frac{1}{2\sigma^2}(\boldsymbol{\beta} - \boldsymbol{m})^T V^{-1}(\boldsymbol{\beta} - \boldsymbol{m})\right)$$
$$\times \frac{b^a}{\Gamma(a)}(\sigma^2)^{-(a+1)} \exp\left(-\frac{b}{\sigma^2}\right)$$
$$\propto (\sigma^2)^{-\frac{n}{2} - \frac{k}{2} - (a+1)} \exp\left(-\frac{1}{2\sigma^2}[(\boldsymbol{y} - X\boldsymbol{\beta})^T(\boldsymbol{y} - X\boldsymbol{\beta}) + (\boldsymbol{\beta} - \boldsymbol{m})^T V^{-1}(\boldsymbol{\beta} - \boldsymbol{m}) + 2b]\right)$$
$$\propto (\sigma^2)^{-\frac{n}{2} - \frac{k}{2} - (a+1)} \exp\left(-\frac{1}{2\sigma^2}A\right)$$

We now want to rewrite the equation above by simplifying the quantity inside the exponential function. We do the following:

$$A = (\boldsymbol{y} - X\boldsymbol{\beta})^T(\boldsymbol{y} - X\boldsymbol{\beta}) + (\boldsymbol{\beta} - \boldsymbol{m})^T V^{-1}(\boldsymbol{y} - \boldsymbol{m}) + 2b$$
$$= \boldsymbol{y}^T\boldsymbol{y} - \boldsymbol{y}^T X\boldsymbol{\beta} - \boldsymbol{\beta}^T X^T\boldsymbol{y} + \boldsymbol{\beta}^T X^T X\boldsymbol{\beta} + \boldsymbol{\beta}^T V^{-1}\boldsymbol{\beta} - \boldsymbol{\beta}^T V^{-1}\boldsymbol{m} - \boldsymbol{m}^T V^{-1}\boldsymbol{\beta} + \boldsymbol{m}^T V^{-1}\boldsymbol{m} + 2b$$
$$= \boldsymbol{\beta}^T(X^T X + V^{-1})\boldsymbol{\beta} - \boldsymbol{\beta}^T(X^T\boldsymbol{y} + V^{-1}\boldsymbol{m}) + (\boldsymbol{m}^T V^{-1}\boldsymbol{m} + 2b + \boldsymbol{y}^T\boldsymbol{y}) - (\boldsymbol{y}^T X + \boldsymbol{m}^T V^{-1})\boldsymbol{\beta}$$

We define the following quantities:

$$\Lambda = (X^T X + V^{-1})^{-1}$$

and

$$\boldsymbol{\mu} = (X^T X + V^{-1})^{-1}(X^T\boldsymbol{y} + V^{-1}\boldsymbol{m})$$

where Λ is a $k \times k$ matrix and $\boldsymbol{\mu}$ is a $k \times 1$ vector.

Then we can write

$$A = \boldsymbol{\beta}^T \Lambda^{-1} \boldsymbol{\beta} - \boldsymbol{\beta}^T \Lambda^{-1} \boldsymbol{\mu} - \boldsymbol{\mu}^T \Lambda^{-1} \boldsymbol{\beta} + \boldsymbol{m}^T V^{-1}\boldsymbol{m} + 2b + \boldsymbol{y}^T\boldsymbol{y}$$
$$= (\boldsymbol{\beta} - \boldsymbol{\mu})^T \Lambda^{-1}(\boldsymbol{\beta} - \boldsymbol{\mu}) - \boldsymbol{\mu}^T \Lambda^{-1} \boldsymbol{\mu} + \boldsymbol{m}^T V^{-1}\boldsymbol{m} + 2b + \boldsymbol{y}^T\boldsymbol{y}$$

Now, we go back to the posterior distribution and we can write:

$$h(\boldsymbol{\beta}, \sigma^2 | \boldsymbol{y}, X) \propto (\sigma^2)^{-\frac{n}{2} - \frac{k}{2} - (a+1)} \exp\left(-\frac{1}{2\sigma^2}A\right)$$
$$\propto (\sigma^2)^{-\frac{n}{2} - \frac{k}{2} - (a+1)} \exp\left(-\frac{1}{2\sigma^2}((\boldsymbol{\beta} - \boldsymbol{\mu})^T \Lambda^{-1}(\boldsymbol{\beta} - \boldsymbol{\mu}) - \boldsymbol{\mu}^T \Lambda^{-1} \boldsymbol{\mu} + \boldsymbol{m}^T V^{-1}\boldsymbol{m} + 2b + \boldsymbol{y}^T\boldsymbol{y})\right)$$
$$\propto (\sigma^2)^{-\frac{k}{2}} \exp\left(\frac{(\boldsymbol{\beta} - \boldsymbol{\mu})^T \Lambda^{-1}(\boldsymbol{\beta} - \boldsymbol{\mu})}{2\sigma^2}\right) (\sigma^2)^{-(\frac{n}{2} + a + 1)} \exp\left(\frac{\boldsymbol{m}^T V^{-1}\boldsymbol{m} - \boldsymbol{\mu}^T \Lambda^{-1} \boldsymbol{\mu} + 2b + \boldsymbol{y}^T\boldsymbol{y}}{2\sigma^2}\right)$$

From looking at the posterior distribution, we can see that it is the product of a multivariate normal distribution and an inverse gamma distribution. We can parameterize the posterior the following way:

$$h(\boldsymbol{\beta}, \sigma^2 | \boldsymbol{y}, X) = h(\boldsymbol{\beta} | \sigma^2, \boldsymbol{y}, X) h(\sigma^2 | \boldsymbol{y}, X)$$

where
$$h(\boldsymbol{\beta}|\sigma^2, \boldsymbol{y}, X) = \frac{1}{(2\pi\sigma^2)^{-\frac{k}{2}}} \exp\left(\frac{(\boldsymbol{\beta} - \boldsymbol{\mu})^T \Lambda^{-1}(\boldsymbol{\beta} - \boldsymbol{\mu})}{2\sigma^2}\right)$$

and
$$h(\sigma^2|\boldsymbol{y}, X) = \frac{(\frac{1}{2}(\boldsymbol{m}^T V^{-1} \boldsymbol{m} - \boldsymbol{\mu}^T \Lambda^{-1}\boldsymbol{\mu} + 2b + \boldsymbol{y}^T \boldsymbol{y}))^{\frac{n}{2}+a}}{\Gamma(a + \frac{n}{2})} (\sigma^2)^{-(\frac{n}{2}+a+1)} \exp\left(\frac{\boldsymbol{m}^T V^{-1} \boldsymbol{m} - \boldsymbol{\mu}^T \Lambda^{-1}\boldsymbol{\mu} + 2b + \boldsymbol{y}^T \boldsymbol{y}}{2\sigma^2}\right)$$

Then we get that
$$\boldsymbol{\beta}|\sigma^2, \boldsymbol{y}, X \sim N_k(\boldsymbol{\mu}, \sigma^2\Lambda)$$

and
$$\sigma^2|\boldsymbol{y}, X \sim IG(\alpha, r)$$

where
$$\boldsymbol{\mu} = (X^T X + V^{-1})^{-1}(X^T \boldsymbol{y} + V^{-1}\boldsymbol{m})$$
$$\Lambda = (X^T X + V^{-1})^{-1}$$
$$\alpha = a + \frac{n}{2}$$
$$r = \frac{\boldsymbol{m}^T V^{-1} \boldsymbol{m} - \boldsymbol{\mu}^T \Lambda^{-1}\boldsymbol{\mu} + 2b + \boldsymbol{y}^T \boldsymbol{y}}{2}$$

Making Bayesian inference

We now have the posterior distribution of $(\boldsymbol{\beta}, \sigma^2)$. From that, we also get that
$$\boldsymbol{\beta}|\sigma^2, \boldsymbol{y}, X \sim N_k(\boldsymbol{\mu}, \sigma^2\Lambda^{-1})$$

and
$$\sigma^2|\boldsymbol{y}, X \sim IG(\alpha, r)$$

The main goal is to estimate the parameters. We first need to find the marginal distribution of $\boldsymbol{\beta}$. This is hard to do by hand since we have to solve the following integral:
$$h(\boldsymbol{\beta}|\boldsymbol{y}, X) = \int_{-\infty}^{\infty} h(\boldsymbol{\beta}|\sigma^2, \boldsymbol{y}, X) h(\sigma^2|\boldsymbol{y}, X) \, d(\sigma^2)$$

Therefore, we need to use computational methods to simulate the posterior marginal distribution for $\boldsymbol{\beta}$.

To make inference on individual parameters, we have that since $\boldsymbol{\beta}$ follows a multivariate normal distribution, we can also conclude that for any model parameter β_j, we get that
$$\beta_j|\sigma^2, \boldsymbol{y}, X \sim N(\mu_j, \sigma^2\Lambda_{jj})$$

where μ_j is the j-th element of the vector $\boldsymbol{\mu}$ and Λ_{jj} is the j-th diagonal element of the matrix Λ. Then the marginal distribution for β_j is
$$h(\beta_j|\boldsymbol{y}, X) = \int_{-\infty}^{\infty} h(\beta_j|\sigma^2, \boldsymbol{y}, X) h(\sigma^2|\boldsymbol{y}, X) \, d(\sigma^2)$$

This integral is also hard to compute, so we need to use computational methods.

Given the marginal distribution, we can use it to find the mean and variance of β_j and we can also construct credible regions to decide if the explanatory variable associated with the parameter is significant to the model. If the credible region contain 0, then we can conclude that the parameter and its associated explanatory variable is not significant to the model. Otherwise, we conclude that it is significant.

Simulation Algorithm to Compute Posterior

To simulate the marginal distribution for a parameter β_j, we can use the following algorithm:

1. Load the data.

2. Initialize the chosen parameters $\boldsymbol{m}$, V, a, and b.

3. Compute $\boldsymbol{\mu}$, Λ, α, and r using the data and the initialized prior parameters.

4. Simulate σ^2 a large number of times from the $IG(\alpha, r)$ distribution.

5. For each simulated value of σ^2, simulate β_j from the $N(\mu_j, \sigma^2 \Lambda_{jj})$ distribution.

6. Draw a graph for the simulated distribution of β_j, then compute its center and a 95% credible region.

Application

Now we have established the theory behind Bayesian linear regression, we will compare the Bayesian linear regression model to the ordinary least squares model on the Boston Housing dataset [citation]. **Note for Joe**: I removed a few predictors for simplicity for now, idk whether to add them in the end but we'll see.

Data Description and Preprocessing

Ordinary Least Squares Model

We now

```
library(caret)
```

```
## Loading required package: ggplot2
```

```
## Loading required package: lattice
```

```
library(olsrr)
```

```
##
## Attaching package: 'olsrr'
```

```
## The following object is masked from 'package:datasets':
##
##     rivers
```

```
set.seed(1)

boston_housing_dataset <- read.csv("Boston.csv")

#Remove the indicator variable for river
boston_housing_dataset <- subset(boston_housing_dataset, select = -CHAS)

train_set_indices <- createDataPartition(boston_housing_dataset$MEDV, p = 0.6, list = FALSE)

train_set_dataset <- boston_housing_dataset[train_set_indices, ]

test_set_dataset <- boston_housing_dataset[-train_set_indices, ]

write.csv(train_set_indices, "train_set_indices.csv", row.names = FALSE)

correlation_matrix <- cor(train_set_dataset)
```

```r
print(correlation_matrix)
```

```
##                 CRIM         ZN      INDUS         NX         RM        AGE
## CRIM       1.0000000 -0.1980716  0.3855555  0.3942207 -0.2111454  0.3412206
## ZN        -0.1980716  1.0000000 -0.5210940 -0.5148333  0.3521643 -0.5598413
## INDUS      0.3855555 -0.5210940  1.0000000  0.7445619 -0.4333818  0.6482785
## NX         0.3942207 -0.5148333  0.7445619  1.0000000 -0.3416715  0.7339832
## RM        -0.2111454  0.3521643 -0.4333818 -0.3416715  1.0000000 -0.2573816
## AGE        0.3412206 -0.5598413  0.6482785  0.7339832 -0.2573816  1.0000000
## DIS       -0.3759791  0.6314576 -0.7192336 -0.7695838  0.2557888 -0.7664516
## RAD        0.6437362 -0.3009237  0.5418172  0.5705141 -0.2196415  0.4373854
## TAX        0.5916108 -0.2973673  0.6711025  0.6338897 -0.3091763  0.4869907
## PTRATIO    0.3088394 -0.4595826  0.4233961  0.1858344 -0.3561437  0.2766857
## B         -0.4395933  0.1771755 -0.3491043 -0.3833296  0.1348369 -0.2703197
## LSTAT      0.4199203 -0.4269486  0.6372844  0.5925369 -0.5791586  0.6192450
## MEDV      -0.3837221  0.3891845 -0.5020683 -0.4353065  0.6789791 -0.3920847
##                  DIS        RAD        TAX    PTRATIO          B      LSTAT
## CRIM      -0.3759791  0.6437362  0.5916108  0.3088394 -0.4395933  0.4199203
## ZN         0.6314576 -0.3009237 -0.2973673 -0.4595826  0.1771755 -0.4269486
## INDUS     -0.7192336  0.5418172  0.6711025  0.4233961 -0.3491043  0.6372844
## NX        -0.7695838  0.5705141  0.6338897  0.1858344 -0.3833296  0.5925369
## RM         0.2557888 -0.2196415 -0.3091763 -0.3561437  0.1348369 -0.5791586
## AGE       -0.7664516  0.4373854  0.4869907  0.2766857 -0.2703197  0.6192450
## DIS        1.0000000 -0.4791373 -0.5269872 -0.2800301  0.2965343 -0.5282119
## RAD       -0.4791373  1.0000000  0.8997418  0.4835778 -0.4541959  0.4599245
## TAX       -0.5269872  0.8997418  1.0000000  0.4669725 -0.4426489  0.5256456
## PTRATIO   -0.2800301  0.4835778  0.4669725  1.0000000 -0.1752013  0.3827029
## B          0.2965343 -0.4541959 -0.4426489 -0.1752013  1.0000000 -0.3264795
## LSTAT     -0.5282119  0.4599245  0.5256456  0.3827029 -0.3264795  1.0000000
## MEDV       0.2827807 -0.3685809 -0.4637313 -0.4793594  0.3405993 -0.7370721
##                 MEDV
## CRIM      -0.3837221
## ZN         0.3891845
## INDUS     -0.5020683
## NX        -0.4353065
## RM         0.6789791
## AGE       -0.3920847
## DIS        0.2827807
## RAD       -0.3685809
## TAX       -0.4637313
## PTRATIO   -0.4793594
## B          0.3405993
## LSTAT     -0.7370721
## MEDV       1.0000000
```

```r
model <- lm(train_set_dataset$MEDV ~ ., data=train_set_dataset)
```

```r
ols_coll_diag(model)
```

```
## Tolerance and Variance Inflation Factor
## ------------------------------------
##    Variables Tolerance      VIF
## 1       CRIM 0.5320536 1.879510
## 2         ZN 0.4416451 2.264261
```

```
## 3      INDUS 0.2660110 3.759243
## 4         NX 0.2279827 4.386298
## 5         RM 0.5622830 1.778464
## 6        AGE 0.3070783 3.256499
## 7        DIS 0.2537681 3.940606
## 8        RAD 0.1453757 6.878730
## 9        TAX 0.1331123 7.512451
## 10    PTRATIO 0.4861931 2.056796
## 11         B 0.7246879 1.379904
## 12      LSTAT 0.3740516 2.673428
##
##
## Eigenvalue and Condition Index
## -----------------------------
##      Eigenvalue Condition Index     intercept         CRIM           ZN
## 1  10.023376034        1.000000 1.514826e-05 1.147988e-03 0.0005102030
## 2   1.571861476        2.525224 1.274672e-05 6.439204e-02 0.0792381733
## 3   0.708956618        3.760081 1.290739e-05 2.916315e-01 0.1841019767
## 4   0.236128196        6.515280 1.158808e-04 4.716253e-01 0.2543034391
## 5   0.182212292        7.416827 7.890062e-06 6.786143e-02 0.1884256787
## 6   0.099527522       10.035417 1.242910e-04 4.604222e-02 0.0207373969
## 7   0.075213824       11.544049 3.160337e-06 2.265033e-02 0.0179724553
## 8   0.042392141       15.376742 2.253702e-04 8.371150e-03 0.0065310091
## 9   0.023655638       20.584469 5.059706e-03 6.074574e-03 0.0000432167
## 10  0.015751628       25.225762 5.834494e-04 4.903244e-03 0.0333678578
## 11  0.013128468       27.631215 5.404476e-04 6.787509e-03 0.0317767338
## 12  0.006583769       39.018424 1.072458e-04 2.673741e-06 0.1711698459
## 13  0.001212395       90.925353 9.931918e-01 8.510034e-03 0.0118220138
##            INDUS           NX           RM          AGE          DIS
## 1   5.975773e-04 9.447249e-05 5.599166e-05 0.0003961574 0.0003910096
## 2   2.131415e-03 7.105824e-07 8.020535e-05 0.0003207123 0.0060648894
## 3   2.739548e-03 1.532658e-04 3.022682e-05 0.0019214291 0.0004228467
## 4   2.816842e-02 7.958062e-06 4.883965e-04 0.0001708465 0.0315699591
## 5   4.025623e-02 2.303819e-04 1.912046e-04 0.0158737593 0.0330279572
## 6   1.519211e-02 2.537793e-03 3.178529e-03 0.0269479329 0.1044664009
## 7   5.289416e-01 5.490869e-04 4.555070e-04 0.1469463520 0.0675458811
## 8   6.897081e-05 6.001368e-03 3.779201e-03 0.1523519034 0.1297513689
## 9   1.301151e-01 5.471544e-02 3.068722e-02 0.6054784545 0.3710302074
## 10  1.744276e-01 1.181874e-04 1.877240e-02 0.0104445799 0.0033604950
## 11  5.884961e-05 3.916686e-01 1.107680e-02 0.0248168254 0.1553402097
## 12  6.743251e-02 1.819740e-01 4.264068e-01 0.0037610692 0.0063353648
## 13  9.870048e-03 3.619487e-01 5.047975e-01 0.0105699779 0.0906934101
##             RAD          TAX      PTRATIO            B        LSTAT
## 1   0.0004554735 1.814111e-04 6.378101e-05 0.0004028930 0.0007093924
## 2   0.0040900640 1.650523e-04 1.723551e-05 0.0012187240 0.0011211807
## 3   0.0048840311 8.443552e-05 6.806116e-05 0.0014641644 0.0011795075
## 4   0.0568459971 4.919921e-03 4.450828e-04 0.0096438476 0.0012279693
## 5   0.1336552317 4.276479e-03 3.273213e-04 0.0003869502 0.0816254606
## 6   0.0065302826 7.084904e-07 4.205039e-06 0.0224927421 0.4829400664
## 7   0.0281139924 2.093204e-03 2.561232e-04 0.0041849345 0.0532384576
## 8   0.0140408893 2.491904e-05 4.415177e-05 0.7207571650 0.0608219310
## 9   0.0416243936 1.014024e-02 1.001688e-02 0.1327178055 0.0709571083
## 10  0.5918552788 9.073912e-01 7.198348e-03 0.0033824102 0.0128101742
## 11  0.0257774792 2.391678e-02 1.819069e-01 0.0508689090 0.0013699700
```

```
## 12 0.0001715818 3.729966e-02 3.664490e-01 0.0055106459 0.1783294517
## 13 0.0919553049 9.506038e-03 4.332029e-01 0.0469688089 0.0536693302
```

As the VIF for all predictors in the full model were below 10, this indicates there is no multicollinearity present in the model which would require remedies, such as weighted least square regression or removing some of the highly correlated predictors. (idk whether to keep this).

```
print(summary(model))
```

```
##
## Call:
## lm(formula = train_set_dataset$MEDV ~ ., data = train_set_dataset)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -11.0346  -2.6668  -0.7731   1.5473  25.7176
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  32.044484   6.856733   4.673 4.52e-06 ***
## CRIM         -0.121517   0.044156  -2.752 0.006292 **
## ZN            0.042545   0.017788   2.392 0.017396 *
## INDUS         0.066926   0.074910   0.893 0.372368
## NX          -13.994681   4.821217  -2.903 0.003980 **
## RM            4.021977   0.555961   7.234 4.11e-12 ***
## AGE          -0.004531   0.017408  -0.260 0.794815
## DIS          -1.469667   0.261205  -5.626 4.30e-08 ***
## RAD           0.343192   0.082127   4.179 3.87e-05 ***
## TAX          -0.014404   0.004416  -3.262 0.001238 **
## PTRATIO      -0.855679   0.181010  -4.727 3.54e-06 ***
## B             0.011628   0.003434   3.386 0.000806 ***
## LSTAT        -0.629198   0.067913  -9.265  < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 4.757 on 293 degrees of freedom
## Multiple R-squared:  0.7304, Adjusted R-squared:  0.7193
## F-statistic: 66.14 on 12 and 293 DF,  p-value: < 2.2e-16
```

```
stepwise_model_results <- ols_step_both_p(model, details = FALSE, p_enter = 0.10, p_remove = 0.15)
```

```
print(stepwise_model_results)
```

```
##
##
##                             Stepwise Summary
## -------------------------------------------------------------------------------
## Step    Variable         AIC         SBC        SBIC        R2        Adj. R2
## -------------------------------------------------------------------------------
##  0      Base Model     2214.661    2222.108    1343.801    0.00000    0.00000
##  1      LSTAT (+)      1976.856    1988.027    1106.638    0.54328    0.54177
##  2      RM (+)         1906.965    1921.859    1037.156    0.63890    0.63652
##  3      PTRATIO (+)    1886.200    1904.818    1016.479    0.66479    0.66146
##  4      DIS (+)        1874.171    1896.512    1004.546    0.67981    0.67556
##  5      B (+)          1858.067    1884.132     988.864    0.69821    0.69318
##  6      NX (+)         1850.248    1880.037     981.343    0.70774    0.70187
```

```
## 7        RAD (+)        1848.473    1881.986    979.688     0.71132     0.70454
## 8        TAX (+)        1843.509    1880.745    975.080     0.71782     0.71022
## 9        CRIM (+)       1838.514    1879.473    970.541     0.72419     0.71581
## 10       ZN (+)         1834.475    1879.158    966.989     0.72958     0.72042
## ------------------------------------------------------------------------------
##
## Final Model Output
## ------------------
##
##                         Model Summary
## ---------------------------------------------------------------
## R                        0.854       RMSE                  4.662
## R-Squared                0.730       MSE                  22.541
## Adj. R-Squared           0.720       Coef. Var            21.046
## Pred R-Squared           0.701       AIC                1834.475
## MAE                      3.208       SBC                1879.158
## ---------------------------------------------------------------
##  RMSE: Root Mean Square Error
##  MSE: Mean Square Error
##  MAE: Mean Absolute Error
##  AIC: Akaike Information Criteria
##  SBC: Schwarz Bayesian Criteria
##
##                              ANOVA
## --------------------------------------------------------------------
##                 Sum of
##                 Squares         DF    Mean Square      F        Sig.
## --------------------------------------------------------------------
## Regression    17940.367         10      1794.037    79.591    0.0000
## Residual       6649.478        295        22.541
## Total         24589.845        305
## --------------------------------------------------------------------
##
##                          Parameter Estimates
## ------------------------------------------------------------------------------
##        model        Beta    Std. Error    Std. Beta      t      Sig     lower    upper
## ------------------------------------------------------------------------------
## (Intercept)       31.665       6.811                     4.649   0.000   18.260   45.070
##        LSTAT      -0.626       0.063        -0.457       -9.970  0.000   -0.750   -0.503
##           RM       3.952       0.541         0.288        7.304  0.000    2.887    5.016
##      PTRATIO      -0.824       0.176        -0.198       -4.674  0.000   -1.170   -0.477
##          DIS      -1.508       0.235        -0.348       -6.410  0.000   -1.971   -1.045
##            B       0.011       0.003         0.119        3.344  0.001    0.005    0.018
##           NX     -13.172       4.458        -0.174       -2.955  0.003  -21.945   -4.399
##          RAD       0.325       0.079         0.315        4.111  0.000    0.169    0.481
##          TAX      -0.013       0.004        -0.244       -3.158  0.002   -0.021   -0.005
##         CRIM      -0.123       0.044        -0.116       -2.803  0.005   -0.210   -0.037
##           ZN       0.043       0.018         0.110        2.425  0.016    0.008    0.078
## ------------------------------------------------------------------------------
```

```r
stepwise_model <- lm(MEDV ~ LSTAT + RM + PTRATIO + DIS + B + NX + RAD + TAX + CRIM + ZN, data = train_s

RSS <- residuals(stepwise_model)^2
```

```r
training_MSE <- mean(RSS)

cat("Training MSE:", training_MSE, "\n")
```

Training MSE: 21.73032

```r
test_MSE <- mean((test_set_dataset$MEDV - predict(stepwise_model, newdata=test_set_dataset))^2)

cat("Test MSE:", test_MSE)
```

Test MSE: 24.52705

```r
anova_comparison <- anova(model, stepwise_model$model)
```

Warning in anova.lmlist(object, ...): models with response '"NULL"' removed
because response differs from model 1

```r
print(anova_comparison)
```

```
## Analysis of Variance Table
##
## Response: train_set_dataset$MEDV
##            Df Sum Sq Mean Sq  F value    Pr(>F)
## CRIM        1 3620.7  3620.7 160.0139 < 2.2e-16 ***
## ZN          1 2510.3  2510.3 110.9414 < 2.2e-16 ***
## INDUS       1 1666.5  1666.5  73.6500 5.549e-16 ***
## NX          1   13.8    13.8   0.6099 0.4354431
## RM          1 5761.3  5761.3 254.6178 < 2.2e-16 ***
## AGE         1   70.6    70.6   3.1203 0.0783650 .
## DIS         1 1082.9  1082.9  47.8604 2.881e-11 ***
## RAD         1    5.0     5.0   0.2193 0.6399534
## TAX         1  291.6   291.6  12.8882 0.0003875 ***
## PTRATIO     1  604.9   604.9  26.7329 4.334e-07 ***
## B           1  390.2   390.2  17.2463 4.311e-05 ***
## LSTAT       1 1942.2  1942.2  85.8354 < 2.2e-16 ***
## Residuals 293 6629.8    22.6
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

(overall we can see that the full model with the F test (explain further) shows that the full model with all of
the predictors versus the reduced model with AGE (proportion of owner-occupied units built prior to 1940)
and INDUS (proportion of non-retail business acres per town))

```r
print(ols_step_all_possible(model, details=TRUE))
```

```
##      Index  N                 Predictors  R-Square
## 12       1  1                      LSTAT 0.5432753
## 5        2  1                         RM 0.4610126
## 3        3  1                      INDUS 0.2520725
## 10       4  1                    PTRATIO 0.2297854
## 9        5  1                        TAX 0.2150467
## 4        6  1                         NX 0.1894918
## 6        7  1                        AGE 0.1537304
## 2        8  1                         ZN 0.1514646
## 1        9  1                       CRIM 0.1472427
## 8       10  1                        RAD 0.1358519
## 11      11  1                          B 0.1160079
```

```
## 7        12 1                         DIS 0.0799649
## 57       13 2                    RM LSTAT 0.6389049
## 77       14 2                PTRATIO LSTAT 0.5888729
## 68       15 2                   DIS LSTAT 0.5590214
## 78       16 2                     B LSTAT 0.5544594
## 75       17 2                   TAX LSTAT 0.5513181
## 33       18 2                    ZN LSTAT 0.5500614
## 63       19 2                   AGE LSTAT 0.5499903
## 23       20 2                  CRIM LSTAT 0.5499615
## 42       21 2                 INDUS LSTAT 0.5450368
## 72       22 2                   RAD LSTAT 0.5443852
## 50       23 2                    NX LSTAT 0.5432784
## 54       24 2                      RM TAX 0.5322392
## 55       25 2                  RM PTRATIO 0.5256372
## 56       26 2                        RM B 0.5241860
## 16       27 2                     CRIM RM 0.5214808
## 35       28 2                    INDUS RM 0.5141848
## 53       29 2                      RM RAD 0.5116114
## 51       30 2                      RM AGE 0.5115949
## 43       31 2                       NX RM 0.5078147
## 26       32 2                       ZN RM 0.4867229
## 52       33 2                      RM DIS 0.4737499
## 48       34 2                  NX PTRATIO 0.3539450
## 40       35 2               INDUS PTRATIO 0.3387930
## 73       36 2                 TAX PTRATIO 0.3033773
## 61       37 2                 AGE PTRATIO 0.3026818
## 76       38 2                   PTRATIO B 0.2977220
## 14       39 2                  CRIM INDUS 0.2945415
## 21       40 2                CRIM PTRATIO 0.2911856
## 30       41 2                      ZN TAX 0.2843168
## 41       42 2                    INDUS B 0.2831983
## 39       43 2                  INDUS TAX 0.2813222
## 24       44 2                   ZN INDUS 0.2744093
## 31       45 2                 ZN PTRATIO 0.2659426
## 38       46 2                  INDUS RAD 0.2652687
## 37       47 2                  INDUS DIS 0.2647814
## 34       48 2                   INDUS NX 0.2605560
## 36       49 2                  INDUS AGE 0.2597246
## 70       50 2                 RAD PTRATIO 0.2542022
## 66       51 2                 DIS PTRATIO 0.2537288
## 60       52 2                     AGE TAX 0.2512793
## 13       53 2                     CRIM ZN 0.2493295
## 47       54 2                      NX TAX 0.2484485
## 15       55 2                     CRIM NX 0.2427636
## 74       56 2                       TAX B 0.2378236
## 20       57 2                    CRIM TAX 0.2334508
## 32       58 2                        ZN B 0.2276472
## 69       59 2                     RAD TAX 0.2274772
## 25       60 2                       ZN NX 0.2265686
## 49       61 2                        NX B 0.2248742
## 17       62 2                    CRIM AGE 0.2244293
## 29       63 2                      ZN RAD 0.2209962
## 65       64 2                     DIS TAX 0.2170883
## 62       65 2                       AGE B 0.2131119
```

```
## 46      66  2                                        NX RAD 0.2109233
## 59      67  2                                       AGE RAD 0.2017634
## 44      68  2                                        NX AGE 0.2009112
## 45      69  2                                        NX DIS 0.1961808
## 27      70  2                                        ZN AGE 0.1956646
## 22      71  2                                        CRIM B 0.1838778
## 71      72  2                                         RAD B 0.1736432
## 19      73  2                                      CRIM RAD 0.1724783
## 18      74  2                                      CRIM DIS 0.1695859
## 58      75  2                                       AGE DIS 0.1544926
## 28      76  2                                        ZN DIS 0.1537448
## 67      77  2                                         DIS B 0.1522381
## 64      78  2                                       DIS RAD 0.1504855
## 262     79  3                             RM PTRATIO LSTAT 0.6647932
## 263     80  3                                   RM B LSTAT 0.6552488
## 253     81  3                                 RM DIS LSTAT 0.6495882
## 112     82  3                                 CRIM RM LSTAT 0.6479788
## 260     83  3                                 RM TAX LSTAT 0.6465731
## 257     84  3                                 RM RAD LSTAT 0.6417554
## 157     85  3                                  ZN RM LSTAT 0.6404081
## 248     86  3                                  RM AGE LSTAT 0.6400237
## 193     87  3                              INDUS RM LSTAT 0.6390126
## 221     88  3                                  NX RM LSTAT 0.6389061
## 287     89  3                            DIS PTRATIO LSTAT 0.6106030
## 277     90  3                            AGE PTRATIO LSTAT 0.5976660
## 298     91  3                            PTRATIO B LSTAT 0.5976378
## 293     92  3                            RAD PTRATIO LSTAT 0.5914149
## 132     93  3                           CRIM PTRATIO LSTAT 0.5908752
## 168     94  3                                 ZN DIS LSTAT 0.5897187
## 296     95  3                            TAX PTRATIO LSTAT 0.5892172
## 213     96  3                          INDUS PTRATIO LSTAT 0.5890233
## 241     97  3                             NX PTRATIO LSTAT 0.5889724
## 177     98  3                             ZN PTRATIO LSTAT 0.5889238
## 204     99  3                              INDUS DIS LSTAT 0.5792372
## 285    100  3                                 DIS TAX LSTAT 0.5791017
## 288    101  3                                   DIS B LSTAT 0.5750689
## 261    102  3                                 RM PTRATIO B 0.5733776
## 232    103  3                                  NX DIS LSTAT 0.5711452
## 123    104  3                               CRIM DIS LSTAT 0.5709196
## 163    105  3                                  ZN AGE LSTAT 0.5663982
## 219    106  3                              NX RM PTRATIO 0.5649594
## 282    107  3                                 DIS RAD LSTAT 0.5648700
## 278    108  3                                  AGE B LSTAT 0.5629318
## 275    109  3                                AGE TAX LSTAT 0.5627232
## 110    110  3                              CRIM RM PTRATIO 0.5606433
## 178    111  3                                   ZN B LSTAT 0.5605090
## 291    112  3                                RAD TAX LSTAT 0.5596375
## 268    113  3                                AGE DIS LSTAT 0.5590223
## 118    114  3                               CRIM AGE LSTAT 0.5583997
## 258    115  3                               RM TAX PTRATIO 0.5580168
## 297    116  3                                   TAX B LSTAT 0.5577534
## 199    117  3                             INDUS AGE LSTAT 0.5570568
## 175    118  3                                 ZN TAX LSTAT 0.5568250
## 246    119  3                               RM AGE PTRATIO 0.5568111
```

```
## 133    120  3                      CRIM B LSTAT 0.5567185
## 88     121  3                     CRIM ZN LSTAT 0.5564461
## 259    122  3                        RM TAX B 0.5554205
## 242    123  3                       NX B LSTAT 0.5553047
## 214    124  3                    INDUS B LSTAT 0.5549394
## 294    125  3                      RAD B LSTAT 0.5544881
## 239    126  3                     NX TAX LSTAT 0.5538020
## 130    127  3                   CRIM TAX LSTAT 0.5532639
## 227    128  3                     NX AGE LSTAT 0.5531492
## 272    129  3                    AGE RAD LSTAT 0.5527489
## 247    130  3                        RM AGE B 0.5524867
## 211    131  3                  INDUS TAX LSTAT 0.5513399
## 150    132  3                      ZN NX LSTAT 0.5511933
## 97     133  3                  CRIM INDUS LSTAT 0.5507789
## 172    134  3                     ZN RAD LSTAT 0.5505805
## 191    135  3                INDUS RM PTRATIO 0.5504856
## 105    136  3                    CRIM NX LSTAT 0.5503005
## 142    137  3                   ZN INDUS LSTAT 0.5502415
## 127    138  3                   CRIM RAD LSTAT 0.5501854
## 192    139  3                      INDUS RM B 0.5489440
## 111    140  3                       CRIM RM B 0.5478254
## 245    141  3                      RM AGE TAX 0.5463786
## 106    142  3                     CRIM RM AGE 0.5463394
## 90     143  3                   CRIM INDUS RM 0.5463006
## 186    144  3                   INDUS NX LSTAT 0.5461237
## 109    145  3                     CRIM RM TAX 0.5454643
## 208    146  3                   INDUS RAD LSTAT 0.5454127
## 236    147  3                     NX RAD LSTAT 0.5446820
## 154    148  3                       ZN RM TAX 0.5435256
## 220    149  3                        NX RM B 0.5422593
## 255    150  3                  RM RAD PTRATIO 0.5412459
## 98     151  3                      CRIM NX RM 0.5407858
## 256    152  3                       RM RAD B 0.5404433
## 156    153  3                        ZN RM B 0.5401725
## 190    154  3                   INDUS RM TAX 0.5388453
## 81     155  3                      CRIM ZN RM 0.5379337
## 218    156  3                       NX RM TAX 0.5375167
## 254    157  3                      RM RAD TAX 0.5332878
## 244    158  3                      RM AGE RAD 0.5330790
## 250    159  3                      RM DIS TAX 0.5326254
## 155    160  3                   ZN RM PTRATIO 0.5303161
## 189    161  3                   INDUS RM RAD 0.5298485
## 108    162  3                     CRIM RM RAD 0.5297542
## 251    163  3                  RM DIS PTRATIO 0.5293633
## 252    164  3                       RM DIS B 0.5262883
## 187    165  3                   INDUS RM AGE 0.5252360
## 217    166  3                       NX RM RAD 0.5243004
## 153    167  3                       ZN RM RAD 0.5233990
## 107    168  3                     CRIM RM DIS 0.5224370
## 179    169  3                     INDUS NX RM 0.5199580
## 243    170  3                      RM AGE DIS 0.5187160
## 188    171  3                     INDUS RM DIS 0.5187119
## 135    172  3                     ZN INDUS RM 0.5185763
## 215    173  3                       NX RM AGE 0.5180224
```

```
## 151    174 3                                    ZN RM AGE 0.5142036
## 216    175 3                                    NX RM DIS 0.5134493
## 143    176 3                                    ZN NX RM 0.5128331
## 249    177 3                                   RM DIS RAD 0.5117911
## 152    178 3                                   ZN RM DIS 0.4871688
## 230    179 3                               NX DIS PTRATIO 0.3844153
## 240    180 3                                NX PTRATIO B 0.3742752
## 103    181 3                             CRIM NX PTRATIO 0.3707142
## 212    182 3                             INDUS PTRATIO B 0.3666855
## 184    183 3                            INDUS NX PTRATIO 0.3640101
## 95     184 3                          CRIM INDUS PTRATIO 0.3635017
## 237    185 3                               NX TAX PTRATIO 0.3579890
## 234    186 3                               NX RAD PTRATIO 0.3563494
## 225    187 3                               NX AGE PTRATIO 0.3544337
## 148    188 3                                ZN NX PTRATIO 0.3543156
## 202    189 3                            INDUS DIS PTRATIO 0.3490652
## 209    190 3                            INDUS TAX PTRATIO 0.3477096
## 197    191 3                            INDUS AGE PTRATIO 0.3462812
## 276    192 3                                AGE PTRATIO B 0.3438896
## 140    193 3                             ZN INDUS PTRATIO 0.3425700
## 206    194 3                            INDUS RAD PTRATIO 0.3391022
## 116    195 3                              CRIM AGE PTRATIO 0.3348673
## 273    196 3                                AGE TAX PTRATIO 0.3328709
## 295    197 3                                 TAX PTRATIO B 0.3298996
## 289    198 3                               RAD TAX PTRATIO 0.3297984
## 173    199 3                                ZN TAX PTRATIO 0.3297737
## 176    200 3                                  ZN PTRATIO B 0.3240741
## 131    201 3                                CRIM PTRATIO B 0.3214873
## 86     202 3                               CRIM ZN PTRATIO 0.3214855
## 128    203 3                               CRIM TAX PTRATIO 0.3183126
## 79     204 3                                CRIM ZN INDUS 0.3171013
## 92     205 3                               CRIM INDUS DIS 0.3159151
## 137    206 3                                 ZN INDUS DIS 0.3131461
## 139    207 3                                 ZN INDUS TAX 0.3082721
## 266    208 3                               AGE DIS PTRATIO 0.3076569
## 96     209 3                                 CRIM INDUS B 0.3068309
## 270    210 3                               AGE RAD PTRATIO 0.3066585
## 161    211 3                                ZN AGE PTRATIO 0.3065013
## 141    212 3                                   ZN INDUS B 0.3058496
## 286    213 3                                 DIS PTRATIO B 0.3057531
## 283    214 3                               DIS TAX PTRATIO 0.3043881
## 174    215 3                                     ZN TAX B 0.3031165
## 165    216 3                                   ZN DIS TAX 0.3023169
## 169    217 3                                   ZN RAD TAX 0.3020049
## 94     218 3                               CRIM INDUS TAX 0.3010991
## 85     219 3                                  CRIM ZN TAX 0.3007373
## 292    220 3                                 RAD PTRATIO B 0.3001492
## 203    221 3                                  INDUS DIS B 0.2989121
## 194    222 3                                INDUS AGE DIS 0.2986120
## 210    223 3                                  INDUS TAX B 0.2985275
## 91     224 3                               CRIM INDUS AGE 0.2982896
## 89     225 3                                CRIM INDUS NX 0.2978050
## 201    226 3                                INDUS DIS TAX 0.2976856
## 121    227 3                               CRIM DIS PTRATIO 0.2976362
```

```
## 181   228 3          INDUS NX DIS 0.2945699
## 93    229 3      CRIM INDUS RAD 0.2945422
## 125   230 3   CRIM RAD PTRATIO 0.2913137
## 147   231 3            ZN NX TAX 0.2898040
## 198   232 3         INDUS AGE B 0.2890876
## 160   233 3           ZN AGE TAX 0.2890004
## 138   234 3        ZN INDUS RAD 0.2867391
## 207   235 3         INDUS RAD B 0.2866725
## 185   236 3          INDUS NX B 0.2866150
## 196   237 3       INDUS AGE TAX 0.2865131
## 205   238 3       INDUS RAD TAX 0.2853331
## 170   239 3      ZN RAD PTRATIO 0.2849096
## 183   240 3        INDUS NX TAX 0.2835790
## 200   241 3       INDUS DIS RAD 0.2826624
## 80    242 3           CRIM ZN NX 0.2803952
## 134   243 3         ZN INDUS NX 0.2780511
## 136   244 3        ZN INDUS AGE 0.2759105
## 87    245 3            CRIM ZN B 0.2747827
## 195   246 3       INDUS AGE RAD 0.2705504
## 274   247 3           AGE TAX B 0.2703095
## 182   248 3        INDUS NX RAD 0.2689467
## 166   249 3       ZN DIS PTRATIO 0.2687260
## 115   250 3          CRIM AGE TAX 0.2660783
## 82    251 3           CRIM ZN AGE 0.2653880
## 102   252 3           CRIM NX TAX 0.2653731
## 265   253 3          AGE DIS TAX 0.2651336
## 238   254 3              NX TAX B 0.2641304
## 280   255 3      DIS RAD PTRATIO 0.2641075
## 149   256 3               ZN NX B 0.2638451
## 269   257 3           AGE RAD TAX 0.2636230
## 180   258 3         INDUS NX AGE 0.2628838
## 233   259 3              NX RAD TAX 0.2609003
## 124   260 3           CRIM RAD TAX 0.2599682
## 145   261 3              ZN NX DIS 0.2597724
## 229   262 3              NX DIS TAX 0.2587216
## 224   263 3              NX AGE TAX 0.2578384
## 84    264 3            CRIM ZN RAD 0.2569602
## 104   265 3              CRIM NX B 0.2563594
## 290   266 3              RAD TAX B 0.2558976
## 100   267 3             CRIM NX DIS 0.2551273
## 171   268 3               ZN RAD B 0.2536475
## 83    269 3             CRIM ZN DIS 0.2527890
## 162   270 3               ZN AGE B 0.2519165
## 99    271 3             CRIM NX AGE 0.2505051
## 129   272 3              CRIM TAX B 0.2481627
## 117   273 3              CRIM AGE B 0.2479533
## 146   274 3               ZN NX RAD 0.2474293
## 101   275 3             CRIM NX RAD 0.2432486
## 284   276 3               DIS TAX B 0.2388973
## 159   277 3              ZN AGE RAD 0.2374185
## 226   278 3               NX AGE B 0.2370158
## 120   279 3             CRIM DIS TAX 0.2345145
## 235   280 3               NX RAD B 0.2334436
## 231   281 3               NX DIS B 0.2316433
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## 271   282  3                   AGE RAD B 0.2313908
## 113   283  3               CRIM AGE DIS 0.2307422
## 114   284  3               CRIM AGE RAD 0.2305826
## 279   285  3                DIS RAD TAX 0.2296567
## 144   286  3                   ZN NX AGE 0.2289840
## 167   287  3                    ZN DIS B 0.2280321
## 164   288  3                  ZN DIS RAD 0.2246120
## 222   289  3                  NX AGE DIS 0.2229561
## 223   290  3                  NX AGE RAD 0.2213328
## 228   291  3                  NX DIS RAD 0.2196183
## 267   292  3                   AGE DIS B 0.2171420
## 264   293  3                 AGE DIS RAD 0.2089692
## 158   294  3                   ZN AGE DIS 0.2086694
## 122   295  3                   CRIM DIS B 0.1984712
## 126   296  3                   CRIM RAD B 0.1970564
## 281   297  3                    DIS RAD B 0.1840212
## 119   298  3                 CRIM DIS RAD 0.1829320
## 747   299  4       RM DIS PTRATIO LSTAT 0.6798145
## 758   300  4         RM PTRATIO B LSTAT 0.6783994
## 748   301  4              RM DIS B LSTAT 0.6706196
## 427   302  4     CRIM RM PTRATIO LSTAT 0.6691821
## 737   303  4        RM AGE PTRATIO LSTAT 0.6670363
## 745   304  4            RM DIS TAX LSTAT 0.6668923
## 756   305  4        RM TAX PTRATIO LSTAT 0.6659870
## 631   306  4     INDUS RM PTRATIO LSTAT 0.6656285
## 547   307  4         ZN RM PTRATIO LSTAT 0.6650680
## 753   308  4        RM RAD PTRATIO LSTAT 0.6649100
## 687   309  4         NX RM PTRATIO LSTAT 0.6648550
## 418   310  4            CRIM RM DIS LSTAT 0.6635148
## 538   311  4              ZN RM DIS LSTAT 0.6625001
## 428   312  4              CRIM RM B LSTAT 0.6581467
## 678   313  4              NX RM DIS LSTAT 0.6579824
## 742   314  4            RM DIS RAD LSTAT 0.6576640
## 622   315  4         INDUS RM DIS LSTAT 0.6576549
## 757   316  4              RM TAX B LSTAT 0.6574657
## 738   317  4              RM AGE B LSTAT 0.6571908
## 688   318  4               NX RM B LSTAT 0.6564114
## 548   319  4               ZN RM B LSTAT 0.6562599
## 632   320  4            INDUS RM B LSTAT 0.6554992
## 754   321  4              RM RAD B LSTAT 0.6553125
## 728   322  4            RM AGE DIS LSTAT 0.6516864
## 425   323  4            CRIM RM TAX LSTAT 0.6502455
## 413   324  4            CRIM RM AGE LSTAT 0.6499189
## 735   325  4            RM AGE TAX LSTAT 0.6497911
## 322   326  4             CRIM ZN RM LSTAT 0.6492739
## 685   327  4              NX RM TAX LSTAT 0.6488690
## 751   328  4             RM RAD TAX LSTAT 0.6488195
## 386   329  4             CRIM NX RM LSTAT 0.6483965
## 629   330  4          INDUS RM TAX LSTAT 0.6482108
## 358   331  4        CRIM INDUS RM LSTAT 0.6480186
## 422   332  4             CRIM RM RAD LSTAT 0.6479789
## 545   333  4              ZN RM TAX LSTAT 0.6475099
## 732   334  4             RM AGE RAD LSTAT 0.6438521
## 533   335  4             ZN RM AGE LSTAT 0.6436456
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## 542    336  4                        ZN RM RAD LSTAT 0.6427509
## 682    337  4                        NX RM RAD LSTAT 0.6424159
## 626    338  4                     INDUS RM RAD LSTAT 0.6418608
## 617    339  4                     INDUS RM AGE LSTAT 0.6408141
## 506    340  4                        ZN NX RM LSTAT 0.6406732
## 673    341  4                        NX RM AGE LSTAT 0.6405501
## 478    342  4                     ZN INDUS RM LSTAT 0.6404192
## 590    343  4                     INDUS NX RM LSTAT 0.6390938
## 712    344  4                    NX DIS PTRATIO LSTAT 0.6328927
## 788    345  4                    DIS PTRATIO B LSTAT 0.6243007
## 572    346  4                    ZN DIS PTRATIO LSTAT 0.6207321
## 656    347  4                 INDUS DIS PTRATIO LSTAT 0.6187435
## 452    348  4                  CRIM DIS PTRATIO LSTAT 0.6160062
## 570    349  4                        ZN DIS TAX LSTAT 0.6159526
## 786    350  4                    DIS TAX PTRATIO LSTAT 0.6157431
## 783    351  4                    DIS RAD PTRATIO LSTAT 0.6106467
## 767    352  4                    AGE DIS PTRATIO LSTAT 0.6106210
## 778    353  4                    AGE PTRATIO B LSTAT 0.6081453
## 573    354  4                        ZN DIS B LSTAT 0.6078505
## 489    355  4                    ZN INDUS DIS LSTAT 0.6066809
## 792    356  4                    RAD PTRATIO B LSTAT 0.6059715
## 333    357  4                     CRIM ZN DIS LSTAT 0.6058913
## 790    358  4                    RAD TAX PTRATIO LSTAT 0.6053386
## 702    359  4                    NX AGE PTRATIO LSTAT 0.6040590
## 517    360  4                        ZN NX DIS LSTAT 0.6014471
## 442    361  4                  CRIM AGE PTRATIO LSTAT 0.6006916
## 562    362  4                    ZN AGE PTRATIO LSTAT 0.6003595
## 776    363  4                    AGE TAX PTRATIO LSTAT 0.5994334
## 458    364  4                  CRIM RAD PTRATIO LSTAT 0.5987315
## 773    365  4                    AGE RAD PTRATIO LSTAT 0.5986301
## 646    366  4                 INDUS AGE PTRATIO LSTAT 0.5985558
## 667    367  4                 INDUS PTRATIO B LSTAT 0.5985465
## 723    368  4                    NX PTRATIO B LSTAT 0.5978396
## 793    369  4                    TAX PTRATIO B LSTAT 0.5978313
## 463    370  4                  CRIM PTRATIO B LSTAT 0.5978050
## 583    371  4                    ZN PTRATIO B LSTAT 0.5976604
## 567    372  4                        ZN DIS RAD LSTAT 0.5968171
## 718    373  4                    NX RAD PTRATIO LSTAT 0.5928847
## 578    374  4                    ZN RAD PTRATIO LSTAT 0.5914636
## 662    375  4                 INDUS RAD PTRATIO LSTAT 0.5914239
## 378    376  4                 CRIM INDUS PTRATIO LSTAT 0.5912082
## 657    377  4                     INDUS DIS B LSTAT 0.5911783
## 342    378  4                     CRIM ZN PTRATIO LSTAT 0.5909576
## 461    379  4                  CRIM TAX PTRATIO LSTAT 0.5908791
## 406    380  4                   CRIM NX PTRATIO LSTAT 0.5908754
## 736    381  4                        RM AGE PTRATIO B 0.5904846
## 553    382  4                        ZN AGE DIS LSTAT 0.5900317
## 686    383  4                        NX RM PTRATIO B 0.5899879
## 665    384  4                 INDUS TAX PTRATIO LSTAT 0.5897814
## 610    385  4                  INDUS NX PTRATIO LSTAT 0.5895360
## 581    386  4                    ZN TAX PTRATIO LSTAT 0.5892760
## 369    387  4                  CRIM INDUS DIS LSTAT 0.5892471
## 721    388  4                    NX TAX PTRATIO LSTAT 0.5892174
## 498    389  4                 ZN INDUS PTRATIO LSTAT 0.5891504
```

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## 526    390   4                    ZN NX PTRATIO LSTAT 0.5889838
## 654    391   4                   INDUS DIS TAX LSTAT 0.5876347
## 787    392   4                         DIS TAX B LSTAT 0.5867613
## 781    393   4                       DIS RAD TAX LSTAT 0.5866160
## 426    394   4                      CRIM RM PTRATIO B 0.5849448
## 601    395   4                   INDUS NX DIS LSTAT 0.5836773
## 710    396   4                      NX DIS TAX LSTAT 0.5833795
## 755    397   4                       RM TAX PTRATIO B 0.5832586
## 676    398   4                      NX RM DIS PTRATIO 0.5831334
## 630    399   4                   INDUS RM PTRATIO B 0.5826944
## 713    400   4                         NX DIS B LSTAT 0.5825796
## 450    401   4                    CRIM DIS TAX LSTAT 0.5817119
## 651    402   4                   INDUS DIS RAD LSTAT 0.5812118
## 397    403   4                     CRIM NX DIS LSTAT 0.5810689
## 384    404   4                    CRIM NX RM PTRATIO 0.5809791
## 453    405   4                       CRIM DIS B LSTAT 0.5801121
## 560    406   4                        ZN AGE TAX LSTAT 0.5793217
## 637    407   4                   INDUS AGE DIS LSTAT 0.5792849
## 563    408   4                         ZN AGE B LSTAT 0.5791479
## 765    409   4                       AGE DIS TAX LSTAT 0.5791052
## 411    410   4                    CRIM RM AGE PTRATIO 0.5779606
## 784    411   4                        DIS RAD B LSTAT 0.5763786
## 546    412   4                       ZN RM PTRATIO B 0.5756594
## 328    413   4                     CRIM ZN AGE LSTAT 0.5754638
## 768    414   4                         AGE DIS B LSTAT 0.5750762
## 752    415   4                     RM RAD PTRATIO B 0.5746140
## 746    416   4                      RM DIS PTRATIO B 0.5734137
## 707    417   4                      NX DIS RAD LSTAT 0.5732797
## 356    418   4               CRIM INDUS RM PTRATIO 0.5728338
## 693    419   4                      NX AGE DIS LSTAT 0.5719011
## 447    420   4                    CRIM DIS RAD LSTAT 0.5713864
## 733    421   4                     RM AGE TAX PTRATIO 0.5709479
## 433    422   4                     CRIM AGE DIS LSTAT 0.5709329
## 771    423   4                       AGE RAD TAX LSTAT 0.5707110
## 683    424   4                      NX RM TAX PTRATIO 0.5703685
## 423    425   4                    CRIM RM TAX PTRATIO 0.5699049
## 484    426   4                    ZN INDUS AGE LSTAT 0.5696590
## 777    427   4                         AGE TAX B LSTAT 0.5693547
## 791    428   4                        RAD TAX B LSTAT 0.5686264
## 557    429   4                      ZN AGE RAD LSTAT 0.5685993
## 512    430   4                        ZN NX AGE LSTAT 0.5677129
## 671    431   4                      NX RM AGE PTRATIO 0.5674673
## 726    432   4                     RM AGE DIS PTRATIO 0.5674169
## 647    433   4                    INDUS AGE B LSTAT 0.5672236
## 734    434   4                          RM AGE TAX B 0.5671713
## 576    435   4                      ZN RAD TAX LSTAT 0.5666079
## 412    436   4                          CRIM RM AGE B 0.5665650
## 443    437   4                      CRIM AGE B LSTAT 0.5660453
## 456    438   4                    CRIM RAD TAX LSTAT 0.5657516
## 504    439   4                      ZN NX RM PTRATIO 0.5655757
## 588    440   4                   INDUS NX RM PTRATIO 0.5654124
## 727    441   4                          RM AGE DIS B 0.5653826
## 725    442   4                        RM AGE DIS TAX 0.5653727
## 680    443   4                      NX RM RAD PTRATIO 0.5651789
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## 544  444 4               ZN RM TAX B 0.5649912
## 762  445 4         AGE DIS RAD LSTAT 0.5648701
## 440  446 4         CRIM AGE TAX LSTAT 0.5646447
## 320  447 4         CRIM ZN RM PTRATIO 0.5643162
## 527  448 4               ZN NX B LSTAT 0.5642538
## 644  449 4         INDUS AGE TAX LSTAT 0.5639819
## 703  450 4               NX AGE B LSTAT 0.5638064
## 364  451 4        CRIM INDUS AGE LSTAT 0.5636451
## 357  452 4            CRIM INDUS RM B 0.5635843
## 524  453 4             ZN NX TAX LSTAT 0.5635291
## 774  454 4             AGE RAD B LSTAT 0.5631091
## 582  455 4               ZN TAX B LSTAT 0.5631068
## 700  456 4             NX AGE TAX LSTAT 0.5628225
## 343  457 4               CRIM ZN B LSTAT 0.5627108
## 749  458 4          RM RAD TAX PTRATIO 0.5625536
## 627  459 4       INDUS RM TAX PTRATIO 0.5624151
## 716  460 4             NX RAD TAX LSTAT 0.5619820
## 424  461 4               CRIM RM TAX B 0.5618195
## 722  462 4               NX TAX B LSTAT 0.5612296
## 730  463 4          RM AGE RAD PTRATIO 0.5612051
## 543  464 4           ZN RM TAX PTRATIO 0.5611680
## 615  465 4        INDUS RM AGE PTRATIO 0.5611130
## 420  466 4        CRIM RM RAD PTRATIO 0.5609518
## 321  467 4               CRIM ZN RM B 0.5607838
## 579  468 4               ZN RAD B LSTAT 0.5607343
## 408  469 4             CRIM RM AGE DIS 0.5606749
## 416  470 4          CRIM RM DIS PTRATIO 0.5606627
## 499  471 4             ZN INDUS B LSTAT 0.5605471
## 660  472 4        INDUS RAD TAX LSTAT 0.5601712
## 628  473 4             INDUS RM TAX B 0.5601558
## 392  474 4           CRIM NX AGE LSTAT 0.5601403
## 315  475 4            CRIM ZN NX LSTAT 0.5590524
## 340  476 4           CRIM ZN TAX LSTAT 0.5589459
## 743  477 4           RM DIS TAX PTRATIO 0.5585171
## 462  478 4               CRIM TAX B LSTAT 0.5584448
## 750  479 4               RM RAD TAX B 0.5584324
## 437  480 4         CRIM AGE RAD LSTAT 0.5584053
## 385  481 4               CRIM NX RM B 0.5581009
## 731  482 4               RM AGE RAD B 0.5580794
## 496  483 4        ZN INDUS TAX LSTAT 0.5579643
## 407  484 4               CRIM NX B LSTAT 0.5579546
## 684  485 4               NX RM TAX B 0.5579348
## 641  486 4        INDUS AGE RAD LSTAT 0.5578459
## 459  487 4            CRIM RAD B LSTAT 0.5578217
## 666  488 4            INDUS TAX B LSTAT 0.5577988
## 410  489 4            CRIM RM AGE TAX 0.5577830
## 616  490 4             INDUS RM AGE B 0.5577645
## 611  491 4             INDUS NX B LSTAT 0.5575075
## 596  492 4         INDUS NX AGE LSTAT 0.5574131
## 531  493 4          ZN RM AGE PTRATIO 0.5572164
## 337  494 4           CRIM ZN RAD LSTAT 0.5571558
## 379  495 4          CRIM INDUS B LSTAT 0.5570012
## 744  496 4               RM DIS TAX B 0.5564788
## 307  497 4        CRIM ZN INDUS LSTAT 0.5564462
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## 319    498  4                           CRIM ZN RM TAX 0.5562946
## 353    499  4                        CRIM INDUS RM DIS 0.5557317
## 404    500  4                       CRIM NX TAX LSTAT 0.5555989
## 621    501  4                         INDUS RM DIS B 0.5553783
## 719    502  4                          NX RAD B LSTAT 0.5553353
## 663    503  4                       INDUS RAD B LSTAT 0.5551103
## 532    504  4                            ZN RM AGE B 0.5548011
## 620    505  4                    INDUS RM DIS PTRATIO 0.5545023
## 624    506  4                    INDUS RM RAD PTRATIO 0.5544727
## 697    507  4                       NX AGE RAD LSTAT 0.5543329
## 608    508  4                     INDUS NX TAX LSTAT 0.5542299
## 535    509  4                          ZN RM DIS TAX 0.5534859
## 477    510  4                          ZN INDUS RM B 0.5534041
## 625    511  4                         INDUS RM RAD B 0.5533431
## 376    512  4                    CRIM INDUS TAX LSTAT 0.5532639
## 672    513  4                           NX RM AGE B 0.5531427
## 352    514  4                      CRIM INDUS RM AGE 0.5530554
## 521    515  4                        ZN NX RAD LSTAT 0.5527555
## 355    516  4                      CRIM INDUS RM TAX 0.5527045
## 351    517  4                     CRIM INDUS NX LSTAT 0.5526071
## 471    518  4                       ZN INDUS NX LSTAT 0.5525558
## 373    519  4                    CRIM INDUS RAD LSTAT 0.5514456
## 300    520  4                        CRIM ZN INDUS RM 0.5509946
## 541    521  4                          ZN RM RAD B 0.5509177
## 419    522  4                        CRIM RM RAD TAX 0.5509135
## 476    523  4                    ZN INDUS RM PTRATIO 0.5506439
## 493    524  4                      ZN INDUS RAD LSTAT 0.5506163
## 421    525  4                          CRIM RM RAD B 0.5506044
## 589    526  4                          INDUS NX RM B 0.5505323
## 381    527  4                         CRIM NX RM DIS 0.5505047
## 401    528  4                       CRIM NX RAD LSTAT 0.5503758
## 383    529  4                         CRIM NX RM TAX 0.5503514
## 316    530  4                         CRIM ZN RM AGE 0.5494990
## 530    531  4                          ZN RM AGE TAX 0.5494623
## 612    532  4                       INDUS RM AGE DIS 0.5489651
## 409    533  4                        CRIM RM AGE RAD 0.5486048
## 344    534  4                        CRIM INDUS NX RM 0.5483922
## 724    535  4                          RM AGE DIS RAD 0.5482672
## 380    536  4                         CRIM NX RM AGE 0.5482411
## 505    537  4                           ZN NX RM B 0.5480201
## 677    538  4                           NX RM DIS B 0.5479679
## 417    539  4                          CRIM RM DIS B 0.5478666
## 681    540  4                           NX RM RAD B 0.5478026
## 729    541  4                          RM AGE RAD TAX 0.5475576
## 354    542  4                       CRIM INDUS RM RAD 0.5471660
## 614    543  4                       INDUS RM AGE TAX 0.5471099
## 605    544  4                     INDUS NX RAD LSTAT 0.5469831
## 308    545  4                          CRIM ZN NX RM 0.5465077
## 670    546  4                          NX RM AGE TAX 0.5463812
## 415    547  4                         CRIM RM DIS TAX 0.5463728
## 539    548  4                          ZN RM RAD TAX 0.5456651
## 675    549  4                          NX RM DIS TAX 0.5455095
## 619    550  4                       INDUS RM DIS TAX 0.5454974
## 475    551  4                        ZN INDUS RM TAX 0.5453215
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## 503    552  4                                              ZN NX RM TAX 0.5445418
## 540    553  4                                          ZN RM RAD PTRATIO 0.5445320
## 318    554  4                                             CRIM ZN RM RAD 0.5422622
## 382    555  4                                             CRIM NX RM RAD 0.5418942
## 537    556  4                                               ZN RM DIS B 0.5414144
## 740    557  4                                        RM DIS RAD PTRATIO 0.5413739
## 317    558  4                                             CRIM ZN RM DIS 0.5410731
## 741    559  4                                               RM DIS RAD B 0.5404511
## 587    560  4                                           INDUS NX RM TAX 0.5400557
## 623    561  4                                           INDUS RM RAD TAX 0.5392427
## 679    562  4                                              NX RM RAD TAX 0.5387089
## 613    563  4                                           INDUS RM AGE RAD 0.5377973
## 618    564  4                                           INDUS RM DIS RAD 0.5374740
## 668    565  4                                              NX RM AGE DIS 0.5370272
## 585    566  4                                            INDUS NX RM DIS 0.5351447
## 529    567  4                                              ZN RM AGE RAD 0.5350603
## 474    568  4                                            ZN INDUS RM RAD 0.5337661
## 669    569  4                                              NX RM AGE RAD 0.5336776
## 739    570  4                                            RM DIS RAD TAX 0.5336369
## 674    571  4                                              NX RM DIS RAD 0.5315565
## 586    572  4                                           INDUS NX RM RAD 0.5314846
## 536    573  4                                           ZN RM DIS PTRATIO 0.5310246
## 473    574  4                                            ZN INDUS RM DIS 0.5305633
## 414    575  4                                            CRIM RM DIS RAD 0.5297576
## 502    576  4                                              ZN NX RM RAD 0.5292588
## 501    577  4                                              ZN NX RM DIS 0.5269345
## 534    578  4                                              ZN RM DIS RAD 0.5267482
## 528    579  4                                              ZN RM AGE DIS 0.5265644
## 472    580  4                                            ZN INDUS RM AGE 0.5262117
## 584    581  4                                           INDUS NX RM AGE 0.5259895
## 464    582  4                                            ZN INDUS NX RM 0.5225347
## 500    583  4                                               ZN NX RM AGE 0.5196898
## 599    584  4                                       INDUS NX DIS PTRATIO 0.4087375
## 395    585  4                                        CRIM NX DIS PTRATIO 0.4046413
## 711    586  4                                            NX DIS PTRATIO B 0.4036207
## 691    587  4                                         NX AGE DIS PTRATIO 0.3964974
## 515    588  4                                          ZN NX DIS PTRATIO 0.3930222
## 399    589  4                                        CRIM NX RAD PTRATIO 0.3884393
## 708    590  4                                         NX DIS TAX PTRATIO 0.3879401
## 705    591  4                                         NX DIS RAD PTRATIO 0.3873605
## 714    592  4                                          NX RAD TAX PTRATIO 0.3865811
## 717    593  4                                            NX RAD PTRATIO B 0.3832814
## 609    594  4                                         INDUS NX PTRATIO B 0.3827319
## 405    595  4                                          CRIM NX PTRATIO B 0.3820440
## 367    596  4                                     CRIM INDUS DIS PTRATIO 0.3800791
## 349    597  4                                      CRIM INDUS NX PTRATIO 0.3797298
## 635    598  4                                      INDUS AGE DIS PTRATIO 0.3797230
## 655    599  4                                        INDUS DIS PTRATIO B 0.3795729
## 377    600  4                                        CRIM INDUS PTRATIO B 0.3777180
## 525    601  4                                              ZN NX PTRATIO B 0.3752543
## 701    602  4                                             NX AGE PTRATIO B 0.3750733
## 720    603  4                                             NX TAX PTRATIO B 0.3750518
## 302    604  4                                          CRIM ZN INDUS DIS 0.3727934
## 645    605  4                                        INDUS AGE PTRATIO B 0.3725211
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## 313   606   4                        CRIM ZN NX PTRATIO 0.3721043
## 390   607   4                        CRIM NX AGE PTRATIO 0.3710468
## 497   608   4                        ZN INDUS PTRATIO B 0.3708148
## 402   609   4                        CRIM NX TAX PTRATIO 0.3708146
## 371   610   4                    CRIM INDUS RAD PTRATIO 0.3699519
## 664   611   4                        INDUS TAX PTRATIO B 0.3688042
## 305   612   4                    CRIM ZN INDUS PTRATIO 0.3685756
## 661   613   4                        INDUS RAD PTRATIO B 0.3685173
## 362   614   4                    CRIM INDUS AGE PTRATIO 0.3679186
## 603   615   4                        INDUS NX RAD PTRATIO 0.3665421
## 789   616   4                            RAD TAX PTRATIO B 0.3657826
## 606   617   4                        INDUS NX TAX PTRATIO 0.3657238
## 487   618   4                        ZN INDUS DIS PTRATIO 0.3642532
## 469   619   4                         ZN INDUS NX PTRATIO 0.3641721
## 374   620   4                    CRIM INDUS TAX PTRATIO 0.3640941
## 594   621   4                        INDUS NX AGE PTRATIO 0.3640593
## 454   622   4                         CRIM RAD TAX PTRATIO 0.3630798
## 658   623   4                        INDUS RAD TAX PTRATIO 0.3616625
## 652   624   4                        INDUS DIS TAX PTRATIO 0.3601205
## 522   625   4                           ZN NX TAX PTRATIO 0.3596185
## 698   626   4                           NX AGE TAX PTRATIO 0.3586757
## 769   627   4                         AGE RAD TAX PTRATIO 0.3585902
## 486   628   4                              ZN INDUS DIS TAX 0.3583757
## 574   629   4                          ZN RAD TAX PTRATIO 0.3572369
## 695   630   4                          NX AGE RAD PTRATIO 0.3566907
## 441   631   4                          CRIM AGE PTRATIO B 0.3564622
## 519   632   4                            ZN NX RAD PTRATIO 0.3564082
## 775   633   4                          AGE TAX PTRATIO B 0.3556049
## 510   634   4                          ZN NX AGE PTRATIO 0.3546338
## 494   635   4                        ZN INDUS TAX PTRATIO 0.3541119
## 642   636   4                        INDUS AGE TAX PTRATIO 0.3537846
## 766   637   4                            AGE DIS PTRATIO B 0.3536225
## 580   638   4                             ZN TAX PTRATIO B 0.3526551
## 488   639   4                                ZN INDUS DIS B 0.3506814
## 649   640   4                        INDUS DIS RAD PTRATIO 0.3503632
## 561   641   4                             ZN AGE PTRATIO B 0.3479632
## 482   642   4                        ZN INDUS AGE PTRATIO 0.3473456
## 763   643   4                          AGE DIS TAX PTRATIO 0.3468502
## 341   644   4                            CRIM ZN PTRATIO B 0.3467081
## 639   645   4                        INDUS AGE RAD PTRATIO 0.3463101
## 359   646   4                          CRIM INDUS AGE DIS 0.3456143
## 431   647   4                        CRIM AGE DIS PTRATIO 0.3453486
## 438   648   4                        CRIM AGE TAX PTRATIO 0.3449731
## 338   649   4                          CRIM ZN TAX PTRATIO 0.3442247
## 772   650   4                           AGE RAD PTRATIO B 0.3441182
## 491   651   4                        ZN INDUS RAD PTRATIO 0.3430974
## 466   652   4                              ZN INDUS NX DIS 0.3425288
## 326   653   4                          CRIM ZN AGE PTRATIO 0.3410263
## 558   654   4                          ZN AGE TAX PTRATIO 0.3403800
## 346   655   4                            CRIM INDUS NX DIS 0.3378240
## 479   656   4                              ZN INDUS AGE DIS 0.3377311
## 568   657   4                            ZN DIS TAX PTRATIO 0.3372165
## 460   658   4                            CRIM TAX PTRATIO B 0.3370307
## 435   659   4                        CRIM AGE RAD PTRATIO 0.3366952
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## 514    660  4               ZN NX DIS TAX 0.3342431
## 334    661  4            CRIM ZN RAD TAX 0.3341429
## 485    662  4           ZN INDUS DIS RAD 0.3338358
## 550    663  4             ZN AGE DIS TAX 0.3326050
## 636    664  4            INDUS AGE DIS B 0.3309652
## 779    665  4        DIS RAD TAX PTRATIO 0.3308734
## 785    666  4          DIS TAX PTRATIO B 0.3302244
## 306    667  4            CRIM ZN INDUS B 0.3295572
## 368    668  4            CRIM INDUS DIS B 0.3287578
## 634    669  4          INDUS AGE DIS TAX 0.3281794
## 310    670  4             CRIM ZN NX DIS 0.3274075
## 575    671  4                ZN RAD TAX B 0.3267073
## 304    672  4          CRIM ZN INDUS TAX 0.3261850
## 577    673  4            ZN RAD PTRATIO B 0.3256429
## 495    674  4              ZN INDUS TAX B 0.3246392
## 451    675  4          CRIM DIS PTRATIO B 0.3244578
## 571    676  4            ZN DIS PTRATIO B 0.3241165
## 569    677  4                ZN DIS TAX B 0.3236355
## 366    678  4          CRIM INDUS DIS TAX 0.3227823
## 457    679  4          CRIM RAD PTRATIO B 0.3226097
## 331    680  4        CRIM ZN DIS PTRATIO 0.3224078
## 330    681  4            CRIM ZN DIS TAX 0.3223402
## 564    682  4              ZN DIS RAD TAX 0.3215439
## 335    683  4        CRIM ZN RAD PTRATIO 0.3214898
## 448    684  4        CRIM DIS TAX PTRATIO 0.3187393
## 600    685  4              INDUS NX DIS B 0.3186074
## 299    686  4           CRIM ZN INDUS NX 0.3176625
## 490    687  4            ZN INDUS RAD TAX 0.3175827
## 301    688  4           CRIM ZN INDUS AGE 0.3172014
## 303    689  4           CRIM ZN INDUS RAD 0.3171359
## 551    690  4          ZN AGE DIS PTRATIO 0.3165692
## 653    691  4             INDUS DIS TAX B 0.3165201
## 365    692  4          CRIM INDUS DIS RAD 0.3160398
## 598    693  4            INDUS NX DIS TAX 0.3143698
## 760    694  4        AGE DIS RAD PTRATIO 0.3142184
## 370    695  4          CRIM INDUS RAD TAX 0.3141314
## 591    696  4            INDUS NX AGE DIS 0.3140388
## 633    697  4          INDUS AGE DIS RAD 0.3137788
## 339    698  4              CRIM ZN TAX B 0.3126329
## 555    699  4          ZN AGE RAD PTRATIO 0.3113608
## 375    700  4            CRIM INDUS TAX B 0.3109758
## 363    701  4            CRIM INDUS AGE B 0.3103518
## 492    702  4              ZN INDUS RAD B 0.3088206
## 350    703  4              CRIM INDUS NX B 0.3085306
## 481    704  4            ZN INDUS AGE TAX 0.3085045
## 468    705  4             ZN INDUS NX TAX 0.3083053
## 372    706  4            CRIM INDUS RAD B 0.3072721
## 559    707  4                ZN AGE TAX B 0.3069159
## 518    708  4              ZN NX RAD TAX 0.3067579
## 483    709  4              ZN INDUS AGE B 0.3065673
## 470    710  4               ZN INDUS NX B 0.3064620
## 523    711  4                 ZN NX TAX B 0.3062012
## 782    712  4          DIS RAD PTRATIO B 0.3061512
## 659    713  4             INDUS RAD TAX B 0.3058589
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## 554   714  4                        ZN AGE RAD TAX 0.3058568
## 312   715  4                        CRIM ZN NX TAX 0.3058504
## 650   716  4                       INDUS DIS RAD B 0.3048387
## 361   717  4                   CRIM INDUS AGE TAX 0.3045288
## 325   718  4                      CRIM ZN AGE TAX 0.3042839
## 597   719  4                      INDUS NX DIS RAD 0.3030787
## 643   720  4                       INDUS AGE TAX B 0.3030683
## 348   721  4                    CRIM INDUS NX TAX 0.3027420
## 648   722  4                     INDUS DIS RAD TAX 0.2996151
## 607   723  4                        INDUS NX TAX B 0.2995006
## 345   724  4                    CRIM INDUS NX AGE 0.2992793
## 360   725  4                   CRIM INDUS AGE RAD 0.2983191
## 516   726  4                          ZN NX DIS B 0.2981208
## 347   727  4                    CRIM INDUS NX RAD 0.2980396
## 445   728  4                 CRIM DIS RAD PTRATIO 0.2977912
## 314   729  4                          CRIM ZN NX B 0.2951476
## 323   730  4                     CRIM ZN AGE DIS 0.2945167
## 638   731  4                     INDUS AGE RAD TAX 0.2916444
## 640   732  4                       INDUS AGE RAD B 0.2915892
## 398   733  4                       CRIM NX RAD TAX 0.2913295
## 434   734  4                       CRIM AGE RAD TAX 0.2910258
## 509   735  4                         ZN NX AGE TAX 0.2910029
## 595   736  4                       INDUS NX AGE B 0.2896498
## 604   737  4                       INDUS NX RAD B 0.2887080
## 602   738  4                     INDUS NX RAD TAX 0.2885051
## 770   739  4                        AGE RAD TAX B 0.2878000
## 467   740  4                       ZN INDUS NX RAD 0.2875443
## 480   741  4                     ZN INDUS AGE RAD 0.2873200
## 327   742  4                        CRIM ZN AGE B 0.2870290
## 593   743  4                     INDUS NX AGE TAX 0.2867094
## 764   744  4                        AGE DIS TAX B 0.2858118
## 513   745  4                        ZN NX DIS RAD 0.2852052
## 690   746  4                        NX AGE DIS TAX 0.2850813
## 565   747  4                 ZN DIS RAD PTRATIO 0.2849722
## 430   748  4                      CRIM AGE DIS TAX 0.2816901
## 715   749  4                         NX RAD TAX B 0.2813039
## 309   750  4                        CRIM ZN NX AGE 0.2812070
## 332   751  4                         CRIM ZN DIS B 0.2809719
## 311   752  4                        CRIM ZN NX RAD 0.2807500
## 387   753  4                       CRIM NX AGE DIS 0.2796583
## 439   754  4                       CRIM AGE TAX B 0.2785888
## 394   755  4                       CRIM NX DIS TAX 0.2785167
## 465   756  4                      ZN INDUS NX AGE 0.2782093
## 455   757  4                       CRIM RAD TAX B 0.2776966
## 336   758  4                         CRIM ZN RAD B 0.2774464
## 759   759  4                      AGE DIS RAD TAX 0.2769538
## 507   760  4                        ZN NX AGE DIS 0.2765058
## 403   761  4                        CRIM NX TAX B 0.2746641
## 699   762  4                          NX AGE TAX B 0.2742818
## 552   763  4                         ZN AGE DIS B 0.2742622
## 709   764  4                          NX DIS TAX B 0.2738952
## 389   765  4                      CRIM NX AGE TAX 0.2730720
## 520   766  4                          ZN NX RAD B 0.2717338
## 592   767  4                     INDUS NX AGE RAD 0.2714117
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## 704    768  4                            NX DIS RAD TAX 0.2707848
## 694    769  4                            NX AGE RAD TAX 0.2702243
## 324    770  4                           CRIM ZN AGE RAD 0.2691356
## 396    771  4                             CRIM NX DIS B 0.2676715
## 556    772  4                              ZN AGE RAD B 0.2668205
## 511    773  4                               ZN NX AGE B 0.2664571
## 549    774  4                            ZN AGE DIS RAD 0.2655640
## 391    775  4                             CRIM NX AGE B 0.2651580
## 329    776  4                           CRIM ZN DIS RAD 0.2639109
## 444    777  4                          CRIM DIS RAD TAX 0.2608574
## 692    778  4                              NX AGE DIS B 0.2597560
## 566    779  4                              ZN DIS RAD B 0.2595338
## 780    780  4                             DIS RAD TAX B 0.2569855
## 432    781  4                            CRIM AGE DIS B 0.2563942
## 400    782  4                             CRIM NX RAD B 0.2563747
## 393    783  4                           CRIM NX DIS RAD 0.2556595
## 388    784  4                           CRIM NX AGE RAD 0.2510513
## 436    785  4                            CRIM AGE RAD B 0.2500756
## 508    786  4                             ZN NX AGE RAD 0.2494162
## 449    787  4                            CRIM DIS TAX B 0.2487940
## 689    788  4                            NX AGE DIS RAD 0.2465137
## 696    789  4                             NX AGE RAD B 0.2447840
## 706    790  4                             NX DIS RAD B 0.2415298
## 761    791  4                             AGE DIS RAD B 0.2402724
## 429    792  4                           CRIM AGE DIS RAD 0.2395140
## 446    793  4                            CRIM DIS RAD B 0.2051135
## 1559   794  5                    RM DIS PTRATIO B LSTAT 0.6982083
## 1483   795  5                   NX RM DIS PTRATIO LSTAT 0.6953681
## 1077   796  5                 CRIM RM DIS PTRATIO LSTAT 0.6878881
## 1557   797  5                   RM DIS TAX PTRATIO LSTAT 0.6861106
## 1288   798  5                        ZN RM DIS B LSTAT 0.6846484
## 1285   799  5                      ZN RM DIS TAX LSTAT 0.6838906
## 1287   800  5                  ZN RM DIS PTRATIO LSTAT 0.6833466
## 1413   801  5               INDUS RM DIS PTRATIO LSTAT 0.6827128
## 1538   802  5                  RM AGE DIS PTRATIO LSTAT 0.6817012
## 1563   803  5                    RM RAD PTRATIO B LSTAT 0.6816231
## 1549   804  5                    RM AGE PTRATIO B LSTAT 0.6815832
## 1424   805  5                 INDUS RM PTRATIO B LSTAT 0.6811228
## 1554   806  5                  RM DIS RAD PTRATIO LSTAT 0.6804841
## 868    807  5                       CRIM ZN RM DIS LSTAT 0.6792618
## 1088   808  5                   CRIM RM PTRATIO B LSTAT 0.6791711
## 1558   809  5                       RM DIS TAX B LSTAT 0.6789420
## 1494   810  5                     NX RM PTRATIO B LSTAT 0.6789105
## 1298   811  5                     ZN RM PTRATIO B LSTAT 0.6788160
## 1564   812  5                     RM TAX PTRATIO B LSTAT 0.6784224
## 1078   813  5                        CRIM RM DIS B LSTAT 0.6761182
## 1414   814  5                       INDUS RM DIS B LSTAT 0.6755081
## 1484   815  5                          NX RM DIS B LSTAT 0.6746489
## 1539   816  5                         RM AGE DIS B LSTAT 0.6730311
## 1555   817  5                         RM DIS RAD B LSTAT 0.6725665
## 1083   818  5                 CRIM RM RAD PTRATIO LSTAT 0.6721953
## 1067   819  5                 CRIM RM AGE PTRATIO LSTAT 0.6720837
## 1561   820  5                   RM RAD TAX PTRATIO LSTAT 0.6720446
## 1282   821  5                     ZN RM DIS RAD LSTAT 0.6713248
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## 1075   822   5                   CRIM RM DIS TAX LSTAT 0.6712480
## 1218   823   5                      ZN NX RM DIS LSTAT 0.6709556
## 961    824   5            CRIM INDUS RM PTRATIO LSTAT 0.6706443
## 952    825   5               CRIM INDUS RM DIS LSTAT 0.6701719
## 1008   826   5                  CRIM NX RM DIS LSTAT 0.6701002
## 1162   827   5                 ZN INDUS RM DIS LSTAT 0.6699128
## 877    828   5              CRIM ZN RM PTRATIO LSTAT 0.6693823
## 1481   829   5                    NX RM DIS TAX LSTAT 0.6693512
## 1547   830   5              RM AGE TAX PTRATIO LSTAT 0.6692253
## 1017   831   5               CRIM NX RM PTRATIO LSTAT 0.6692234
## 1086   832   5              CRIM RM TAX PTRATIO LSTAT 0.6692089
## 1473   833   5               NX RM AGE PTRATIO LSTAT 0.6690492
## 1552   834   5                    RM DIS RAD TAX LSTAT 0.6689266
## 1536   835   5                    RM AGE DIS TAX LSTAT 0.6686951
## 1422   836   5              INDUS RM TAX PTRATIO LSTAT 0.6686350
## 1411   837   5                 INDUS RM DIS TAX LSTAT 0.6684493
## 1403   838   5             INDUS RM AGE PTRATIO LSTAT 0.6671195
## 1277   839   5                ZN RM AGE PTRATIO LSTAT 0.6670632
## 1544   840   5              RM AGE RAD PTRATIO LSTAT 0.6670390
## 1353   841   5              INDUS NX RM PTRATIO LSTAT 0.6667403
## 1296   842   5                ZN RM TAX PTRATIO LSTAT 0.6662355
## 1492   843   5                NX RM TAX PTRATIO LSTAT 0.6661290
## 1058   844   5                  CRIM RM AGE DIS LSTAT 0.6659401
## 1171   845   5            ZN INDUS RM PTRATIO LSTAT 0.6657007
## 1419   846   5             INDUS RM RAD PTRATIO LSTAT 0.6656321
## 1227   847   5                 ZN NX RM PTRATIO LSTAT 0.6653237
## 1293   848   5                ZN RM RAD PTRATIO LSTAT 0.6651815
## 1489   849   5                NX RM RAD PTRATIO LSTAT 0.6651303
## 1072   850   5                  CRIM RM DIS RAD LSTAT 0.6645303
## 1268   851   5                   ZN RM AGE DIS LSTAT 0.6633968
## 1408   852   5                INDUS RM DIS RAD LSTAT 0.6625423
## 1478   853   5                   NX RM DIS RAD LSTAT 0.6622875
## 1344   854   5                INDUS NX RM DIS LSTAT 0.6619920
## 1562   855   5                    RM RAD TAX B LSTAT 0.6613761
## 1493   856   5                     NX RM TAX B LSTAT 0.6610250
## 1548   857   5                    RM AGE TAX B LSTAT 0.6606666
## 1068   858   5                  CRIM RM AGE B LSTAT 0.6605331
## 1278   859   5                   ZN RM AGE B LSTAT 0.6604997
## 1018   860   5                  CRIM NX RM B LSTAT 0.6598291
## 1533   861   5                  RM AGE DIS RAD LSTAT 0.6596731
## 1423   862   5                INDUS RM TAX B LSTAT 0.6594145
## 1394   863   5                INDUS RM AGE DIS LSTAT 0.6591288
## 878    864   5                    CRIM ZN RM B LSTAT 0.6591212
## 1087   865   5                   CRIM RM TAX B LSTAT 0.6588956
## 1228   866   5                      ZN NX RM B LSTAT 0.6586524
## 962    867   5                 CRIM INDUS RM B LSTAT 0.6586317
## 1084   868   5                   CRIM RM RAD B LSTAT 0.6586059
## 1464   869   5                   NX RM AGE DIS LSTAT 0.6584879
## 1297   870   5                    ZN RM TAX B LSTAT 0.6582536
## 1545   871   5                   RM AGE RAD B LSTAT 0.6574780
## 1474   872   5                    NX RM AGE B LSTAT 0.6572937
## 1404   873   5                 INDUS RM AGE B LSTAT 0.6572054
## 1172   874   5                  ZN INDUS RM B LSTAT 0.6570740
## 1490   875   5                    NX RM RAD B LSTAT 0.6568878
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## 1354   876  5              INDUS NX RM B LSTAT 0.6564321
## 1294   877  5                 ZN RM RAD B LSTAT 0.6562749
## 1420   878  5               INDUS RM RAD B LSTAT 0.6556939
## 1081   879  5             CRIM RM RAD TAX LSTAT 0.6552503
## 863    880  5              CRIM ZN RM AGE LSTAT 0.6538079
## 1275   881  5                ZN RM AGE TAX LSTAT 0.6536310
## 1065   882  5             CRIM RM AGE TAX LSTAT 0.6533851
## 1015   883  5              CRIM NX RM TAX LSTAT 0.6523427
## 1542   884  5                RM AGE RAD TAX LSTAT 0.6520725
## 1225   885  5                 ZN NX RM TAX LSTAT 0.6515227
## 959    886  5            CRIM INDUS RM TAX LSTAT 0.6514502
## 1417   887  5              INDUS RM RAD TAX LSTAT 0.6513221
## 875    888  5                CRIM ZN RM TAX LSTAT 0.6512528
## 1487   889  5                NX RM RAD TAX LSTAT 0.6510487
## 836    890  5               CRIM ZN NX RM LSTAT 0.6505747
## 1169   891  5              ZN INDUS RM TAX LSTAT 0.6504991
## 1401   892  5             INDUS RM AGE TAX LSTAT 0.6502069
## 1471   893  5                NX RM AGE TAX LSTAT 0.6501886
## 1291   894  5                ZN RM RAD TAX LSTAT 0.6501570
## 947    895  5            CRIM INDUS RM AGE LSTAT 0.6501202
## 1062   896  5              CRIM RM AGE RAD LSTAT 0.6499911
## 1003   897  5               CRIM NX RM AGE LSTAT 0.6499588
## 808    898  5             CRIM ZN INDUS RM LSTAT 0.6496783
## 872    899  5               CRIM ZN RM RAD LSTAT 0.6493008
## 1351   900  5              INDUS NX RM TAX LSTAT 0.6492899
## 1012   901  5               CRIM NX RM RAD LSTAT 0.6484707
## 920    902  5             CRIM INDUS NX RM LSTAT 0.6484429
## 956    903  5             CRIM INDUS RM RAD LSTAT 0.6480251
## 1272   904  5                ZN RM AGE RAD LSTAT 0.6471005
## 1222   905  5                 ZN NX RM RAD LSTAT 0.6442461
## 1157   906  5              ZN INDUS RM AGE LSTAT 0.6439417
## 1398   907  5             INDUS RM AGE RAD LSTAT 0.6439308
## 1213   908  5                 ZN NX RM AGE LSTAT 0.6438638
## 1468   909  5                NX RM AGE RAD LSTAT 0.6438521
## 1166   910  5              ZN INDUS RM RAD LSTAT 0.6432158
## 1348   911  5              INDUS NX RM RAD LSTAT 0.6424292
## 1252   912  5             ZN NX DIS PTRATIO LSTAT 0.6409440
## 1339   913  5              INDUS NX RM AGE LSTAT 0.6409410
## 1130   914  5              ZN INDUS NX RM LSTAT 0.6407141
## 1524   915  5             NX DIS PTRATIO B LSTAT 0.6406028
## 1519   916  5            NX DIS RAD PTRATIO LSTAT 0.6376917
## 1328   917  5              ZN DIS PTRATIO B LSTAT 0.6360530
## 1042   918  5           CRIM NX DIS PTRATIO LSTAT 0.6360439
## 1378   919  5          INDUS NX DIS PTRATIO LSTAT 0.6341183
## 1503   920  5             NX AGE DIS PTRATIO LSTAT 0.6340807
## 1522   921  5              NX DIS TAX PTRATIO LSTAT 0.6329744
## 1326   922  5              ZN DIS TAX PTRATIO LSTAT 0.6309076
## 1581   923  5             DIS RAD TAX PTRATIO LSTAT 0.6306120
## 1454   924  5           INDUS DIS PTRATIO B LSTAT 0.6301527
## 902    925  5            CRIM ZN DIS PTRATIO LSTAT 0.6291990
## 1196   926  5          ZN INDUS DIS PTRATIO LSTAT 0.6291987
## 1321   927  5                ZN DIS RAD TAX LSTAT 0.6271830
## 1583   928  5             DIS RAD PTRATIO B LSTAT 0.6267727
## 1584   929  5             DIS TAX PTRATIO B LSTAT 0.6256956
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## 1118  930  5                        CRIM DIS PTRATIO B LSTAT 0.6256661
## 1574  931  5                         AGE DIS PTRATIO B LSTAT 0.6243338
## 1327  932  5                              ZN DIS TAX B LSTAT 0.6240119
## 986   933  5                  CRIM INDUS DIS PTRATIO LSTAT 0.6237922
## 1323  934  5                       ZN DIS RAD PTRATIO LSTAT 0.6209227
## 1307  935  5                       ZN AGE DIS PTRATIO LSTAT 0.6207930
## 1197  936  5                           ZN INDUS DIS B LSTAT 0.6207123
## 1194  937  5                         ZN INDUS DIS TAX LSTAT 0.6206602
## 819   938  5                       CRIM ZN INDUS DIS LSTAT 0.6206141
## 1452  939  5                  INDUS DIS TAX PTRATIO LSTAT 0.6205128
## 900   940  5                           CRIM ZN DIS TAX LSTAT 0.6198066
## 1449  941  5                  INDUS DIS RAD PTRATIO LSTAT 0.6192065
## 1250  942  5                             ZN NX DIS TAX LSTAT 0.6190409
## 1433  943  5                  INDUS AGE DIS PTRATIO LSTAT 0.6187450
## 1113  944  5                     CRIM DIS RAD PTRATIO LSTAT 0.6187191
## 1585  945  5                        RAD TAX PTRATIO B LSTAT 0.6185507
## 1116  946  5                     CRIM DIS TAX PTRATIO LSTAT 0.6180128
## 1305  947  5                           ZN AGE DIS TAX LSTAT 0.6164786
## 1097  948  5                     CRIM AGE DIS PTRATIO LSTAT 0.6160408
## 1572  949  5                       AGE DIS TAX PTRATIO LSTAT 0.6157486
## 903   950  5                             CRIM ZN DIS B LSTAT 0.6155352
## 847   951  5                            CRIM ZN NX DIS LSTAT 0.6153240
## 1576  952  5                       AGE RAD TAX PTRATIO LSTAT 0.6149824
## 1253  953  5                                ZN NX DIS B LSTAT 0.6147592
## 1578  954  5                        AGE RAD PTRATIO B LSTAT 0.6134172
## 1120  955  5                     CRIM RAD TAX PTRATIO LSTAT 0.6129693
## 1141  956  5                         ZN INDUS NX DIS LSTAT 0.6114297
## 1514  957  5                          NX AGE PTRATIO B LSTAT 0.6113058
## 1318  958  5                           ZN AGE PTRATIO B LSTAT 0.6109862
## 1569  959  5                       AGE DIS RAD PTRATIO LSTAT 0.6106660
## 1122  960  5                        CRIM RAD PTRATIO B LSTAT 0.6100207
## 1191  961  5                         ZN INDUS DIS RAD LSTAT 0.6096886
## 1324  962  5                               ZN DIS RAD B LSTAT 0.6095958
## 1509  963  5                          NX AGE RAD PTRATIO LSTAT 0.6094612
## 1108  964  5                        CRIM AGE PTRATIO B LSTAT 0.6085966
## 1444  965  5                     INDUS AGE PTRATIO B LSTAT 0.6083207
## 1579  966  5                        AGE TAX PTRATIO B LSTAT 0.6082264
## 1308  967  5                             ZN AGE DIS B LSTAT 0.6081228
## 1456  968  5                  INDUS RAD TAX PTRATIO LSTAT 0.6081218
## 1177  969  5                        ZN INDUS AGE DIS LSTAT 0.6072584
## 1482  970  5                          NX RM DIS PTRATIO B 0.6070728
## 1537  971  5                             RM AGE DIS PTRATIO B 0.6069539
## 1528  972  5                          NX RAD PTRATIO B LSTAT 0.6066878
## 897   973  5                          CRIM ZN DIS RAD LSTAT 0.6062736
## 883   974  5                          CRIM ZN AGE DIS LSTAT 0.6061451
## 1458  975  5                  INDUS RAD PTRATIO B LSTAT 0.6060241
## 1332  976  5                           ZN RAD PTRATIO B LSTAT 0.6059839
## 1103  977  5                  CRIM AGE RAD PTRATIO LSTAT 0.6057781
## 1032  978  5                     CRIM NX AGE PTRATIO LSTAT 0.6057259
## 1330  979  5                        ZN RAD TAX PTRATIO LSTAT 0.6055035
## 1526  980  5                          NX RAD TAX PTRATIO LSTAT 0.6054101
## 1242  981  5                          ZN NX AGE PTRATIO LSTAT 0.6053259
## 1247  982  5                             ZN NX DIS RAD LSTAT 0.6044522
## 1368  983  5                  INDUS NX AGE PTRATIO LSTAT 0.6042400
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## 1512   984  5                                  NX AGE TAX PTRATIO LSTAT 0.6040734
## 892    985  5                          CRIM ZN AGE PTRATIO LSTAT 0.6040059
## 1233   986  5                                   ZN NX AGE DIS LSTAT 0.6035969
## 1316   987  5                              ZN AGE TAX PTRATIO LSTAT 0.6028824
## 1006   988  5                               CRIM NX RM DIS PTRATIO 0.6017881
## 976    989  5                   CRIM INDUS AGE PTRATIO LSTAT 0.6013024
## 1106   990  5                            CRIM AGE TAX PTRATIO LSTAT 0.6010781
## 1313   991  5                              ZN AGE RAD PTRATIO LSTAT 0.6010185
## 1186   992  5                           ZN INDUS AGE PTRATIO LSTAT 0.6008712
## 1048   993  5                             CRIM NX RAD PTRATIO LSTAT 0.6006113
## 1439   994  5                         INDUS AGE RAD PTRATIO LSTAT 0.6000945
## 1442   995  5                         INDUS AGE TAX PTRATIO LSTAT 0.5996141
## 908    996  5                             CRIM ZN RAD PTRATIO LSTAT 0.5988572
## 997    997  5                         CRIM INDUS PTRATIO B LSTAT 0.5987750
## 992    998  5                       CRIM INDUS RAD PTRATIO LSTAT 0.5987720
## 1207   999  5                              ZN INDUS PTRATIO B LSTAT 0.5987521
## 1389  1000  5                            INDUS NX PTRATIO B LSTAT 0.5985740
## 1459  1001  5                           INDUS TAX PTRATIO B LSTAT 0.5985470
## 1123  1002  5                            CRIM TAX PTRATIO B LSTAT 0.5982203
## 1053  1003  5                             CRIM NX PTRATIO B LSTAT 0.5980649
## 1263  1004  5                                ZN NX PTRATIO B LSTAT 0.5979755
## 1529  1005  5                                NX TAX PTRATIO B LSTAT 0.5979054
## 1333  1006  5                                ZN TAX PTRATIO B LSTAT 0.5978490
## 913   1007  5                             CRIM ZN PTRATIO B LSTAT 0.5978350
## 1462  1008  5                               NX RM AGE DIS PTRATIO 0.5977781
## 1066  1009  5                            CRIM RM AGE PTRATIO B 0.5974690
## 1302  1010  5                               ZN AGE DIS RAD LSTAT 0.5971999
## 1582  1011  5                                 DIS RAD TAX B LSTAT 0.5968998
## 1016  1012  5                               CRIM NX RM PTRATIO B 0.5963331
## 987   1013  5                             CRIM INDUS DIS B LSTAT 0.5958055
## 1453  1014  5                             INDUS DIS TAX B LSTAT 0.5952225
## 1056  1015  5                            CRIM RM AGE DIS PTRATIO 0.5945634
## 1546  1016  5                              RM AGE TAX PTRATIO B 0.5937664
## 1111  1017  5                            CRIM DIS RAD TAX LSTAT 0.5936591
## 1379  1018  5                                INDUS NX DIS B LSTAT 0.5935898
## 1384  1019  5                   INDUS NX RAD PTRATIO LSTAT 0.5934310
## 1472  1020  5                                NX RM AGE PTRATIO B 0.5932675
## 1258  1021  5                           ZN NX RAD PTRATIO LSTAT 0.5930314
## 931   1022  5                           CRIM INDUS NX DIS LSTAT 0.5927951
## 1447  1023  5                             INDUS DIS RAD TAX LSTAT 0.5920030
## 1560  1024  5                              RM RAD TAX PTRATIO B 0.5919605
## 984   1025  5                           CRIM INDUS DIS TAX LSTAT 0.5918701
## 1202  1026  5                          ZN INDUS RAD PTRATIO LSTAT 0.5914644
## 828   1027  5                        CRIM ZN INDUS PTRATIO LSTAT 0.5914444
## 940   1028  5                        CRIM INDUS NX PTRATIO LSTAT 0.5914319
## 1450  1029  5                              INDUS DIS RAD B LSTAT 0.5912881
## 995   1030  5                       CRIM INDUS TAX PTRATIO LSTAT 0.5912620
## 1402  1031  5                              INDUS RM AGE PTRATIO B 0.5912260
## 1434  1032  5                              INDUS AGE DIS B LSTAT 0.5911997
## 960   1033  5                           CRIM INDUS RM PTRATIO B 0.5911616
## 1491  1034  5                                NX RM TAX PTRATIO B 0.5911503
## 1488  1035  5                                NX RM RAD PTRATIO B 0.5910511
## 856   1036  5                            CRIM ZN NX PTRATIO LSTAT 0.5909714
## 911   1037  5                            CRIM ZN TAX PTRATIO LSTAT 0.5909611
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## 1051  1038  5                        CRIM NX TAX PTRATIO LSTAT 0.5908819
## 1517  1039  5                          NX DIS RAD TAX LSTAT 0.5908787
## 1276  1040  5                           ZN RM AGE PTRATIO B 0.5907773
## 1543  1041  5                          RM AGE RAD PTRATIO B 0.5904986
## 1226  1042  5                            ZN NX RM PTRATIO B 0.5901336
## 1352  1043  5                         INDUS NX RM PTRATIO B 0.5901035
## 1205  1044  5                    ZN INDUS TAX PTRATIO LSTAT 0.5900732
## 1387  1045  5                    INDUS NX TAX PTRATIO LSTAT 0.5899883
## 1523  1046  5                             NX DIS TAX B LSTAT 0.5899597
## 1311  1047  5                          ZN AGE RAD TAX LSTAT 0.5898530
## 1376  1048  5                          INDUS NX DIS TAX LSTAT 0.5897387
## 1534  1049  5                          RM AGE DIS TAX PTRATIO 0.5896224
## 1150  1050  5                      ZN INDUS NX PTRATIO LSTAT 0.5895589
## 981   1051  5                        CRIM INDUS DIS RAD LSTAT 0.5893609
## 1261  1052  5                          ZN NX TAX PTRATIO LSTAT 0.5892914
## 967   1053  5                        CRIM INDUS AGE DIS LSTAT 0.5892639
## 1412  1054  5                          INDUS RM DIS PTRATIO B 0.5884666
## 1085  1055  5                           CRIM RM TAX PTRATIO B 0.5884252
## 1535  1056  5                               RM AGE DIS TAX B 0.5882015
## 1479  1057  5                           NX RM DIS TAX PTRATIO 0.5880371
## 1117  1058  5                             CRIM DIS TAX B LSTAT 0.5877757
## 1431  1059  5                         INDUS AGE DIS TAX LSTAT 0.5876791
## 1342  1060  5                          INDUS NX RM DIS PTRATIO 0.5873881
## 1043  1061  5                             CRIM NX DIS B LSTAT 0.5873175
## 876   1062  5                             CRIM ZN RM PTRATIO B 0.5871910
## 1573  1063  5                             AGE DIS TAX B LSTAT 0.5867613
## 1567  1064  5                            AGE DIS RAD TAX LSTAT 0.5866195
## 1040  1065  5                            CRIM NX DIS TAX LSTAT 0.5865432
## 1421  1066  5                          INDUS RM TAX PTRATIO B 0.5860233
## 1317  1067  5                              ZN AGE TAX B LSTAT 0.5857607
## 1082  1068  5                            CRIM RM RAD PTRATIO B 0.5854478
## 1076  1069  5                            CRIM RM DIS PTRATIO B 0.5853039
## 1295  1070  5                              ZN RM TAX PTRATIO B 0.5852402
## 1373  1071  5                          INDUS NX DIS RAD LSTAT 0.5845533
## 1556  1072  5                            RM DIS TAX PTRATIO B 0.5845500
## 1010  1073  5                          CRIM NX RM RAD PTRATIO 0.5843914
## 1359  1074  5                          INDUS NX AGE DIS LSTAT 0.5842576
## 1216  1075  5                            ZN NX RM DIS PTRATIO 0.5840689
## 1393  1076  5                             INDUS RM AGE DIS B 0.5838723
## 1057  1077  5                              CRIM RM AGE DIS B 0.5837817
## 1501  1078  5                            NX AGE DIS TAX LSTAT 0.5837609
## 1476  1079  5                            NX RM DIS RAD PTRATIO 0.5832159
## 1001  1080  5                          CRIM NX RM AGE PTRATIO 0.5831186
## 1392  1081  5                        INDUS RM AGE DIS PTRATIO 0.5830150
## 1504  1082  5                              NX AGE DIS B LSTAT 0.5829957
## 1170  1083  5                            ZN INDUS RM PTRATIO B 0.5829220
## 1520  1084  5                              NX DIS RAD B LSTAT 0.5828157
## 942   1085  5                          CRIM INDUS RM AGE DIS 0.5827316
## 893   1086  5                             CRIM ZN AGE B LSTAT 0.5827267
## 1418  1087  5                          INDUS RM RAD PTRATIO B 0.5826962
## 1079  1088  5                         CRIM RM RAD TAX PTRATIO 0.5817154
## 1095  1089  5                           CRIM AGE DIS TAX LSTAT 0.5817119
## 1023  1090  5                            CRIM NX AGE DIS LSTAT 0.5815837
## 890   1091  5                            CRIM ZN AGE TAX LSTAT 0.5815650
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## 1013  1092  5              CRIM NX RM TAX PTRATIO 0.5814772
## 1428  1093  5            INDUS AGE DIS RAD LSTAT 0.5812623
## 918   1094  5           CRIM INDUS NX RM PTRATIO 0.5812358
## 1063  1095  5             CRIM RM AGE TAX PTRATIO 0.5812098
## 1037  1096  5               CRIM NX DIS RAD LSTAT 0.5811349
## 834   1097  5               CRIM ZN NX RM PTRATIO 0.5810346
## 950   1098  5            CRIM INDUS RM DIS PTRATIO 0.5808116
## 1187  1099  5                ZN INDUS AGE B LSTAT 0.5805907
## 1098  1100  5                CRIM AGE DIS B LSTAT 0.5801297
## 1114  1101  5                CRIM DIS RAD B LSTAT 0.5801198
## 945   1102  5           CRIM INDUS RM AGE PTRATIO 0.5799035
## 1577  1103  5                  AGE RAD TAX B LSTAT 0.5798780
## 1240  1104  5                  ZN NX AGE TAX LSTAT 0.5794967
## 1265  1105  5                    ZN RM AGE DIS TAX 0.5794503
## 1184  1106  5                ZN INDUS AGE TAX LSTAT 0.5793298
## 1243  1107  5                   ZN NX AGE B LSTAT 0.5792287
## 1314  1108  5                  ZN AGE RAD B LSTAT 0.5792062
## 1055  1109  5                 CRIM RM AGE DIS TAX 0.5785550
## 1060  1110  5               CRIM RM AGE RAD PTRATIO 0.5782433
## 861   1111  5                CRIM ZN RM AGE PTRATIO 0.5779863
## 814   1112  5               CRIM ZN INDUS AGE LSTAT 0.5773893
## 1284  1113  5                    ZN RM DIS TAX B 0.5769257
## 1292  1114  5                ZN RM RAD PTRATIO B 0.5767200
## 1101  1115  5               CRIM AGE RAD TAX LSTAT 0.5766827
## 1570  1116  5                 AGE DIS RAD B LSTAT 0.5763820
## 1286  1117  5                ZN RM DIS PTRATIO B 0.5763288
## 1485  1118  5                NX RM RAD TAX PTRATIO 0.5762090
## 842   1119  5                  CRIM ZN NX AGE LSTAT 0.5758762
## 1531  1120  5               RM AGE DIS RAD PTRATIO 0.5758654
## 1540  1121  5               RM AGE RAD TAX PTRATIO 0.5756362
## 1331  1122  5                   ZN RAD TAX B LSTAT 0.5756193
## 887   1123  5                CRIM ZN AGE RAD LSTAT 0.5755113
## 1532  1124  5                  RM AGE DIS RAD B 0.5754119
## 957   1125  5            CRIM INDUS RM TAX PTRATIO 0.5748537
## 1267  1126  5                    ZN RM AGE DIS B 0.5748458
## 1553  1127  5                RM DIS RAD PTRATIO B 0.5746543
## 1498  1128  5                NX AGE DIS RAD LSTAT 0.5738915
## 1256  1129  5                  ZN NX RAD TAX LSTAT 0.5736554
## 906   1130  5                CRIM ZN RAD TAX LSTAT 0.5735763
## 1469  1131  5                NX RM AGE TAX PTRATIO 0.5733913
## 951   1132  5                  CRIM INDUS RM DIS B 0.5733469
## 806   1133  5             CRIM ZN INDUS RM PTRATIO 0.5733229
## 954   1134  5             CRIM INDUS RM RAD PTRATIO 0.5733186
## 873   1135  5                CRIM ZN RM TAX PTRATIO 0.5729719
## 1391  1136  5                INDUS RM AGE DIS TAX 0.5729379
## 858   1137  5                  CRIM ZN RM AGE DIS 0.5728150
## 1463  1138  5                    NX RM AGE DIS B 0.5727892
## 1064  1139  5                  CRIM RM AGE TAX B 0.5726569
## 998   1140  5                  CRIM NX RM AGE DIS 0.5724944
## 1121  1141  5                 CRIM RAD TAX B LSTAT 0.5723297
## 803   1142  5               CRIM ZN INDUS RM DIS 0.5721437
## 1527  1143  5                  NX RAD TAX B LSTAT 0.5721101
## 1262  1144  5                   ZN NX TAX B LSTAT 0.5714488
## 1092  1145  5               CRIM AGE DIS RAD LSTAT 0.5713947
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## 874  1146 5                                CRIM ZN RM TAX B 0.5713067
## 1399 1147 5                    INDUS RM AGE TAX PTRATIO 0.5711143
## 1437 1148 5                    INDUS AGE RAD TAX LSTAT 0.5709813
## 1273 1149 5                       ZN RM AGE TAX PTRATIO 0.5709494
## 1073 1150 5                    CRIM RM DIS TAX PTRATIO 0.5709457
## 1507 1151 5                          NX AGE RAD TAX LSTAT 0.5708239
## 1181 1152 5                       ZN INDUS AGE RAD LSTAT 0.5706190
## 1443 1153 5                       INDUS AGE TAX B LSTAT 0.5704832
## 1349 1154 5                       INDUS NX RM TAX PTRATIO 0.5703826
## 1223 1155 5                          ZN NX RM TAX PTRATIO 0.5703762
## 1200 1156 5                       ZN INDUS RAD TAX LSTAT 0.5702600
## 1541 1157 5                              RM AGE RAD TAX B 0.5702585
## 1107 1158 5                          CRIM AGE TAX B LSTAT 0.5700161
## 946  1159 5                       CRIM INDUS RM AGE B 0.5700118
## 1274 1160 5                             ZN RM AGE TAX B 0.5698679
## 1136 1161 5                       ZN INDUS NX AGE LSTAT 0.5697961
## 977  1162 5                       CRIM INDUS AGE B LSTAT 0.5697914
## 1290 1163 5                             ZN RM RAD TAX B 0.5695001
## 1457 1164 5                       INDUS RAD TAX B LSTAT 0.5694403
## 1513 1165 5                          NX AGE TAX B LSTAT 0.5693547
## 862  1166 5                          CRIM ZN RM AGE B 0.5693079
## 1237 1167 5                          ZN NX AGE RAD LSTAT 0.5690261
## 1211 1168 5                          ZN NX RM AGE PTRATIO 0.5689981
## 1461 1169 5                             NX RM AGE DIS TAX 0.5689327
## 1161 1170 5                          ZN INDUS RM DIS B 0.5688940
## 1080 1171 5                          CRIM RM RAD TAX B 0.5686991
## 865  1172 5                          CRIM ZN RM DIS TAX 0.5686829
## 831  1173 5                          CRIM ZN NX RM DIS 0.5685686
## 807  1174 5                          CRIM ZN INDUS RM B 0.5682463
## 1409 1175 5                    INDUS RM DIS TAX PTRATIO 0.5679600
## 1410 1176 5                          INDUS RM DIS TAX B 0.5679074
## 1466 1177 5                       NX RM AGE RAD PTRATIO 0.5678328
## 1046 1178 5                       CRIM NX RAD TAX LSTAT 0.5677890
## 1266 1179 5                       ZN RM AGE DIS PTRATIO 0.5677612
## 1337 1180 5                    INDUS NX RM AGE PTRATIO 0.5676423
## 1470 1181 5                             NX RM AGE TAX B 0.5676405
## 1400 1182 5                          INDUS RM AGE TAX B 0.5675305
## 915  1183 5                          CRIM INDUS NX RM DIS 0.5674246
## 857  1184 5                          CRIM ZN NX B LSTAT 0.5673037
## 1440 1185 5                       INDUS AGE RAD B LSTAT 0.5672425
## 1369 1186 5                          INDUS NX AGE B LSTAT 0.5672236
## 958  1187 5                          CRIM INDUS RM TAX B 0.5671979
## 1061 1188 5                             CRIM RM AGE RAD B 0.5668559
## 1007 1189 5                             CRIM NX RM DIS B 0.5667539
## 1002 1190 5                             CRIM NX RM AGE B 0.5667280
## 1033 1191 5                          CRIM NX AGE B LSTAT 0.5666574
## 867  1192 5                             CRIM ZN RM DIS B 0.5663878
## 1530 1193 5                              RM AGE DIS RAD TAX 0.5663195
## 1104 1194 5                          CRIM AGE RAD B LSTAT 0.5663015
## 974  1195 5                    CRIM INDUS AGE TAX LSTAT 0.5662858
## 1283 1196 5                       ZN RM DIS TAX PTRATIO 0.5662550
## 1289 1197 5                       ZN RM RAD TAX PTRATIO 0.5662109
## 990  1198 5                    CRIM INDUS RAD TAX LSTAT 0.5661456
## 1128 1199 5                       ZN INDUS NX RM PTRATIO 0.5660839
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## 1168 1200  5                                    ZN INDUS RM TAX B 0.5660598
## 866  1201  5                          CRIM ZN RM DIS PTRATIO 0.5658181
## 1220 1202  5                          ZN NX RM RAD PTRATIO 0.5656629
## 1346 1203  5                       INDUS NX RM RAD PTRATIO 0.5656090
## 1415 1204  5                       INDUS RM RAD TAX PTRATIO 0.5655843
## 854  1205  5                            CRIM ZN NX TAX LSTAT 0.5654484
## 1054 1206  5                            CRIM RM AGE DIS RAD 0.5654375
## 1480 1207  5                                 NX RM DIS TAX B 0.5653987
## 1224 1208  5                                 ZN NX RM TAX B 0.5651191
## 1151 1209  5                           ZN INDUS NX B LSTAT 0.5650921
## 1390 1210  5                          INDUS RM AGE DIS RAD 0.5650885
## 1215 1211  5                             ZN NX RM DIS TAX 0.5648977
## 1030 1212  5                          CRIM NX AGE TAX LSTAT 0.5647823
## 909  1213  5                            CRIM ZN RAD B LSTAT 0.5646653
## 870  1214  5                          CRIM ZN RM RAD PTRATIO 0.5644765
## 1014 1215  5                                CRIM NX RM TAX B 0.5644470
## 1206 1216  5                           ZN INDUS TAX B LSTAT 0.5643706
## 1259 1217  5                             ZN NX RAD B LSTAT 0.5642940
## 919  1218  5                            CRIM INDUS NX RM B 0.5642862
## 835  1219  5                              CRIM ZN NX RM B 0.5642159
## 1343 1220  5                            INDUS NX RM DIS B 0.5641191
## 869  1221  5                             CRIM ZN RM RAD TAX 0.5640110
## 971  1222  5                     CRIM INDUS AGE RAD LSTAT 0.5639976
## 1366 1223  5                       INDUS NX AGE TAX LSTAT 0.5639873
## 912  1224  5                             CRIM ZN TAX B LSTAT 0.5639183
## 1510 1225  5                               NX AGE RAD B LSTAT 0.5638260
## 926  1226  5                        CRIM INDUS NX AGE LSTAT 0.5637365
## 955  1227  5                            CRIM INDUS RM RAD B 0.5636232
## 1396 1228  5                      INDUS RM AGE RAD PTRATIO 0.5635438
## 1148 1229  5                           ZN INDUS NX TAX LSTAT 0.5635364
## 1167 1230  5                        ZN INDUS RM TAX PTRATIO 0.5634895
## 1159 1231  5                           ZN INDUS RM DIS TAX 0.5634766
## 1074 1232  5                               CRIM RM DIS TAX B 0.5632931
## 1059 1233  5                             CRIM RM AGE RAD TAX 0.5631145
## 1550 1234  5                        RM DIS RAD TAX PTRATIO 0.5629755
## 1217 1235  5                                  ZN NX RM DIS B 0.5628638
## 829  1236  5                          CRIM ZN INDUS B LSTAT 0.5628454
## 949  1237  5                           CRIM INDUS RM DIS TAX 0.5623425
## 1416 1238  5                             INDUS RM RAD TAX B 0.5620731
## 1382 1239  5                       INDUS NX RAD TAX LSTAT 0.5619820
## 1155 1240  5                        ZN INDUS RM AGE PTRATIO 0.5618323
## 871  1241  5                               CRIM ZN RM RAD B 0.5617765
## 1388 1242  5                           INDUS NX TAX B LSTAT 0.5617637
## 1052 1243  5                              CRIM NX TAX B LSTAT 0.5617432
## 1407 1244  5                              INDUS RM DIS RAD B 0.5614751
## 1270 1245  5                         ZN RM AGE RAD PTRATIO 0.5613857
## 860  1246  5                             CRIM ZN RM AGE TAX 0.5610830
## 1486 1247  5                                 NX RM RAD TAX B 0.5609892
## 1070 1248  5                        CRIM RM DIS RAD PTRATIO 0.5609525
## 1397 1249  5                             INDUS RM AGE RAD B 0.5608328
## 1203 1250  5                           ZN INDUS RAD B LSTAT 0.5607375
## 1005 1251  5                             CRIM NX RM DIS TAX 0.5605677
## 1350 1252  5                              INDUS NX RM TAX B 0.5604239
## 1027 1253  5                          CRIM NX AGE RAD LSTAT 0.5602892
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## 1406   1254  5                INDUS RM DIS RAD PTRATIO 0.5601245
## 1271   1255  5                       ZN RM AGE RAD B 0.5601003
## 801    1256  5               CRIM ZN INDUS NX LSTAT 0.5599661
## 941    1257  5                CRIM INDUS NX B LSTAT 0.5599346
## 826    1258  5              CRIM ZN INDUS TAX LSTAT 0.5598026
## 1551   1259  5                       RM DIS RAD TAX B 0.5594267
## 851    1260  5                  CRIM ZN NX RAD LSTAT 0.5591384
## 1156   1261  5                     ZN INDUS RM AGE B 0.5590559
## 944    1262  5                CRIM INDUS RM AGE TAX 0.5590351
## 993    1263  5                CRIM INDUS RAD B LSTAT 0.5586314
## 805    1264  5                 CRIM ZN INDUS RM TAX 0.5585411
## 996    1265  5                CRIM INDUS TAX B LSTAT 0.5584594
## 1049   1266  5                  CRIM NX RAD B LSTAT 0.5584543
## 1011   1267  5                     CRIM NX RM RAD B 0.5582703
## 1467   1268  5                      NX RM AGE RAD B 0.5580815
## 1363   1269  5              INDUS NX AGE RAD LSTAT 0.5579883
## 1338   1270  5                    INDUS NX RM AGE B 0.5578222
## 1000   1271  5                 CRIM NX RM AGE TAX 0.5577843
## 1264   1272  5                     ZN RM AGE DIS RAD 0.5576895
## 1165   1273  5                   ZN INDUS RM RAD B 0.5575250
## 1385   1274  5                 INDUS NX RAD B LSTAT 0.5575098
## 823    1275  5               CRIM ZN INDUS RAD LSTAT 0.5572213
## 833    1276  5                     CRIM ZN NX RM TAX 0.5571872
## 948    1277  5                CRIM INDUS RM DIS RAD 0.5570959
## 1160   1278  5             ZN INDUS RM DIS PTRATIO 0.5569185
## 1152   1279  5                   ZN INDUS RM AGE DIS 0.5565834
## 953    1280  5                CRIM INDUS RM RAD TAX 0.5564808
## 1281   1281  5                     ZN RM DIS RAD B 0.5562669
## 938    1282  5              CRIM INDUS NX TAX LSTAT 0.5562221
## 1279   1283  5                   ZN RM DIS RAD TAX 0.5561600
## 1009   1284  5                   CRIM NX RM RAD TAX 0.5560410
## 1334   1285  5                  INDUS NX RM AGE DIS 0.5555123
## 1460   1286  5                    NX RM AGE DIS RAD 0.5552582
## 1212   1287  5                      ZN NX RM AGE B 0.5551764
## 802    1288  5                CRIM ZN INDUS RM AGE 0.5548134
## 1164   1289  5             ZN INDUS RM RAD PTRATIO 0.5547776
## 1477   1290  5                     NX RM DIS RAD B 0.5544892
## 1129   1291  5                     ZN INDUS NX RM B 0.5540516
## 1347   1292  5                   INDUS NX RM RAD B 0.5539166
## 1145   1293  5              ZN INDUS NX RAD LSTAT 0.5536996
## 943    1294  5                CRIM INDUS RM AGE RAD 0.5536071
## 917    1295  5                 CRIM INDUS NX RM TAX 0.5535497
## 1221   1296  5                      ZN NX RM RAD B 0.5534256
## 1341   1297  5                  INDUS NX RM DIS TAX 0.5532892
## 914    1298  5                  CRIM INDUS NX RM AGE 0.5531009
## 935    1299  5              CRIM INDUS NX RAD LSTAT 0.5528628
## 794    1300  5                  CRIM ZN INDUS NX RM 0.5519584
## 1069   1301  5                  CRIM RM DIS RAD TAX 0.5518181
## 804    1302  5                 CRIM ZN INDUS RM RAD 0.5516920
## 1004   1303  5                   CRIM NX RM DIS RAD 0.5516728
## 859    1304  5                  CRIM ZN RM AGE RAD 0.5513928
## 1269   1305  5                    ZN RM AGE RAD TAX 0.5512511
## 830    1306  5                   CRIM ZN NX RM AGE 0.5507993
## 1158   1307  5                  ZN INDUS RM DIS RAD 0.5507339
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## 1071   1308   5                 CRIM RM DIS RAD B 0.5506968
## 1154   1309   5         ZN INDUS RM AGE TAX 0.5497018
## 1210   1310   5               ZN NX RM AGE TAX 0.5495735
## 999    1311   5           CRIM NX RM AGE RAD 0.5494393
## 916    1312   5         CRIM INDUS NX RM RAD 0.5487411
## 1395   1313   5           INDUS RM AGE RAD TAX 0.5479974
## 864    1314   5             CRIM ZN RM DIS RAD 0.5478791
## 1465   1315   5               NX RM AGE RAD TAX 0.5475581
## 832    1316   5             CRIM ZN NX RM RAD 0.5475109
## 1125   1317   5           ZN INDUS NX RM DIS 0.5474275
## 1336   1318   5         INDUS NX RM AGE TAX 0.5472382
## 1163   1319   5           ZN INDUS RM RAD TAX 0.5467352
## 1340   1320   5           INDUS NX RM DIS RAD 0.5466638
## 1475   1321   5               NX RM DIS RAD TAX 0.5466145
## 1219   1322   5                 ZN NX RM RAD TAX 0.5466090
## 1214   1323   5                 ZN NX RM DIS RAD 0.5461554
## 1208   1324   5                 ZN NX RM AGE DIS 0.5461333
## 1405   1325   5           INDUS RM DIS RAD TAX 0.5455590
## 1127   1326   5           ZN INDUS NX RM TAX 0.5455394
## 1280   1327   5         ZN RM DIS RAD PTRATIO 0.5453086
## 1345   1328   5             INDUS NX RM RAD TAX 0.5406720
## 1153   1329   5           ZN INDUS RM AGE RAD 0.5389109
## 1335   1330   5           INDUS NX RM AGE RAD 0.5378057
## 1209   1331   5                 ZN NX RM AGE RAD 0.5354238
## 1126   1332   5             ZN INDUS NX RM RAD 0.5345080
## 1124   1333   5             ZN INDUS NX RM AGE 0.5268738
## 929    1334   5   CRIM INDUS NX DIS PTRATIO 0.4279599
## 1035   1335   5       CRIM NX DIS RAD PTRATIO 0.4264466
## 1377   1336   5       INDUS NX DIS PTRATIO B 0.4251475
## 1357   1337   5     INDUS NX AGE DIS PTRATIO 0.4197716
## 845    1338   5         CRIM ZN NX DIS PTRATIO 0.4190170
## 1139   1339   5       ZN INDUS NX DIS PTRATIO 0.4188045
## 1515   1340   5           NX DIS RAD TAX PTRATIO 0.4175666
## 1044   1341   5       CRIM NX RAD TAX PTRATIO 0.4172016
## 1502   1342   5             NX AGE DIS PTRATIO B 0.4168570
## 1021   1343   5       CRIM NX AGE DIS PTRATIO 0.4167640
## 1251   1344   5               ZN NX DIS PTRATIO B 0.4145078
## 1041   1345   5           CRIM NX DIS PTRATIO B 0.4141625
## 1518   1346   5           NX DIS RAD PTRATIO B 0.4134349
## 1371   1347   5     INDUS NX DIS RAD PTRATIO 0.4120703
## 1525   1348   5             NX RAD TAX PTRATIO B 0.4114268
## 1374   1349   5     INDUS NX DIS TAX PTRATIO 0.4091830
## 1432   1350   5         INDUS AGE DIS PTRATIO B 0.4086919
## 965    1351   5   CRIM INDUS AGE DIS PTRATIO 0.4079381
## 1047   1352   5           CRIM NX RAD PTRATIO B 0.4050927
## 1038   1353   5         CRIM NX DIS TAX PTRATIO 0.4046423
## 1521   1354   5             NX DIS TAX PTRATIO B 0.4042269
## 817    1355   5   CRIM ZN INDUS DIS PTRATIO 0.4034864
## 1231   1356   5             ZN NX AGE DIS PTRATIO 0.4032322
## 1248   1357   5             ZN NX DIS TAX PTRATIO 0.4017875
## 1499   1358   5           NX AGE DIS TAX PTRATIO 0.4008485
## 1496   1359   5           NX AGE DIS RAD PTRATIO 0.3986864
## 1195   1360   5           ZN INDUS DIS PTRATIO B 0.3973601
## 933    1361   5   CRIM INDUS NX RAD PTRATIO 0.3972044
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## 985   1362  5              CRIM INDUS DIS PTRATIO B 0.3947527
## 1245  1363  5              ZN NX DIS RAD PTRATIO 0.3940624
## 796   1364  5              CRIM ZN INDUS NX DIS 0.3937010
## 809   1365  5              CRIM ZN INDUS AGE DIS 0.3928528
## 988   1366  5          CRIM INDUS RAD TAX PTRATIO 0.3920215
## 1383  1367  5              INDUS NX RAD PTRATIO B 0.3916519
## 1455  1368  5              INDUS RAD TAX PTRATIO B 0.3901213
## 904   1369  5              CRIM ZN RAD TAX PTRATIO 0.3901211
## 939   1370  5              CRIM INDUS NX PTRATIO B 0.3901184
## 1175  1371  5              ZN INDUS AGE DIS PTRATIO 0.3900946
## 1575  1372  5              AGE RAD TAX PTRATIO B 0.3900596
## 1429  1373  5              INDUS AGE DIS TAX PTRATIO 0.3891711
## 1329  1374  5              ZN RAD TAX PTRATIO B 0.3890144
## 991   1375  5              CRIM INDUS RAD PTRATIO B 0.3889203
## 849   1376  5              CRIM ZN NX RAD PTRATIO 0.3885552
## 1025  1377  5              CRIM NX AGE RAD PTRATIO 0.3884578
## 1254  1378  5              ZN NX RAD TAX PTRATIO 0.3882778
## 1380  1379  5              INDUS NX RAD TAX PTRATIO 0.3880695
## 1099  1380  5              CRIM AGE RAD TAX PTRATIO 0.3872433
## 1505  1381  5              NX AGE RAD TAX PTRATIO 0.3869567
## 1119  1382  5              CRIM RAD TAX PTRATIO B 0.3868821
## 818   1383  5              CRIM ZN INDUS DIS B 0.3863913
## 816   1384  5              CRIM ZN INDUS DIS TAX 0.3848108
## 979   1385  5          CRIM INDUS DIS RAD PTRATIO 0.3845728
## 1192  1386  5              ZN INDUS DIS TAX PTRATIO 0.3844790
## 855   1387  5              CRIM ZN NX PTRATIO B 0.3837921
## 1508  1388  5              NX AGE RAD PTRATIO B 0.3837689
## 1257  1389  5              ZN NX RAD PTRATIO B 0.3833817
## 1149  1390  5              ZN INDUS NX PTRATIO B 0.3833497
## 1367  1391  5              INDUS NX AGE PTRATIO B 0.3829347
## 1386  1392  5              INDUS NX TAX PTRATIO B 0.3827860
## 827   1393  5              CRIM ZN INDUS PTRATIO B 0.3827032
## 1451  1394  5              INDUS DIS TAX PTRATIO B 0.3826696
## 1031  1395  5              CRIM NX AGE PTRATIO B 0.3826293
## 1050  1396  5              CRIM NX TAX PTRATIO B 0.3820695
## 975   1397  5              CRIM INDUS AGE PTRATIO B 0.3818791
## 982   1398  5          CRIM INDUS DIS TAX PTRATIO 0.3808632
## 799   1399  5              CRIM ZN INDUS NX PTRATIO 0.3806631
## 1426  1400  5              INDUS AGE DIS RAD PTRATIO 0.3804576
## 1448  1401  5              INDUS DIS RAD PTRATIO B 0.3801837
## 936   1402  5              CRIM INDUS NX TAX PTRATIO 0.3798950
## 924   1403  5              CRIM INDUS NX AGE PTRATIO 0.3797460
## 1174  1404  5              ZN INDUS AGE DIS TAX 0.3785468
## 994   1405  5              CRIM INDUS TAX PTRATIO B 0.3777372
## 1193  1406  5              ZN INDUS DIS TAX B 0.3772597
## 1260  1407  5              ZN NX TAX PTRATIO B 0.3767501
## 1511  1408  5              NX AGE TAX PTRATIO B 0.3759406
## 1241  1409  5              ZN NX AGE PTRATIO B 0.3757006
## 969   1410  5          CRIM INDUS AGE RAD PTRATIO 0.3753571
## 1438  1411  5              INDUS AGE RAD PTRATIO B 0.3753362
## 821   1412  5              CRIM ZN INDUS RAD PTRATIO 0.3743469
## 1204  1413  5              ZN INDUS TAX PTRATIO B 0.3742972
## 1441  1414  5              INDUS AGE TAX PTRATIO B 0.3741251
## 1185  1415  5              ZN INDUS AGE PTRATIO B 0.3740737
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## 1176   1416  5                  ZN INDUS AGE DIS B 0.3733637
## 815    1417  5            CRIM ZN INDUS DIS RAD 0.3729311
## 852    1418  5            CRIM ZN NX TAX PTRATIO 0.3725442
## 1138   1419  5              ZN INDUS NX DIS TAX 0.3724825
## 1201   1420  5            ZN INDUS RAD PTRATIO B 0.3722159
## 840    1421  5            CRIM ZN NX AGE PTRATIO 0.3721838
## 1565   1422  5            AGE DIS RAD TAX PTRATIO 0.3718121
## 1571   1423  5              AGE DIS TAX PTRATIO B 0.3714002
## 1028   1424  5            CRIM NX AGE TAX PTRATIO 0.3711812
## 1198   1425  5            ZN INDUS RAD TAX PTRATIO 0.3709554
## 812    1426  5          CRIM ZN INDUS AGE PTRATIO 0.3704383
## 1445   1427  5          INDUS DIS RAD TAX PTRATIO 0.3701917
## 1435   1428  5          INDUS AGE RAD TAX PTRATIO 0.3701839
## 824    1429  5          CRIM ZN INDUS TAX PTRATIO 0.3699672
## 1140   1430  5                  ZN INDUS NX DIS B 0.3695470
## 1096   1431  5            CRIM AGE DIS PTRATIO B 0.3695004
## 1303   1432  5              ZN AGE DIS TAX PTRATIO 0.3694509
## 972    1433  5          CRIM INDUS AGE TAX PTRATIO 0.3683938
## 1189   1434  5            ZN INDUS DIS RAD PTRATIO 0.3679859
## 1309   1435  5              ZN AGE RAD TAX PTRATIO 0.3669682
## 1361   1436  5          INDUS NX AGE RAD PTRATIO 0.3665517
## 1143   1437  5            ZN INDUS NX RAD PTRATIO 0.3665424
## 1146   1438  5            ZN INDUS NX TAX PTRATIO 0.3664969
## 1580   1439  5                DIS RAD TAX PTRATIO B 0.3660621
## 1364   1440  5          INDUS NX AGE TAX PTRATIO 0.3658521
## 1306   1441  5              ZN AGE DIS PTRATIO B 0.3653812
## 1319   1442  5              ZN DIS RAD TAX PTRATIO 0.3648913
## 1188   1443  5              ZN INDUS DIS RAD TAX 0.3645593
## 1134   1444  5            ZN INDUS NX AGE PTRATIO 0.3641883
## 1109   1445  5            CRIM DIS RAD TAX PTRATIO 0.3633225
## 1102   1446  5            CRIM AGE RAD PTRATIO B 0.3625513
## 1315   1447  5              ZN AGE TAX PTRATIO B 0.3620496
## 891    1448  5              CRIM ZN AGE PTRATIO B 0.3620446
## 881    1449  5            CRIM ZN AGE DIS PTRATIO 0.3619216
## 1325   1450  5                ZN DIS TAX PTRATIO B 0.3614904
## 1105   1451  5              CRIM AGE TAX PTRATIO B 0.3613034
## 1093   1452  5            CRIM AGE DIS TAX PTRATIO 0.3605483
## 894    1453  5                CRIM ZN DIS RAD TAX 0.3601371
## 910    1454  5              CRIM ZN TAX PTRATIO B 0.3599450
## 1238   1455  5              ZN NX AGE TAX PTRATIO 0.3599028
## 966    1456  5              CRIM INDUS AGE DIS B 0.3580977
## 1190   1457  5                ZN INDUS DIS RAD B 0.3578670
## 1182   1458  5          ZN INDUS AGE TAX PTRATIO 0.3567296
## 1235   1459  5              ZN NX AGE RAD PTRATIO 0.3567017
## 844    1460  5                CRIM ZN NX DIS TAX 0.3563348
## 921    1461  5            CRIM INDUS NX AGE DIS 0.3561395
## 1173   1462  5              ZN INDUS AGE DIS RAD 0.3556655
## 1131   1463  5                ZN INDUS NX AGE DIS 0.3549073
## 898    1464  5          CRIM ZN DIS TAX PTRATIO 0.3541609
## 1568   1465  5            AGE DIS RAD PTRATIO B 0.3536360
## 1137   1466  5              ZN INDUS NX DIS RAD 0.3531289
## 1304   1467  5                  ZN AGE DIS TAX B 0.3530694
## 888    1468  5          CRIM ZN AGE TAX PTRATIO 0.3530550
## 1244   1469  5              ZN NX DIS RAD TAX 0.3525325
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## 880   1470  5                                    CRIM ZN AGE DIS TAX 0.3516239
## 964   1471  5                              CRIM INDUS AGE DIS TAX 0.3516204
## 1299  1472  5                                 ZN AGE DIS RAD TAX 0.3504034
## 1249  1473  5                                  ZN NX DIS TAX B 0.3497906
## 1230  1474  5                                ZN NX AGE DIS TAX 0.3497662
## 1320  1475  5                                 ZN DIS RAD TAX B 0.3495846
## 901   1476  5                            CRIM ZN DIS PTRATIO B 0.3492170
## 905   1477  5                                 CRIM ZN RAD TAX B 0.3489472
## 907   1478  5                            CRIM ZN RAD PTRATIO B 0.3485104
## 1312  1479  5                              ZN AGE RAD PTRATIO B 0.3480340
## 820   1480  5                             CRIM ZN INDUS RAD TAX 0.3476441
## 1179  1481  5                       ZN INDUS AGE RAD PTRATIO 0.3474522
## 1430  1482  5                              INDUS AGE DIS TAX B 0.3464534
## 930   1483  5                              CRIM INDUS NX DIS B 0.3460740
## 1090  1484  5                         CRIM AGE DIS RAD PTRATIO 0.3460618
## 963   1485  5                             CRIM INDUS AGE DIS RAD 0.3456394
## 885   1486  5                           CRIM ZN AGE RAD PTRATIO 0.3424674
## 837   1487  5                               CRIM ZN NX AGE DIS 0.3416440
## 846   1488  5                                 CRIM ZN NX DIS B 0.3403920
## 928   1489  5                            CRIM INDUS NX DIS TAX 0.3401797
## 1358  1490  5                               INDUS NX AGE DIS B 0.3394161
## 1199  1491  5                               ZN INDUS RAD TAX B 0.3386990
## 927   1492  5                            CRIM INDUS NX DIS RAD 0.3384273
## 848   1493  5                               CRIM ZN NX RAD TAX 0.3380917
## 1115  1494  5                           CRIM DIS TAX PTRATIO B 0.3371715
## 884   1495  5                              CRIM ZN AGE RAD TAX 0.3362615
## 825   1496  5                             CRIM ZN INDUS TAX B 0.3357587
## 899   1497  5                                CRIM ZN DIS TAX B 0.3356558
## 1427  1498  5                             INDUS AGE DIS RAD B 0.3355408
## 1356  1499  5                             INDUS NX AGE DIS TAX 0.3349267
## 983   1500  5                            CRIM INDUS DIS TAX B 0.3331034
## 978   1501  5                           CRIM INDUS DIS RAD TAX 0.3321708
## 1425  1502  5                           INDUS AGE DIS RAD TAX 0.3305324
## 822   1503  5                             CRIM ZN INDUS RAD B 0.3302503
## 813   1504  5                             CRIM ZN INDUS AGE B 0.3296177
## 800   1505  5                              CRIM ZN INDUS NX B 0.3296026
## 1310  1506  5                                 ZN AGE RAD TAX B 0.3295280
## 1375  1507  5                               INDUS NX DIS TAX B 0.3294283
## 1255  1508  5                                  ZN NX RAD TAX B 0.3288676
## 980   1509  5                            CRIM INDUS DIS RAD B 0.3288421
## 843   1510  5                               CRIM ZN NX DIS RAD 0.3277833
## 1300  1511  5                          ZN AGE DIS RAD PTRATIO 0.3270509
## 1112  1512  5                          CRIM DIS RAD PTRATIO B 0.3269127
## 989   1513  5                             CRIM INDUS RAD TAX B 0.3262421
## 811   1514  5                           CRIM ZN INDUS AGE TAX 0.3261964
## 798   1515  5                            CRIM ZN INDUS NX TAX 0.3261851
## 1322  1516  5                              ZN DIS RAD PTRATIO B 0.3261790
## 1183  1517  5                               ZN INDUS AGE TAX B 0.3247669
## 1147  1518  5                                ZN INDUS NX TAX B 0.3247466
## 1355  1519  5                             INDUS NX AGE DIS RAD 0.3230322
## 895   1520  5                        CRIM ZN DIS RAD PTRATIO 0.3224648
## 1372  1521  5                               INDUS NX DIS RAD B 0.3209464
## 1446  1522  5                              INDUS DIS RAD TAX B 0.3209001
## 882   1523  5                                CRIM ZN AGE DIS B 0.3200965
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## 968   1524  5            CRIM INDUS AGE RAD TAX 0.3187884
## 1178  1525  5              ZN INDUS AGE RAD TAX 0.3179697
## 797   1526  5             CRIM ZN INDUS NX RAD 0.3178075
## 1142  1527  5               ZN INDUS NX RAD TAX 0.3177846
## 795   1528  5             CRIM ZN INDUS NX AGE 0.3176628
## 810   1529  5            CRIM ZN INDUS AGE RAD 0.3172447
## 932   1530  5             CRIM INDUS NX RAD TAX 0.3171428
## 1370  1531  5              INDUS NX DIS RAD TAX 0.3170812
## 853   1532  5                  CRIM ZN NX TAX B 0.3158769
## 889   1533  5                 CRIM ZN AGE TAX B 0.3157551
## 1232  1534  5                   ZN NX AGE DIS B 0.3157454
## 973   1535  5              CRIM INDUS AGE TAX B 0.3142674
## 937   1536  5               CRIM INDUS NX TAX B 0.3118190
## 1436  1537  5               INDUS AGE RAD TAX B 0.3117559
## 970   1538  5              CRIM INDUS AGE RAD B 0.3109983
## 925   1539  5               CRIM INDUS NX AGE B 0.3105526
## 934   1540  5               CRIM INDUS NX RAD B 0.3094974
## 1180  1541  5                ZN INDUS AGE RAD B 0.3092405
## 1144  1542  5                 ZN INDUS NX RAD B 0.3089517
## 1246  1543  5                   ZN NX DIS RAD B 0.3088899
## 1133  1544  5              ZN INDUS NX AGE TAX 0.3085057
## 1234  1545  5                ZN NX AGE RAD TAX 0.3076796
## 1239  1546  5                   ZN NX AGE TAX B 0.3076568
## 1381  1547  5               INDUS NX RAD TAX B 0.3075544
## 1135  1548  5                 ZN INDUS NX AGE B 0.3067672
## 1089  1549  5             CRIM AGE DIS RAD TAX 0.3065522
## 839   1550  5                 CRIM ZN NX AGE TAX 0.3065144
## 1100  1551  5               CRIM AGE RAD TAX B 0.3063029
## 1034  1552  5               CRIM NX DIS RAD TAX 0.3050113
## 923   1553  5             CRIM INDUS NX AGE TAX 0.3047165
## 1020  1554  5               CRIM NX AGE DIS TAX 0.3035302
## 1045  1555  5                 CRIM NX RAD TAX B 0.3030866
## 1365  1556  5                INDUS NX AGE TAX B 0.3030725
## 1566  1557  5                   AGE DIS RAD TAX B 0.3028585
## 879   1558  5              CRIM ZN AGE DIS RAD 0.3023154
## 1229  1559  5                 ZN NX AGE DIS RAD 0.3018907
## 1500  1560  5                   NX AGE DIS TAX B 0.3012230
## 922   1561  5            CRIM INDUS NX AGE RAD 0.2994580
## 1301  1562  5                  ZN AGE DIS RAD B 0.2984023
## 1024  1563  5               CRIM NX AGE RAD TAX 0.2982783
## 1495  1564  5                 NX AGE DIS RAD TAX 0.2967013
## 841   1565  5                  CRIM ZN NX AGE B 0.2962889
## 1094  1566  5                CRIM AGE DIS TAX B 0.2952264
## 850   1567  5                  CRIM ZN NX RAD B 0.2951477
## 1022  1568  5                 CRIM NX AGE DIS B 0.2934104
## 1360  1569  5              INDUS NX AGE RAD TAX 0.2920661
## 1362  1570  5                INDUS NX AGE RAD B 0.2917574
## 1506  1571  5                  NX AGE RAD TAX B 0.2914908
## 1516  1572  5                  NX DIS RAD TAX B 0.2905450
## 886   1573  5                 CRIM ZN AGE RAD B 0.2879336
## 1132  1574  5             ZN INDUS NX AGE RAD 0.2877113
## 1039  1575  5                 CRIM NX DIS TAX B 0.2868376
## 896   1576  5                 CRIM ZN DIS RAD B 0.2861085
## 1029  1577  5                 CRIM NX AGE TAX B 0.2832465
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## 838  1578  5                                   CRIM ZN NX AGE RAD 0.2815854
## 1019 1579  5                                   CRIM NX AGE DIS RAD 0.2803628
## 1110 1580  5                                   CRIM DIS RAD TAX B 0.2781547
## 1236 1581  5                                      ZN NX AGE RAD B 0.2740256
## 1497 1582  5                                      NX AGE DIS RAD B 0.2694953
## 1036 1583  5                                    CRIM NX DIS RAD B 0.2677032
## 1026 1584  5                                    CRIM NX AGE RAD B 0.2651795
## 1091 1585  5                                    CRIM AGE DIS RAD B 0.2601929
## 2455 1586  6              NX RM DIS PTRATIO B LSTAT 0.7077384
## 2273 1587  6              ZN RM DIS PTRATIO B LSTAT 0.7026808
## 1945 1588  6          CRIM NX RM DIS PTRATIO LSTAT 0.7009584
## 2021 1589  6           CRIM RM DIS PTRATIO B LSTAT 0.7005249
## 2491 1590  6             RM AGE DIS PTRATIO B LSTAT 0.7003828
## 2501 1591  6               RM DIS TAX PTRATIO B LSTAT 0.6997688
## 2399 1592  6          INDUS RM DIS PTRATIO B LSTAT 0.6995076
## 2500 1593  6             RM DIS RAD PTRATIO B LSTAT 0.6986550
## 2197 1594  6           ZN NX RM DIS PTRATIO LSTAT 0.6980691
## 2453 1595  6           NX RM DIS TAX PTRATIO LSTAT 0.6961774
## 2450 1596  6           NX RM DIS RAD PTRATIO LSTAT 0.6960600
## 2272 1597  6                 ZN RM DIS TAX B LSTAT 0.6958093
## 2434 1598  6           NX RM AGE DIS PTRATIO LSTAT 0.6954708
## 2323 1599  6        INDUS NX RM DIS PTRATIO LSTAT 0.6954161
## 1749 1600  6           CRIM ZN RM DIS PTRATIO LSTAT 0.6935271
## 2271 1601  6           ZN RM DIS TAX PTRATIO LSTAT 0.6929015
## 1750 1602  6                 CRIM ZN RM DIS B LSTAT 0.6918975
## 2498 1603  6          RM DIS RAD TAX PTRATIO LSTAT 0.6917893
## 1875 1604  6   CRIM INDUS RM DIS PTRATIO LSTAT 0.6904472
## 2000 1605  6           CRIM RM AGE DIS PTRATIO LSTAT 0.6900330
## 2019 1606  6           CRIM RM DIS TAX PTRATIO LSTAT 0.6899738
## 1747 1607  6               CRIM ZN RM DIS TAX LSTAT 0.6891040
## 2128 1608  6               ZN INDUS RM DIS B LSTAT 0.6889310
## 2198 1609  6                   ZN NX RM DIS B LSTAT 0.6886208
## 2016 1610  6          CRIM RM DIS RAD PTRATIO LSTAT 0.6884489
## 2266 1611  6               ZN RM DIS RAD TAX LSTAT 0.6878665
## 2489 1612  6          RM AGE DIS TAX PTRATIO LSTAT 0.6878475
## 2502 1613  6            RM RAD TAX PTRATIO B LSTAT 0.6876446
## 2269 1614  6                 ZN RM DIS RAD B LSTAT 0.6868773
## 2397 1615  6     INDUS RM DIS TAX PTRATIO LSTAT 0.6868147
## 2127 1616  6     ZN INDUS RM DIS PTRATIO LSTAT 0.6865183
## 2195 1617  6               ZN NX RM DIS TAX LSTAT 0.6858519
## 1680 1618  6             CRIM ZN NX RM DIS LSTAT 0.6857284
## 2253 1619  6                 ZN RM AGE DIS B LSTAT 0.6857150
## 2025 1620  6          CRIM RM RAD PTRATIO B LSTAT 0.6854363
## 1624 1621  6            CRIM ZN INDUS RM DIS LSTAT 0.6851297
## 2268 1622  6           ZN RM DIS RAD PTRATIO LSTAT 0.6847503
## 2125 1623  6             ZN INDUS RM DIS TAX LSTAT 0.6846597
## 2252 1624  6           ZN RM AGE DIS PTRATIO LSTAT 0.6845812
## 2250 1625  6               ZN RM AGE DIS TAX LSTAT 0.6844485
## 2378 1626  6        INDUS RM AGE DIS PTRATIO LSTAT 0.6842415
## 2495 1627  6            RM AGE RAD PTRATIO B LSTAT 0.6838318
## 2403 1628  6        INDUS RM RAD PTRATIO B LSTAT 0.6831042
## 2394 1629  6     INDUS RM DIS RAD PTRATIO LSTAT 0.6829794
## 2499 1630  6                 RM DIS RAD TAX B LSTAT 0.6826532
## 2011 1631  6           CRIM RM AGE PTRATIO B LSTAT 0.6826059
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## 2389   1632   6                         INDUS RM AGE PTRATIO B LSTAT 0.6825351
## 2486   1633   6                         RM AGE DIS RAD PTRATIO LSTAT 0.6823568
## 1886   1634   6                        CRIM INDUS RM PTRATIO B LSTAT 0.6821353
## 2277   1635   6                             ZN RM RAD PTRATIO B LSTAT 0.6820459
## 2445   1636   6                             NX RM AGE PTRATIO B LSTAT 0.6817741
## 2496   1637   6                             RM AGE TAX PTRATIO B LSTAT 0.6816433
## 2459   1638   6                             NX RM RAD PTRATIO B LSTAT 0.6816267
## 2263   1639   6                             ZN RM AGE PTRATIO B LSTAT 0.6816120
## 2404   1640   6                          INDUS RM TAX PTRATIO B LSTAT 0.6815424
## 2334   1641   6                          INDUS NX RM PTRATIO B LSTAT 0.6812566
## 2138   1642   6                          ZN INDUS RM PTRATIO B LSTAT 0.6811522
## 2490   1643   6                               RM AGE DIS TAX B LSTAT 0.6810591
## 1876   1644   6                            CRIM INDUS RM DIS B LSTAT 0.6807429
## 2020   1645   6                                CRIM RM DIS TAX B LSTAT 0.6807232
## 2454   1646   6                                NX RM DIS TAX B LSTAT 0.6803736
## 2398   1647   6                             INDUS RM DIS TAX B LSTAT 0.6803458
## 1730   1648   6                            CRIM ZN RM AGE DIS LSTAT 0.6802838
## 1744   1649   6                            CRIM ZN RM DIS RAD LSTAT 0.6801347
## 1946   1650   6                              CRIM NX RM DIS B LSTAT 0.6799064
## 1956   1651   6                            CRIM NX RM PTRATIO B LSTAT 0.6798848
## 2023   1652   6                        CRIM RM RAD TAX PTRATIO LSTAT 0.6795572
## 1760   1653   6                            CRIM ZN RM PTRATIO B LSTAT 0.6795326
## 2026   1654   6                            CRIM RM TAX PTRATIO B LSTAT 0.6794471
## 2208   1655   6                             ZN NX RM PTRATIO B LSTAT 0.6790588
## 2460   1656   6                             NX RM TAX PTRATIO B LSTAT 0.6789577
## 2278   1657   6                             ZN RM TAX PTRATIO B LSTAT 0.6788469
## 2001   1658   6                              CRIM RM AGE DIS B LSTAT 0.6786996
## 2324   1659   6                              INDUS NX RM DIS B LSTAT 0.6774525
## 2379   1660   6                             INDUS RM AGE DIS B LSTAT 0.6773663
## 2401   1661   6             INDUS RM RAD TAX PTRATIO LSTAT 0.6767857
## 2395   1662   6                            INDUS RM DIS RAD B LSTAT 0.6764031
## 2017   1663   6                              CRIM RM DIS RAD B LSTAT 0.6762202
## 2014   1664   6                            CRIM RM DIS RAD TAX LSTAT 0.6761665
## 2192   1665   6                              ZN NX RM DIS RAD LSTAT 0.6758234
## 2435   1666   6                                NX RM AGE DIS B LSTAT 0.6757378
## 2122   1667   6                            ZN INDUS RM DIS RAD LSTAT 0.6755314
## 2451   1668   6                                NX RM DIS RAD B LSTAT 0.6755056
## 2493   1669   6                         RM AGE RAD TAX PTRATIO LSTAT 0.6753445
## 2487   1670   6                              RM AGE DIS RAD B LSTAT 0.6748946
## 2058   1671   6                            ZN INDUS NX RM DIS LSTAT 0.6744662
## 2006   1672   6             CRIM RM AGE RAD PTRATIO LSTAT 0.6742329
## 1943   1673   6                            CRIM NX RM DIS TAX LSTAT 0.6742303
## 1873   1674   6                         CRIM INDUS RM DIS TAX LSTAT 0.6736488
## 1806   1675   6                          CRIM INDUS NX RM DIS LSTAT 0.6735255
## 1998   1676   6                            CRIM RM AGE DIS TAX LSTAT 0.6733178
## 1935   1677   6                         CRIM NX RM AGE PTRATIO LSTAT 0.6730769
## 1881   1678   6             CRIM INDUS RM RAD PTRATIO LSTAT 0.6727474
## 1951   1679   6                         CRIM NX RM RAD PTRATIO LSTAT 0.6725888
## 2009   1680   6                         CRIM RM AGE TAX PTRATIO LSTAT 0.6723734
## 1865   1681   6             CRIM INDUS RM AGE PTRATIO LSTAT 0.6723623
## 1755   1682   6                          CRIM ZN RM RAD PTRATIO LSTAT 0.6723456
## 1739   1683   6                          CRIM ZN RM AGE PTRATIO LSTAT 0.6722168
## 2275   1684   6                          ZN RM RAD TAX PTRATIO LSTAT 0.6721731
## 2247   1685   6                            ZN RM AGE DIS RAD LSTAT 0.6721330
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## 2457  1686  6                        NX RM RAD TAX PTRATIO LSTAT 0.6720838
## 1856  1687  6                  CRIM INDUS RM AGE DIS LSTAT 0.6719659
## 2448  1688  6                        NX RM DIS RAD TAX LSTAT 0.6714140
## 1884  1689  6          CRIM INDUS RM TAX PTRATIO LSTAT 0.6713248
## 1815  1690  6          CRIM INDUS NX RM PTRATIO LSTAT 0.6711221
## 2178  1691  6                       ZN NX RM AGE DIS LSTAT 0.6709876
## 1926  1692  6                   CRIM NX RM AGE DIS LSTAT 0.6709187
## 1633  1693  6          CRIM ZN INDUS RM PTRATIO LSTAT 0.6706521
## 2484  1694  6                      RM AGE DIS RAD TAX LSTAT 0.6706492
## 2108  1695  6                   ZN INDUS RM AGE DIS LSTAT 0.6704470
## 2313  1696  6          INDUS NX RM AGE PTRATIO LSTAT 0.6704179
## 1870  1697  6                  CRIM INDUS RM DIS RAD LSTAT 0.6703190
## 2432  1698  6                      NX RM AGE DIS TAX LSTAT 0.6702603
## 2387  1699  6          INDUS RM AGE TAX PTRATIO LSTAT 0.6702592
## 2321  1700  6                   INDUS NX RM DIS TAX LSTAT 0.6702120
## 1940  1701  6                   CRIM NX RM DIS RAD LSTAT 0.6701696
## 2376  1702  6                   INDUS RM AGE DIS TAX LSTAT 0.6700019
## 2443  1703  6                     NX RM AGE TAX PTRATIO LSTAT 0.6698563
## 2392  1704  6                   INDUS RM DIS RAD TAX LSTAT 0.6698316
## 2440  1705  6                     NX RM AGE RAD PTRATIO LSTAT 0.6696785
## 1758  1706  6                   CRIM ZN RM TAX PTRATIO LSTAT 0.6694080
## 1689  1707  6                   CRIM ZN NX RM PTRATIO LSTAT 0.6693825
## 2261  1708  6                   ZN RM AGE TAX PTRATIO LSTAT 0.6693731
## 1954  1709  6                   CRIM NX RM TAX PTRATIO LSTAT 0.6693143
## 2187  1710  6                       ZN NX RM AGE PTRATIO LSTAT 0.6690625
## 2332  1711  6          INDUS NX RM TAX PTRATIO LSTAT 0.6689007
## 2136  1712  6          ZN INDUS RM TAX PTRATIO LSTAT 0.6686396
## 2117  1713  6          ZN INDUS RM AGE PTRATIO LSTAT 0.6671595
## 2384  1714  6          INDUS RM AGE RAD PTRATIO LSTAT 0.6671201
## 2067  1715  6          ZN INDUS NX RM PTRATIO LSTAT 0.6671160
## 2258  1716  6                   ZN RM AGE RAD PTRATIO LSTAT 0.6670645
## 2329  1717  6          INDUS NX RM RAD PTRATIO LSTAT 0.6669903
## 1995  1718  6                   CRIM RM AGE DIS RAD LSTAT 0.6668608
## 2206  1719  6                       ZN NX RM TAX PTRATIO LSTAT 0.6662584
## 2203  1720  6                       ZN NX RM RAD PTRATIO LSTAT 0.6658161
## 2133  1721  6          ZN INDUS RM RAD PTRATIO LSTAT 0.6657077
## 2318  1722  6                   INDUS NX RM DIS RAD LSTAT 0.6651199
## 2458  1723  6                        NX RM RAD TAX B LSTAT 0.6649378
## 2024  1724  6                     CRIM RM RAD TAX B LSTAT 0.6649123
## 2402  1725  6                   INDUS RM RAD TAX B LSTAT 0.6646373
## 2494  1726  6                      RM AGE RAD TAX B LSTAT 0.6646222
## 2262  1727  6                       ZN RM AGE TAX B LSTAT 0.6641577
## 2373  1728  6          INDUS RM AGE DIS RAD LSTAT 0.6640709
## 1740  1729  6                     CRIM ZN RM AGE B LSTAT 0.6640526
## 2207  1730  6                       ZN NX RM TAX B LSTAT 0.6638697
## 2429  1731  6                     NX RM AGE DIS RAD LSTAT 0.6630351
## 2276  1732  6                       ZN RM RAD TAX B LSTAT 0.6626508
## 2304  1733  6          INDUS NX RM AGE DIS LSTAT 0.6625039
## 1690  1734  6                     CRIM ZN NX RM B LSTAT 0.6622790
## 1955  1735  6                     CRIM NX RM TAX B LSTAT 0.6621921
## 2010  1736  6                     CRIM RM AGE TAX B LSTAT 0.6620479
## 2444  1737  6                        NX RM AGE TAX B LSTAT 0.6618210
## 2137  1738  6                   ZN INDUS RM TAX B LSTAT 0.6615740
## 2333  1739  6                   INDUS NX RM TAX B LSTAT 0.6613685
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## 2388  1740  6                INDUS RM AGE TAX B LSTAT 0.6612628
## 2188  1741  6                   ZN NX RM AGE B LSTAT 0.6608318
## 1936  1742  6                 CRIM NX RM AGE B LSTAT 0.6607706
## 2007  1743  6                CRIM RM AGE RAD B LSTAT 0.6607012
## 2259  1744  6                   ZN RM AGE RAD B LSTAT 0.6607003
## 2118  1745  6                ZN INDUS RM AGE B LSTAT 0.6605485
## 1866  1746  6              CRIM INDUS RM AGE B LSTAT 0.6605341
## 1885  1747  6              CRIM INDUS RM TAX B LSTAT 0.6605176
## 1634  1748  6             CRIM ZN INDUS RM B LSTAT 0.6603438
## 1952  1749  6                CRIM NX RM RAD B LSTAT 0.6598863
## 1816  1750  6             CRIM INDUS NX RM B LSTAT 0.6598315
## 1756  1751  6                CRIM ZN RM RAD B LSTAT 0.6598070
## 1759  1752  6                CRIM ZN RM TAX B LSTAT 0.6597376
## 2204  1753  6                   ZN NX RM RAD B LSTAT 0.6591309
## 1882  1754  6              CRIM INDUS RM RAD B LSTAT 0.6588644
## 2068  1755  6                ZN INDUS NX RM B LSTAT 0.6586685
## 2004  1756  6              CRIM RM AGE RAD TAX LSTAT 0.6584131
## 2441  1757  6                 NX RM AGE RAD B LSTAT 0.6577417
## 2385  1758  6              INDUS RM AGE RAD B LSTAT 0.6574788
## 1879  1759  6             CRIM INDUS RM RAD TAX LSTAT 0.6574357
## 2314  1760  6               INDUS NX RM AGE B LSTAT 0.6573774
## 1737  1761  6               CRIM ZN RM AGE TAX LSTAT 0.6573388
## 2134  1762  6               ZN INDUS RM RAD B LSTAT 0.6572479
## 1949  1763  6               CRIM NX RM RAD TAX LSTAT 0.6571726
## 1753  1764  6               CRIM ZN RM RAD TAX LSTAT 0.6569767
## 2330  1765  6               INDUS NX RM RAD B LSTAT 0.6568891
## 2256  1766  6                ZN RM AGE RAD TAX LSTAT 0.6568576
## 1687  1767  6               CRIM ZN NX RM TAX LSTAT 0.6550341
## 2131  1768  6              ZN INDUS RM RAD TAX LSTAT 0.6549524
## 2115  1769  6              ZN INDUS RM AGE TAX LSTAT 0.6548483
## 2185  1770  6                 ZN NX RM AGE TAX LSTAT 0.6545462
## 2201  1771  6                 ZN NX RM RAD TAX LSTAT 0.6543793
## 1734  1772  6               CRIM ZN RM AGE RAD LSTAT 0.6538213
## 1675  1773  6               CRIM ZN NX RM AGE LSTAT 0.6538151
## 1619  1774  6             CRIM ZN INDUS RM AGE LSTAT 0.6538132
## 1933  1775  6                CRIM NX RM AGE TAX LSTAT 0.6537041
## 1631  1776  6             CRIM ZN INDUS RM TAX LSTAT 0.6536483
## 1863  1777  6             CRIM INDUS RM AGE TAX LSTAT 0.6535927
## 2382  1778  6              INDUS RM AGE RAD TAX LSTAT 0.6529932
## 2065  1779  6               ZN INDUS NX RM TAX LSTAT 0.6525898
## 1813  1780  6             CRIM INDUS NX RM TAX LSTAT 0.6525727
## 2438  1781  6                 NX RM AGE RAD TAX LSTAT 0.6524292
## 2327  1782  6              INDUS NX RM RAD TAX LSTAT 0.6520290
## 1684  1783  6               CRIM ZN NX RM RAD LSTAT 0.6506374
## 1592  1784  6             CRIM ZN INDUS NX RM LSTAT 0.6505774
## 2479  1785  6            NX DIS RAD PTRATIO B LSTAT 0.6504184
## 2311  1786  6               INDUS NX RM AGE TAX LSTAT 0.6504021
## 1860  1787  6             CRIM INDUS RM AGE RAD LSTAT 0.6501411
## 1801  1788  6             CRIM INDUS NX RM AGE LSTAT 0.6501202
## 2238  1789  6               ZN NX DIS PTRATIO B LSTAT 0.6500628
## 1930  1790  6                CRIM NX RM AGE RAD LSTAT 0.6500045
## 2477  1791  6           NX DIS RAD TAX PTRATIO LSTAT 0.6497562
## 1628  1792  6             CRIM ZN INDUS RM RAD LSTAT 0.6496794
## 1981  1793  6           CRIM NX DIS RAD PTRATIO LSTAT 0.6491243
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## 1810  1794  6                              CRIM INDUS NX RM RAD LSTAT 0.6485012
## 2182  1795  6                                ZN NX RM AGE RAD LSTAT 0.6471540
## 2112  1796  6                             ZN INDUS RM AGE RAD LSTAT 0.6471023
## 2295  1797  6                          ZN DIS RAD TAX PTRATIO LSTAT 0.6466340
## 1714  1798  6                          CRIM ZN NX DIS PTRATIO LSTAT 0.6463631
## 2509  1799  6                          DIS RAD TAX PTRATIO B LSTAT 0.6452536
## 2062  1800  6                              ZN INDUS NX RM RAD LSTAT 0.6442635
## 2053  1801  6                              ZN INDUS NX RM AGE LSTAT 0.6440044
## 2308  1802  6                             INDUS NX RM AGE RAD LSTAT 0.6439447
## 2233  1803  6                          ZN NX DIS RAD PTRATIO LSTAT 0.6432961
## 2217  1804  6                          ZN NX AGE DIS PTRATIO LSTAT 0.6428821
## 2236  1805  6                          ZN NX DIS TAX PTRATIO LSTAT 0.6425266
## 2092  1806  6                       ZN INDUS NX DIS PTRATIO LSTAT 0.6425134
## 2168  1807  6                       ZN INDUS DIS PTRATIO B LSTAT 0.6420703
## 2364  1808  6                        INDUS NX DIS PTRATIO B LSTAT 0.6415658
## 1986  1809  6                         CRIM NX DIS PTRATIO B LSTAT 0.6415065
## 2470  1810  6                           NX AGE DIS PTRATIO B LSTAT 0.6414127
## 2480  1811  6                           NX DIS TAX PTRATIO B LSTAT 0.6407778
## 2298  1812  6                           ZN DIS TAX PTRATIO B LSTAT 0.6404700
## 2465  1813  6                          NX AGE DIS RAD PTRATIO LSTAT 0.6393094
## 2043  1814  6                         CRIM DIS RAD TAX PTRATIO LSTAT 0.6392131
## 1790  1815  6                           CRIM ZN DIS PTRATIO B LSTAT 0.6390583
## 2359  1816  6                        INDUS NX DIS RAD PTRATIO LSTAT 0.6389924
## 2296  1817  6                               ZN DIS RAD TAX B LSTAT 0.6385882
## 1783  1818  6                           CRIM ZN DIS RAD TAX LSTAT 0.6378646
## 1840  1819  6                      CRIM INDUS NX DIS PTRATIO LSTAT 0.6373518
## 1658  1820  6                      CRIM ZN INDUS DIS PTRATIO LSTAT 0.6372552
## 1965  1821  6                          CRIM NX AGE DIS PTRATIO LSTAT 0.6370337
## 2297  1822  6                            ZN DIS RAD PTRATIO B LSTAT 0.6369337
## 1984  1823  6                         CRIM NX DIS TAX PTRATIO LSTAT 0.6362887
## 2288  1824  6                            ZN AGE DIS PTRATIO B LSTAT 0.6361040
## 2343  1825  6                       INDUS NX AGE DIS PTRATIO LSTAT 0.6352100
## 2166  1826  6                       ZN INDUS DIS TAX PTRATIO LSTAT 0.6343984
## 2362  1827  6                        INDUS NX DIS TAX PTRATIO LSTAT 0.6341191
## 2468  1828  6                           NX AGE DIS TAX PTRATIO LSTAT 0.6341153
## 1788  1829  6                         CRIM ZN DIS TAX PTRATIO LSTAT 0.6341002
## 2423  1830  6                        INDUS DIS RAD PTRATIO B LSTAT 0.6337628
## 2421  1831  6                       INDUS DIS RAD TAX PTRATIO LSTAT 0.6319977
## 1916  1832  6                       CRIM INDUS DIS PTRATIO B LSTAT 0.6315970
## 2045  1833  6                         CRIM DIS RAD PTRATIO B LSTAT 0.6312505
## 2286  1834  6                           ZN AGE DIS TAX PTRATIO LSTAT 0.6310981
## 2504  1835  6                         AGE DIS RAD TAX PTRATIO LSTAT 0.6306200
## 1785  1836  6                         CRIM ZN DIS RAD PTRATIO LSTAT 0.6305808
## 2424  1837  6                         INDUS DIS TAX PTRATIO B LSTAT 0.6302963
## 2231  1838  6                              ZN NX DIS RAD TAX LSTAT 0.6301962
## 2414  1839  6                         INDUS AGE DIS PTRATIO B LSTAT 0.6301536
## 2147  1840  6                       ZN INDUS AGE DIS PTRATIO LSTAT 0.6293850
## 1769  1841  6                          CRIM ZN AGE DIS PTRATIO LSTAT 0.6292570
## 2163  1842  6                       ZN INDUS DIS RAD PTRATIO LSTAT 0.6291999
## 2161  1843  6                            ZN INDUS DIS RAD TAX LSTAT 0.6289878
## 2167  1844  6                             ZN INDUS DIS TAX B LSTAT 0.6286462
## 1911  1845  6                    CRIM INDUS DIS RAD PTRATIO LSTAT 0.6284654
## 2508  1846  6                           AGE RAD TAX PTRATIO B LSTAT 0.6283268
## 1659  1847  6                           CRIM ZN INDUS DIS B LSTAT 0.6278032
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## 2281 1848 6                        ZN AGE DIS RAD TAX LSTAT 0.6277625
## 2506 1849 6                       AGE DIS RAD PTRATIO B LSTAT 0.6268256
## 2046 1850 6                       CRIM DIS TAX PTRATIO B LSTAT 0.6263337
## 2237 1851 6                           ZN NX DIS TAX B LSTAT 0.6261617
## 1656 1852 6                      CRIM ZN INDUS DIS TAX LSTAT 0.6258816
## 1789 1853 6                         CRIM ZN DIS TAX B LSTAT 0.6258294
## 2507 1854 6                       AGE DIS TAX PTRATIO B LSTAT 0.6257164
## 2036 1855 6                      CRIM AGE DIS PTRATIO B LSTAT 0.6257078
## 2287 1856 6                           ZN AGE DIS TAX B LSTAT 0.6244606
## 1603 1857 6                      CRIM ZN INDUS NX DIS LSTAT 0.6242943
## 1914 1858 6               CRIM INDUS DIS TAX PTRATIO LSTAT 0.6239314
## 1895 1859 6               CRIM INDUS AGE DIS PTRATIO LSTAT 0.6237924
## 1712 1860 6                       CRIM ZN NX DIS TAX LSTAT 0.6234434
## 2093 1861 6                        ZN INDUS NX DIS B LSTAT 0.6232043
## 2433 1862 6                        NX RM AGE DIS PTRATIO B 0.6231741
## 2047 1863 6                       CRIM RAD TAX PTRATIO B LSTAT 0.6229717
## 2038 1864 6                      CRIM AGE RAD TAX PTRATIO LSTAT 0.6224407
## 2090 1865 6                       ZN INDUS NX DIS TAX LSTAT 0.6223838
## 2425 1866 6                       INDUS RAD TAX PTRATIO B LSTAT 0.6222691
## 1715 1867 6                         CRIM ZN NX DIS B LSTAT 0.6220562
## 2474 1868 6                        NX AGE RAD PTRATIO B LSTAT 0.6217496
## 2145 1869 6                       ZN INDUS AGE DIS TAX LSTAT 0.6213153
## 2148 1870 6                        ZN INDUS AGE DIS B LSTAT 0.6212055
## 1639 1871 6                      CRIM ZN INDUS AGE DIS LSTAT 0.6210969
## 2164 1872 6                        ZN INDUS DIS RAD B LSTAT 0.6210607
## 2283 1873 6                       ZN AGE DIS RAD PTRATIO LSTAT 0.6209948
## 2472 1874 6                        NX AGE RAD TAX PTRATIO LSTAT 0.6207412
## 1653 1875 6                      CRIM ZN INDUS DIS RAD LSTAT 0.6207016
## 2215 1876 6                        ZN NX AGE DIS TAX LSTAT 0.6205180
## 2412 1877 6               INDUS AGE DIS TAX PTRATIO LSTAT 0.6205148
## 1767 1878 6                        CRIM ZN AGE DIS TAX LSTAT 0.6202476
## 2409 1879 6               INDUS AGE DIS RAD PTRATIO LSTAT 0.6192074
## 2290 1880 6                        ZN AGE RAD TAX PTRATIO LSTAT 0.6189529
## 2031 1881 6                      CRIM AGE DIS RAD PTRATIO LSTAT 0.6187841
## 2299 1882 6                        ZN RAD TAX PTRATIO B LSTAT 0.6186364
## 2481 1883 6                        NX RAD TAX PTRATIO B LSTAT 0.6185532
## 2034 1884 6                      CRIM AGE DIS TAX PTRATIO LSTAT 0.6180298
## 1971 1885 6                      CRIM NX AGE RAD PTRATIO LSTAT 0.6177727
## 2040 1886 6                      CRIM AGE RAD PTRATIO B LSTAT 0.6173135
## 1999 1887 6                        CRIM RM AGE DIS PTRATIO B 0.6170884
## 1695 1888 6                        CRIM ZN NX AGE DIS LSTAT 0.6170802
## 1924 1889 6                       CRIM NX RM AGE DIS PTRATIO 0.6164654
## 2218 1890 6                            ZN NX AGE DIS B LSTAT 0.6163019
## 1770 1891 6                         CRIM ZN AGE DIS B LSTAT 0.6157750
## 1786 1892 6                         CRIM ZN DIS RAD B LSTAT 0.6155353
## 2292 1893 6                        ZN AGE RAD PTRATIO B LSTAT 0.6155028
## 1918 1894 6               CRIM INDUS RAD TAX PTRATIO LSTAT 0.6154305
## 1709 1895 6                         CRIM ZN NX DIS RAD LSTAT 0.6154078
## 2377 1896 6                        INDUS RM AGE DIS PTRATIO B 0.6153959
## 1944 1897 6                         CRIM NX RM DIS PTRATIO B 0.6153649
## 2416 1898 6               INDUS AGE RAD TAX PTRATIO LSTAT 0.6152838
## 2234 1899 6                           ZN NX DIS RAD B LSTAT 0.6152417
## 2488 1900 6                        RM AGE DIS TAX PTRATIO B 0.6145438
## 2418 1901 6               INDUS AGE RAD PTRATIO B LSTAT 0.6141899
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## 1792 1902 6                          CRIM ZN RAD TAX PTRATIO LSTAT 0.6132666
## 2073 1903 6                          ZN INDUS NX AGE DIS LSTAT 0.6132415
## 1988 1904 6                          CRIM NX RAD TAX PTRATIO LSTAT 0.6131474
## 2228 1905 6                          ZN NX AGE PTRATIO B LSTAT 0.6130473
## 2087 1906 6                          ZN INDUS NX DIS RAD LSTAT 0.6130117
## 1780 1907 6                          CRIM ZN AGE PTRATIO B LSTAT 0.6116976
## 2475 1908 6                          NX AGE TAX PTRATIO B LSTAT 0.6116129
## 2354 1909 6                          INDUS NX AGE PTRATIO B LSTAT 0.6115967
## 1976 1910 6                          CRIM NX AGE PTRATIO B LSTAT 0.6115338
## 2293 1911 6                          ZN AGE TAX PTRATIO B LSTAT 0.6112840
## 1990 1912 6                          CRIM NX RAD PTRATIO B LSTAT 0.6110342
## 2158 1913 6                          ZN INDUS AGE PTRATIO B LSTAT 0.6110157
## 2142 1914 6                          ZN INDUS AGE DIS RAD LSTAT 0.6102954
## 1794 1915 6                          CRIM ZN RAD PTRATIO B LSTAT 0.6100709
## 1920 1916 6                          CRIM INDUS RAD PTRATIO B LSTAT 0.6100339
## 2366 1917 6                          INDUS NX RAD TAX PTRATIO LSTAT 0.6100001
## 2322 1918 6                          INDUS NX RM DIS PTRATIO B 0.6099103
## 2284 1919 6                          ZN AGE DIS RAD B LSTAT 0.6099063
## 2223 1920 6                          ZN NX AGE RAD PTRATIO LSTAT 0.6098350
## 2349 1921 6                          INDUS NX AGE RAD PTRATIO LSTAT 0.6096169
## 2170 1922 6                          ZN INDUS RAD TAX PTRATIO LSTAT 0.6093287
## 2196 1923 6                          ZN NX RM DIS PTRATIO B 0.6088866
## 1906 1924 6                          CRIM INDUS AGE PTRATIO B LSTAT 0.6087493
## 2041 1925 6                          CRIM AGE TAX PTRATIO B LSTAT 0.6085979
## 1775 1926 6                          CRIM ZN AGE RAD PTRATIO LSTAT 0.6085963
## 2449 1927 6                          NX RM DIS RAD PTRATIO B 0.6084723
## 2419 1928 6                          INDUS AGE TAX PTRATIO B LSTAT 0.6083378
## 2452 1929 6                          NX RM DIS TAX PTRATIO B 0.6080622
## 2251 1930 6                          ZN RM AGE DIS PTRATIO B 0.6080112
## 1901 1931 6                          CRIM INDUS AGE RAD PTRATIO LSTAT 0.6074998
## 1704 1932 6                          CRIM ZN NX AGE PTRATIO LSTAT 0.6074814
## 2368 1933 6                          INDUS NX RAD PTRATIO B LSTAT 0.6074462
## 2485 1934 6                          RM AGE DIS RAD PTRATIO B 0.6074047
## 1938 1935 6                          CRIM NX RM DIS RAD PTRATIO 0.6069863
## 1854 1936 6                          CRIM INDUS RM AGE DIS PTRATIO 0.6068583
## 2242 1937 6                          ZN NX RAD PTRATIO B LSTAT 0.6067870
## 1764 1938 6                          CRIM ZN AGE DIS RAD LSTAT 0.6065499
## 2212 1939 6                          ZN NX AGE DIS RAD LSTAT 0.6063332
## 2172 1940 6                          ZN INDUS RAD PTRATIO B LSTAT 0.6060609
## 1974 1941 6                          CRIM NX AGE TAX PTRATIO LSTAT 0.6059299
## 1830 1942 6                          CRIM INDUS NX AGE PTRATIO LSTAT 0.6059053
## 1804 1943 6                          CRIM INDUS NX RM DIS PTRATIO 0.6056788
## 2226 1944 6                          ZN NX AGE TAX PTRATIO LSTAT 0.6055480
## 2082 1945 6                          ZN INDUS NX AGE PTRATIO LSTAT 0.6055465
## 2240 1946 6                          ZN NX RAD TAX PTRATIO LSTAT 0.6055095
## 1678 1947 6                          CRIM ZN NX RM DIS PTRATIO 0.6049497
## 1778 1948 6                          CRIM ZN AGE TAX PTRATIO LSTAT 0.6047099
## 2352 1949 6                          INDUS NX AGE TAX PTRATIO LSTAT 0.6042890
## 1648 1950 6                          CRIM ZN INDUS AGE PTRATIO LSTAT 0.6042629
## 2430 1951 6                          NX RM AGE DIS TAX PTRATIO 0.6037646
## 2022 1952 6                          CRIM RM RAD TAX PTRATIO B 0.6028949
## 2156 1953 6                          ZN INDUS AGE TAX PTRATIO LSTAT 0.6028824
## 1950 1954 6                          CRIM NX RM RAD PTRATIO B 0.6024770
## 2492 1955 6                          RM AGE RAD TAX PTRATIO B 0.6024394
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## 2249 1956 6                              ZN RM AGE DIS TAX B 0.6020429
## 1941 1957 6                     CRIM NX RM DIS TAX PTRATIO 0.6019661
## 2153 1958 6                 ZN INDUS AGE RAD PTRATIO LSTAT 0.6019305
## 2422 1959 6                     INDUS DIS RAD TAX B LSTAT 0.6016845
## 1996 1960 6                    CRIM RM AGE DIS TAX PTRATIO 0.6015672
## 2302 1961 6                   INDUS NX RM AGE DIS PTRATIO 0.6014659
## 1904 1962 6               CRIM INDUS AGE TAX PTRATIO LSTAT 0.6014057
## 2044 1963 6                      CRIM DIS RAD TAX B LSTAT 0.6011879
## 1846 1964 6               CRIM INDUS NX RAD PTRATIO LSTAT 0.6011273
## 2456 1965 6                       NX RM RAD TAX PTRATIO B 0.6008709
## 1720 1966 6                   CRIM ZN NX RAD PTRATIO LSTAT 0.6007088
## 1909 1967 6                  CRIM INDUS DIS RAD TAX LSTAT 0.5999767
## 2005 1968 6                      CRIM RM AGE RAD PTRATIO B 0.5999575
## 1855 1969 6                        CRIM INDUS RM AGE DIS B 0.5999174
## 2478 1970 6                         NX DIS RAD TAX B LSTAT 0.5999079
## 1874 1971 6                     CRIM INDUS RM DIS PTRATIO B 0.5994254
## 1934 1972 6                        CRIM NX RM AGE PTRATIO B 0.5991995
## 2291 1973 6                        ZN AGE RAD TAX B LSTAT 0.5991663
## 1669 1974 6                  CRIM ZN INDUS PTRATIO B LSTAT 0.5990186
## 1979 1975 6                     CRIM NX DIS RAD TAX LSTAT 0.5988806
## 1664 1976 6              CRIM ZN INDUS RAD PTRATIO LSTAT 0.5988664
## 1921 1977 6                  CRIM INDUS TAX PTRATIO B LSTAT 0.5988270
## 1851 1978 6                 CRIM INDUS NX PTRATIO B LSTAT 0.5987872
## 2173 1979 6                  ZN INDUS TAX PTRATIO B LSTAT 0.5987567
## 2103 1980 6                  ZN INDUS NX PTRATIO B LSTAT 0.5987529
## 2369 1981 6                 INDUS NX TAX PTRATIO B LSTAT 0.5985797
## 1991 1982 6                  CRIM NX TAX PTRATIO B LSTAT 0.5982767
## 1725 1983 6                  CRIM ZN NX PTRATIO B LSTAT 0.5982507
## 1795 1984 6                  CRIM ZN TAX PTRATIO B LSTAT 0.5982460
## 2008 1985 6                    CRIM RM AGE TAX PTRATIO B 0.5981794
## 2427 1986 6                    NX RM AGE DIS RAD PTRATIO 0.5981026
## 2176 1987 6                    ZN NX RM AGE DIS PTRATIO 0.5980979
## 1841 1988 6                     CRIM INDUS NX DIS B LSTAT 0.5980930
## 2243 1989 6                    ZN NX TAX PTRATIO B LSTAT 0.5979993
## 1864 1990 6                CRIM INDUS RM AGE PTRATIO B 0.5978926
## 1738 1991 6                     CRIM ZN RM AGE PTRATIO B 0.5975391
## 1915 1992 6                   CRIM INDUS DIS TAX B LSTAT 0.5973458
## 1773 1993 6                    CRIM ZN AGE RAD TAX LSTAT 0.5972860
## 1728 1994 6                   CRIM ZN RM AGE DIS PTRATIO 0.5969391
## 2505 1995 6                      AGE DIS RAD TAX B LSTAT 0.5968999
## 2363 1996 6                     INDUS NX DIS TAX B LSTAT 0.5965776
## 1912 1997 6                  CRIM INDUS DIS RAD B LSTAT 0.5964475
## 1814 1998 6                  CRIM INDUS NX RM PTRATIO B 0.5964152
## 1953 1999 6                    CRIM NX RM TAX PTRATIO B 0.5963580
## 1688 2000 6                     CRIM ZN NX RM PTRATIO B 0.5963401
## 1729 2001 6                         CRIM ZN RM AGE DIS B 0.5960163
## 1896 2002 6                  CRIM INDUS AGE DIS B LSTAT 0.5958152
## 2413 2003 6                    INDUS AGE DIS TAX B LSTAT 0.5952459
## 1947 2004 6                   CRIM NX RM RAD TAX PTRATIO 0.5951181
## 2375 2005 6                     INDUS RM AGE DIS TAX B 0.5947458
## 1997 2006 6                       CRIM RM AGE DIS TAX B 0.5947457
## 2374 2007 6                INDUS RM AGE DIS TAX PTRATIO 0.5947451
## 2442 2008 6                     NX RM AGE TAX PTRATIO B 0.5946606
## 2446 2009 6                   NX RM DIS RAD TAX PTRATIO 0.5946476
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## 1993   2010   6              CRIM RM AGE DIS RAD PTRATIO 0.5945818
## 2357   2011   6              INDUS NX DIS RAD TAX LSTAT 0.5944721
## 2274   2012   6                   ZN RM RAD TAX PTRATIO B 0.5944033
## 1838   2013   6              CRIM INDUS NX DIS TAX LSTAT 0.5942605
## 1614   2014   6               CRIM ZN INDUS RM AGE DIS 0.5941935
## 2439   2015   6                  NX RM AGE RAD PTRATIO B 0.5940745
## 2186   2016   6                   ZN NX RM AGE PTRATIO B 0.5940337
## 2344   2017   6                INDUS NX AGE DIS B LSTAT 0.5939019
## 1727   2018   6                    CRIM ZN RM AGE DIS TAX 0.5938726
## 2260   2019   6                   ZN RM AGE TAX PTRATIO B 0.5938275
## 2482   2020   6              RM AGE DIS RAD TAX PTRATIO 0.5938027
## 2386   2021   6                INDUS RM AGE TAX PTRATIO B 0.5937806
## 2029   2022   6               CRIM AGE DIS RAD TAX LSTAT 0.5936612
## 2360   2023   6                  INDUS NX DIS RAD B LSTAT 0.5935907
## 1880   2024   6              CRIM INDUS RM RAD PTRATIO B 0.5935835
## 2098   2025   6             ZN INDUS NX RAD PTRATIO LSTAT 0.5935450
## 2248   2026   6                  ZN RM AGE DIS TAX PTRATIO 0.5934772
## 1835   2027   6              CRIM INDUS NX DIS RAD LSTAT 0.5934330
## 2312   2028   6                INDUS NX RM AGE PTRATIO B 0.5932688
## 1821   2029   6              CRIM INDUS NX AGE DIS LSTAT 0.5931787
## 2400   2030   6                  INDUS RM RAD TAX PTRATIO B 0.5931738
## 2497   2031   6                    RM DIS RAD TAX PTRATIO B 0.5931584
## 2107   2032   6                    ZN INDUS RM AGE DIS B 0.5929382
## 2002   2033   6              CRIM RM AGE RAD TAX PTRATIO 0.5927057
## 2396   2034   6                INDUS RM DIS TAX PTRATIO B 0.5925735
## 2407   2035   6               INDUS AGE DIS RAD TAX LSTAT 0.5920366
## 2126   2036   6                ZN INDUS RM DIS PTRATIO B 0.5919710
## 1893   2037   6              CRIM INDUS AGE DIS TAX LSTAT 0.5918922
## 1883   2038   6              CRIM INDUS RM TAX PTRATIO B 0.5916770
## 2116   2039   6                ZN INDUS RM AGE PTRATIO B 0.5916302
## 1632   2040   6              CRIM ZN INDUS RM PTRATIO B 0.5915978
## 1612   2041   6           CRIM ZN INDUS NX PTRATIO LSTAT 0.5915576
## 1667   2042   6           CRIM ZN INDUS TAX PTRATIO LSTAT 0.5915496
## 2270   2043   6                   ZN RM DIS TAX PTRATIO B 0.5915110
## 1849   2044   6           CRIM INDUS NX TAX PTRATIO LSTAT 0.5914420
## 2202   2045   6                   ZN NX RM RAD PTRATIO B 0.5914363
## 1985   2046   6                  CRIM NX DIS TAX B LSTAT 0.5913975
## 2383   2047   6                INDUS RM AGE RAD PTRATIO B 0.5913338
## 2410   2048   6                INDUS AGE DIS RAD B LSTAT 0.5913107
## 2463   2049   6                  NX AGE DIS RAD TAX LSTAT 0.5912587
## 2328   2050   6                INDUS NX RM RAD PTRATIO B 0.5911806
## 2331   2051   6                INDUS NX RM TAX PTRATIO B 0.5911591
## 2205   2052   6                   ZN NX RM TAX PTRATIO B 0.5911553
## 2193   2053   6                ZN NX RM DIS TAX PTRATIO 0.5911345
## 2483   2054   6                     RM AGE DIS RAD TAX B 0.5909884
## 1723   2055   6             CRIM ZN NX TAX PTRATIO LSTAT 0.5909715
## 2257   2056   6                   ZN RM AGE RAD PTRATIO B 0.5908081
## 1748   2057   6              CRIM ZN RM DIS PTRATIO B 0.5905052
## 1757   2058   6              CRIM ZN RM TAX PTRATIO B 0.5904833
## 2151   2059   6               ZN INDUS AGE RAD TAX LSTAT 0.5904185
## 2319   2060   6              INDUS NX RM DIS TAX PTRATIO 0.5904069
## 2066   2061   6                ZN INDUS NX RM PTRATIO B 0.5902645
## 2469   2062   6                     NX AGE DIS TAX B LSTAT 0.5902000
## 2101   2063   6             ZN INDUS NX TAX PTRATIO LSTAT 0.5901434
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## 2018   2064   6                         CRIM RM DIS TAX PTRATIO B 0.5901184
## 2341   2065   6               INDUS NX AGE DIS TAX LSTAT 0.5900990
## 2221   2066   6                ZN NX AGE RAD TAX LSTAT 0.5900578
## 1925   2067   6                    CRIM NX RM AGE DIS B 0.5900262
## 1623   2068   6                CRIM ZN INDUS RM DIS B 0.5899193
## 2431   2069   6                    NX RM AGE DIS TAX B 0.5898405
## 1890   2070   6         CRIM INDUS AGE DIS RAD LSTAT 0.5893758
## 2056   2071   6         ZN INDUS NX RM DIS PTRATIO 0.5886743
## 2372   2072   6                INDUS RM AGE DIS RAD B 0.5886711
## 2393   2073   6           INDUS RM DIS RAD PTRATIO B 0.5886440
## 1853   2074   6           CRIM INDUS RM AGE DIS TAX 0.5885375
## 1754   2075   6             CRIM ZN RM RAD PTRATIO B 0.5878374
## 2035   2076   6               CRIM AGE DIS TAX B LSTAT 0.5877767
## 1982   2077   6               CRIM NX DIS RAD B LSTAT 0.5877383
## 1966   2078   6               CRIM NX AGE DIS B LSTAT 0.5876575
## 2316   2079   6       INDUS NX RM DIS RAD PTRATIO 0.5874198
## 2371   2080   6       INDUS RM AGE DIS RAD PTRATIO 0.5873974
## 1963   2081   6            CRIM NX AGE DIS TAX LSTAT 0.5868859
## 1796   2082   6          CRIM INDUS NX RM AGE DIS 0.5867516
## 1622   2083   6       CRIM ZN INDUS RM DIS PTRATIO 0.5867494
## 2135   2084   6             ZN INDUS RM TAX PTRATIO B 0.5867084
## 1779   2085   6              CRIM ZN AGE TAX B LSTAT 0.5866370
## 2227   2086   6                ZN NX AGE TAX B LSTAT 0.5863038
## 2303   2087   6              INDUS NX RM AGE DIS B 0.5860027
## 1928   2088   6          CRIM NX RM AGE RAD PTRATIO 0.5859681
## 2157   2089   6            ZN INDUS AGE TAX B LSTAT 0.5857619
## 2124   2090   6                ZN INDUS RM DIS TAX B 0.5856781
## 2015   2091   6            CRIM RM DIS RAD PTRATIO B 0.5856280
## 2246   2092   6                   ZN RM AGE DIS RAD B 0.5856171
## 1751   2093   6       CRIM ZN RM RAD TAX PTRATIO 0.5856157
## 2105   2094   6             ZN INDUS RM AGE DIS TAX 0.5855692
## 1670   2095   6               CRIM ZN NX RM AGE DIS 0.5855380
## 1994   2096   6              CRIM RM AGE DIS RAD B 0.5852432
## 2338   2097   6       INDUS NX AGE DIS RAD LSTAT 0.5850570
## 1746   2098   6                CRIM ZN RM DIS TAX B 0.5848485
## 1679   2099   6                 CRIM ZN NX RM DIS B 0.5848172
## 2241   2100   6                ZN NX RAD TAX B LSTAT 0.5847687
## 1682   2101   6          CRIM ZN NX RM RAD PTRATIO 0.5847443
## 1808   2102   6       CRIM INDUS NX RM RAD PTRATIO 0.5846849
## 2194   2103   6                   ZN NX RM DIS TAX B 0.5846563
## 1877   2104   6       CRIM INDUS RM RAD TAX PTRATIO 0.5843946
## 2190   2105   6             ZN NX RM DIS RAD PTRATIO 0.5843466
## 1587   2106   6              CRIM ZN INDUS NX RM DIS 0.5839717
## 1931   2107   6          CRIM NX RM AGE TAX PTRATIO 0.5838149
## 2106   2108   6         ZN INDUS RM AGE DIS PTRATIO 0.5838012
## 1649   2109   6            CRIM ZN INDUS AGE B LSTAT 0.5837977
## 1992   2110   6              CRIM RM AGE DIS RAD TAX 0.5837221
## 1852   2111   6          CRIM INDUS RM AGE DIS RAD 0.5836883
## 1673   2112   6           CRIM ZN NX RM AGE PTRATIO 0.5835381
## 2039   2113   6              CRIM AGE RAD TAX B LSTAT 0.5834453
## 1776   2114   6              CRIM ZN AGE RAD B LSTAT 0.5833491
## 2466   2115   6                NX AGE DIS RAD B LSTAT 0.5832059
## 1799   2116   6       CRIM INDUS NX RM AGE PTRATIO 0.5831922
## 1871   2117   6       CRIM INDUS RM DIS TAX PTRATIO 0.5830348
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## 2175   2118  6                                      ZN NX RM AGE DIS TAX 0.5830105
## 2177   2119  6                                        ZN NX RM AGE DIS B 0.5829744
## 2132   2120  6                              ZN INDUS RM RAD PTRATIO B 0.5829282
## 1923   2121  6                                    CRIM NX RM AGE DIS TAX 0.5829047
## 2012   2122  6                              CRIM RM DIS RAD TAX PTRATIO 0.5827703
## 1705   2123  6                                  CRIM ZN NX AGE B LSTAT 0.5827378
## 2265   2124  6                                      ZN RM DIS RAD TAX B 0.5824343
## 2244   2125  6                                    ZN RM AGE DIS RAD TAX 0.5817039
## 1702   2126  6                                  CRIM ZN NX AGE TAX LSTAT 0.5816981
## 1960   2127  6                                  CRIM NX AGE DIS RAD LSTAT 0.5816660
## 1861   2128  6                            CRIM INDUS RM AGE TAX PTRATIO 0.5816570
## 1646   2129  6                            CRIM ZN INDUS AGE TAX LSTAT 0.5816275
## 1811   2130  6                            CRIM INDUS NX RM TAX PTRATIO 0.5815955
## 1685   2131  6                                CRIM ZN NX RM TAX PTRATIO 0.5814793
## 1621   2132  6                              CRIM ZN INDUS RM DIS TAX 0.5814442
## 1677   2133  6                                CRIM ZN NX RM DIS TAX 0.5813390
## 1590   2134  6                              CRIM ZN INDUS NX RM PTRATIO 0.5813057
## 1735   2135  6                              CRIM ZN RM AGE TAX PTRATIO 0.5812143
## 1805   2136  6                                CRIM INDUS NX RM DIS B 0.5810166
## 1868   2137  6                            CRIM INDUS RM DIS RAD PTRATIO 0.5809938
## 1858   2138  6                            CRIM INDUS RM AGE RAD PTRATIO 0.5807372
## 2083   2139  6                                ZN INDUS NX AGE B LSTAT 0.5806559
## 2154   2140  6                                ZN INDUS AGE RAD B LSTAT 0.5805969
## 1752   2141  6                                    CRIM ZN RM RAD TAX B 0.5804896
## 1718   2142  6                                CRIM ZN NX RAD TAX LSTAT 0.5803225
## 2032   2143  6                                CRIM AGE DIS RAD B LSTAT 0.5801366
## 2171   2144  6                                ZN INDUS RAD TAX B LSTAT 0.5800372
## 1617   2145  6                              CRIM ZN INDUS RM AGE PTRATIO 0.5800101
## 1793   2146  6                                  CRIM ZN RAD TAX B LSTAT 0.5800011
## 2417   2147  6                                INDUS AGE RAD TAX B LSTAT 0.5799980
## 1745   2148  6                              CRIM ZN RM DIS TAX PTRATIO 0.5799446
## 2473   2149  6                                  NX AGE RAD TAX B LSTAT 0.5798794
## 2080   2150  6                              ZN INDUS NX AGE TAX LSTAT 0.5795507
## 2003   2151  6                                    CRIM RM AGE RAD TAX B 0.5793467
## 2224   2152  6                                  ZN NX AGE RAD B LSTAT 0.5792552
## 2428   2153  6                                    NX RM AGE DIS RAD B 0.5792133
## 2436   2154  6                              NX RM AGE RAD TAX PTRATIO 0.5787992
## 2267   2155  6                                ZN RM DIS RAD PTRATIO B 0.5784158
## 1741   2156  6                                  CRIM ZN RM DIS RAD TAX 0.5783598
## 1732   2157  6                              CRIM ZN RM AGE RAD PTRATIO 0.5782791
## 2057   2158  6                                  ZN INDUS NX RM DIS B 0.5778126
## 1643   2159  6                            CRIM ZN INDUS AGE RAD LSTAT 0.5777747
## 1726   2160  6                                  CRIM ZN RM AGE DIS RAD 0.5774171
## 1598   2161  6                              CRIM ZN INDUS NX AGE LSTAT 0.5773907
## 2245   2162  6                                ZN RM AGE DIS RAD PTRATIO 0.5773087
## 1872   2163  6                                  CRIM INDUS RM DIS TAX B 0.5770961
## 1899   2164  6                            CRIM INDUS AGE RAD TAX LSTAT 0.5770694
## 1662   2165  6                              CRIM ZN INDUS RAD TAX LSTAT 0.5770363
## 1969   2166  6                                CRIM NX AGE RAD TAX LSTAT 0.5768820
## 2325   2167  6                              INDUS NX RM RAD TAX PTRATIO 0.5765336
## 2199   2168  6                                  ZN NX RM RAD TAX PTRATIO 0.5762098
## 1699   2169  6                                CRIM ZN NX AGE RAD LSTAT 0.5760807
## 1629   2170  6                            CRIM ZN INDUS RM TAX PTRATIO 0.5757664
## 2254   2171  6                                ZN RM AGE RAD TAX PTRATIO 0.5756475
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## 2121  2172  6                      ZN INDUS RM DIS RAD B 0.5756391
## 2380  2173  6         INDUS RM AGE RAD TAX PTRATIO 0.5756389
## 1736  2174  6                  CRIM ZN RM AGE TAX B 0.5755483
## 1989  2175  6                 CRIM NX RAD TAX B LSTAT 0.5753734
## 2123  2176  6          ZN INDUS RM DIS TAX PTRATIO 0.5747206
## 2301  2177  6               INDUS NX RM AGE DIS TAX 0.5747191
## 2096  2178  6           ZN INDUS NX RAD TAX LSTAT 0.5745642
## 2104  2179  6             ZN INDUS RM AGE DIS RAD 0.5739544
## 1922  2180  6              CRIM NX RM AGE DIS RAD 0.5738948
## 2255  2181  6                 ZN RM AGE RAD TAX B 0.5738485
## 1626  2182  6         CRIM ZN INDUS RM RAD PTRATIO 0.5737612
## 2183  2183  6              ZN NX RM AGE TAX PTRATIO 0.5736851
## 1942  2184  6                 CRIM NX RM DIS TAX B 0.5735853
## 1869  2185  6               CRIM INDUS RM DIS RAD B 0.5735348
## 2309  2186  6         INDUS NX RM AGE TAX PTRATIO 0.5734347
## 1620  2187  6             CRIM ZN INDUS RM DIS RAD 0.5734137
## 1862  2188  6               CRIM INDUS RM AGE TAX B 0.5733334
## 2370  2189  6             INDUS RM AGE DIS RAD TAX 0.5730922
## 1919  2190  6           CRIM INDUS RAD TAX B LSTAT 0.5729687
## 1932  2191  6                 CRIM NX RM AGE TAX B 0.5729499
## 2320  2192  6                INDUS NX RM DIS TAX B 0.5728876
## 1630  2193  6               CRIM ZN INDUS RM TAX B 0.5727298
## 1878  2194  6               CRIM INDUS RM RAD TAX B 0.5723870
## 2367  2195  6               INDUS NX RAD TAX B LSTAT 0.5721107
## 1724  2196  6                CRIM ZN NX TAX B LSTAT 0.5719994
## 1618  2197  6              CRIM ZN INDUS RM AGE B 0.5718137
## 1686  2198  6                   CRIM ZN NX RM TAX B 0.5714683
## 2102  2199  6                ZN INDUS NX TAX B LSTAT 0.5714494
## 2264  2200  6          ZN RM DIS RAD TAX PTRATIO 0.5714401
## 1948  2201  6                   CRIM NX RM RAD TAX B 0.5714339
## 1905  2202  6           CRIM INDUS AGE TAX B LSTAT 0.5713764
## 2113  2203  6         ZN INDUS RM AGE TAX PTRATIO 0.5711289
## 2347  2204  6           INDUS NX AGE RAD TAX LSTAT 0.5710079
## 1902  2205  6           CRIM INDUS AGE RAD B LSTAT 0.5708926
## 2184  2206  6                   ZN NX RM AGE TAX B 0.5707783
## 2437  2207  6                    NX RM AGE RAD TAX B 0.5707162
## 2055  2208  6               ZN INDUS NX RM DIS TAX 0.5707126
## 1803  2209  6             CRIM INDUS NX RM DIS TAX 0.5706514
## 2353  2210  6               INDUS NX AGE TAX B LSTAT 0.5706345
## 2077  2211  6           ZN INDUS NX AGE RAD LSTAT 0.5706323
## 2063  2212  6           ZN INDUS NX RM TAX PTRATIO 0.5703933
## 2381  2213  6               INDUS RM AGE RAD TAX B 0.5703242
## 1800  2214  6              CRIM INDUS NX RM AGE B 0.5702209
## 2013  2215  6                 CRIM RM DIS RAD TAX B 0.5701958
## 1975  2216  6              CRIM NX AGE TAX B LSTAT 0.5700193
## 1859  2217  6              CRIM INDUS RM AGE RAD B 0.5700121
## 2390  2218  6         INDUS RM DIS RAD TAX PTRATIO 0.5699552
## 2426  2219  6                NX RM AGE DIS RAD TAX 0.5699364
## 2114  2220  6                ZN INDUS RM AGE TAX B 0.5699325
## 2191  2221  6                   ZN NX RM DIS RAD B 0.5699099
## 1831  2222  6           CRIM INDUS NX AGE B LSTAT 0.5697991
## 2130  2223  6                ZN INDUS RM RAD TAX B 0.5697926
## 2200  2224  6                   ZN NX RM RAD TAX B 0.5695682
## 1676  2225  6               CRIM ZN NX RM DIS RAD 0.5695641
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## 1733 2226  6                                  CRIM ZN RM AGE RAD B 0.5694873
## 1674 2227  6                               CRIM ZN NX RM AGE B 0.5693391
## 2051 2228  6                       ZN INDUS NX RM AGE PTRATIO 0.5691809
## 2180 2229  6                          ZN NX RM AGE RAD PTRATIO 0.5691166
## 1743 2230  6                                 CRIM ZN RM DIS RAD B 0.5689024
## 2391 2231  6                              INDUS RM DIS RAD TAX B 0.5688947
## 2310 2232  6                               INDUS NX RM AGE TAX B 0.5684077
## 1591 2233  6                            CRIM ZN INDUS NX RM B 0.5683716
## 2447 2234  6                                NX RM DIS RAD TAX B 0.5682883
## 1627 2235  6                          CRIM ZN INDUS RM RAD B 0.5682564
## 2306 2236  6                   INDUS NX RM AGE RAD PTRATIO 0.5679826
## 1613 2237  6                        CRIM ZN INDUS NX B LSTAT 0.5679714
## 1731 2238  6                          CRIM ZN RM AGE RAD TAX 0.5679030
## 1721 2239  6                          CRIM ZN NX RAD B LSTAT 0.5678564
## 1844 2240  6                   CRIM INDUS NX RAD TAX LSTAT 0.5677920
## 2317 2241  6                              INDUS NX RM DIS RAD B 0.5676644
## 2189 2242  6                              ZN NX RM DIS RAD TAX 0.5676428
## 2300 2243  6                           INDUS NX RM AGE DIS RAD 0.5676144
## 1802 2244  6                         CRIM INDUS NX RM DIS RAD 0.5675474
## 1812 2245  6                            CRIM INDUS NX RM TAX B 0.5674193
## 2129 2246  6                   ZN INDUS RM RAD TAX PTRATIO 0.5673095
## 1972 2247  6                           CRIM NX AGE RAD B LSTAT 0.5672674
## 2350 2248  6                         INDUS NX AGE RAD B LSTAT 0.5672438
## 1939 2249  6                                CRIM NX RM DIS RAD B 0.5669638
## 1929 2250  6                                CRIM NX RM AGE RAD B 0.5669168
## 1937 2251  6                            CRIM NX RM DIS RAD TAX 0.5665488
## 1742 2252  6                      CRIM ZN RM DIS RAD PTRATIO 0.5664807
## 1828 2253  6                     CRIM INDUS NX AGE TAX LSTAT 0.5662907
## 2060 2254  6                   ZN INDUS NX RM RAD PTRATIO 0.5661513
## 2064 2255  6                                ZN INDUS NX RM TAX B 0.5660704
## 1610 2256  6                   CRIM ZN INDUS NX TAX LSTAT 0.5654509
## 2174 2257  6                                ZN NX RM AGE DIS RAD 0.5652819
## 2099 2258  6                           ZN INDUS NX RAD B LSTAT 0.5650957
## 1668 2259  6                        CRIM ZN INDUS TAX B LSTAT 0.5649839
## 1867 2260  6                          CRIM INDUS RM DIS RAD TAX 0.5649121
## 1625 2261  6                         CRIM ZN INDUS RM RAD TAX 0.5648121
## 1681 2262  6                              CRIM ZN NX RM RAD TAX 0.5647407
## 1665 2263  6                         CRIM ZN INDUS RAD B LSTAT 0.5646660
## 2119 2264  6                         ZN INDUS RM DIS RAD TAX 0.5643542
## 1683 2265  6                                CRIM ZN NX RM RAD B 0.5643386
## 1809 2266  6                            CRIM INDUS NX RM RAD B 0.5642863
## 2120 2267  6                   ZN INDUS RM DIS RAD PTRATIO 0.5642160
## 1825 2268  6                     CRIM INDUS NX AGE RAD LSTAT 0.5642068
## 2048 2269  6                            ZN INDUS NX RM AGE DIS 0.5639612
## 2110 2270  6                   ZN INDUS RM AGE RAD PTRATIO 0.5639525
## 1857 2271  6                         CRIM INDUS RM AGE RAD TAX 0.5636502
## 1927 2272  6                            CRIM NX RM AGE RAD TAX 0.5631284
## 2326 2273  6                              INDUS NX RM RAD TAX B 0.5625402
## 1850 2274  6                          CRIM INDUS NX TAX B LSTAT 0.5623861
## 2111 2275  6                              ZN INDUS RM AGE RAD B 0.5621684
## 1616 2276  6                          CRIM ZN INDUS RM AGE TAX 0.5616417
## 2307 2277  6                               INDUS NX RM AGE RAD B 0.5612496
## 1672 2278  6                              CRIM ZN NX RM AGE TAX 0.5611473
## 1847 2279  6                          CRIM INDUS NX RAD B LSTAT 0.5607798
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## 1607  2280  6                  CRIM ZN INDUS NX RAD LSTAT 0.5601614
## 2181  2281  6                     ZN NX RM AGE RAD B 0.5601188
## 2054  2282  6                  ZN INDUS NX RM DIS RAD 0.5600041
## 1798  2283  6               CRIM INDUS NX RM AGE TAX 0.5591631
## 2052  2284  6                   ZN INDUS NX RM AGE B 0.5591532
## 1589  2285  6               CRIM ZN INDUS NX RM TAX 0.5586415
## 1807  2286  6              CRIM INDUS NX RM RAD TAX 0.5578541
## 2061  2287  6                  ZN INDUS NX RM RAD B 0.5576183
## 1615  2288  6              CRIM ZN INDUS RM AGE RAD 0.5553274
## 1586  2289  6               CRIM ZN INDUS NX RM AGE 0.5548297
## 1797  2290  6              CRIM INDUS NX RM AGE RAD 0.5536082
## 2315  2291  6                INDUS NX RM DIS RAD TAX 0.5534839
## 1588  2292  6               CRIM ZN INDUS NX RM RAD 0.5523355
## 1671  2293  6                 CRIM ZN NX RM AGE RAD 0.5519027
## 2179  2294  6                   ZN NX RM AGE RAD TAX 0.5513597
## 2109  2295  6                ZN INDUS RM AGE RAD TAX 0.5512889
## 2050  2296  6                 ZN INDUS NX RM AGE TAX 0.5499640
## 2305  2297  6                INDUS NX RM AGE RAD TAX 0.5480705
## 2059  2298  6                 ZN INDUS NX RM RAD TAX 0.5470607
## 2049  2299  6                 ZN INDUS NX RM AGE RAD 0.5389363
## 1977  2300  6             CRIM NX DIS RAD TAX PTRATIO 0.4550211
## 1833  2301  6         CRIM INDUS NX DIS RAD PTRATIO 0.4503107
## 1601  2302  6          CRIM ZN INDUS NX DIS PTRATIO 0.4440374
## 2476  2303  6              NX DIS RAD TAX PTRATIO B 0.4415892
## 1980  2304  6            CRIM NX DIS RAD PTRATIO B 0.4412983
## 1819  2305  6         CRIM INDUS NX AGE DIS PTRATIO 0.4390532
## 2091  2306  6              ZN INDUS NX DIS PTRATIO B 0.4373929
## 2342  2307  6             INDUS NX AGE DIS PTRATIO B 0.4372677
## 1958  2308  6           CRIM NX AGE DIS RAD PTRATIO 0.4361805
## 1839  2309  6          CRIM INDUS NX DIS PTRATIO B 0.4356697
## 1707  2310  6             CRIM ZN NX DIS RAD PTRATIO 0.4352901
## 2358  2311  6            INDUS NX DIS RAD PTRATIO B 0.4350195
## 1987  2312  6             CRIM NX RAD TAX PTRATIO B 0.4324341
## 2229  2313  6              ZN NX DIS RAD TAX PTRATIO 0.4319357
## 1836  2314  6         CRIM INDUS NX DIS TAX PTRATIO 0.4298068
## 1713  2315  6               CRIM ZN NX DIS PTRATIO B 0.4291374
## 2461  2316  6              NX AGE DIS RAD TAX PTRATIO 0.4291003
## 1693  2317  6             CRIM ZN NX AGE DIS PTRATIO 0.4286828
## 2071  2318  6            ZN INDUS NX AGE DIS PTRATIO 0.4278715
## 1964  2319  6            CRIM NX AGE DIS PTRATIO B 0.4271371
## 2355  2320  6            INDUS NX DIS RAD TAX PTRATIO 0.4269660
## 2216  2321  6               ZN NX AGE DIS PTRATIO B 0.4255886
## 2464  2322  6               NX AGE DIS RAD PTRATIO B 0.4253587
## 2361  2323  6             INDUS NX DIS TAX PTRATIO B 0.4252682
## 1637  2324  6         CRIM ZN INDUS AGE DIS PTRATIO 0.4252232
## 2336  2325  6            INDUS NX AGE DIS RAD PTRATIO 0.4223235
## 1894  2326  6           CRIM INDUS AGE DIS PTRATIO B 0.4222133
## 2088  2327  6             ZN INDUS NX DIS TAX PTRATIO 0.4218966
## 2146  2328  6               ZN INDUS AGE DIS PTRATIO B 0.4213150
## 2339  2329  6            INDUS NX AGE DIS TAX PTRATIO 0.4205796
## 2232  2330  6               ZN NX DIS RAD PTRATIO B 0.4203823
## 1710  2331  6             CRIM ZN NX DIS TAX PTRATIO 0.4200915
## 2085  2332  6            ZN INDUS NX DIS RAD PTRATIO 0.4199574
## 1716  2333  6             CRIM ZN NX RAD TAX PTRATIO 0.4190903
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## 1842  2334  6                      CRIM INDUS NX RAD TAX PTRATIO 0.4182573
## 1657  2335  6                   CRIM ZN INDUS DIS PTRATIO B 0.4182397
## 2235  2336  6                        ZN NX DIS TAX PTRATIO B 0.4180609
## 2467  2337  6                       NX AGE DIS TAX PTRATIO B 0.4177913
## 1967  2338  6                   CRIM NX AGE RAD TAX PTRATIO 0.4172319
## 1961  2339  6                   CRIM NX AGE DIS TAX PTRATIO 0.4168013
## 1983  2340  6                     CRIM NX DIS TAX PTRATIO B 0.4143773
## 2239  2341  6                       ZN NX RAD TAX PTRATIO B 0.4132191
## 1888  2342  6         CRIM INDUS AGE DIS RAD PTRATIO 0.4131509
## 1845  2343  6                  CRIM INDUS NX RAD PTRATIO B 0.4126868
## 2213  2344  6                      ZN NX AGE DIS TAX PTRATIO 0.4125512
## 2365  2345  6                    INDUS NX RAD TAX PTRATIO B 0.4123913
## 2471  2346  6                      NX AGE RAD TAX PTRATIO B 0.4119473
## 2411  2347  6                   INDUS AGE DIS TAX PTRATIO B 0.4110778
## 1791  2348  6                     CRIM ZN RAD TAX PTRATIO B 0.4105139
## 1917  2349  6                  CRIM INDUS RAD TAX PTRATIO B 0.4102928
## 2408  2350  6                   INDUS AGE DIS RAD PTRATIO B 0.4097445
## 1891  2351  6         CRIM INDUS AGE DIS TAX PTRATIO 0.4084880
## 2037  2352  6                   CRIM AGE RAD TAX PTRATIO B 0.4083406
## 1654  2353  6         CRIM ZN INDUS DIS TAX PTRATIO 0.4073714
## 2143  2354  6                   ZN INDUS AGE DIS TAX PTRATIO 0.4068357
## 1638  2355  6                     CRIM ZN INDUS AGE DIS B 0.4060838
## 2165  2356  6                      ZN INDUS DIS TAX PTRATIO B 0.4059871
## 1651  2357  6         CRIM ZN INDUS DIS RAD PTRATIO 0.4057213
## 2503  2358  6                        AGE DIS RAD TAX PTRATIO B 0.4052492
## 1719  2359  6                     CRIM ZN NX RAD PTRATIO B 0.4052408
## 1970  2360  6                   CRIM NX AGE RAD PTRATIO B 0.4051818
## 1593  2361  6                     CRIM ZN INDUS NX AGE DIS 0.4045611
## 2210  2362  6                      ZN NX AGE DIS RAD PTRATIO 0.4039979
## 1907  2363  6         CRIM INDUS DIS RAD TAX PTRATIO 0.4035183
## 1636  2364  6                     CRIM ZN INDUS AGE DIS TAX 0.4034854
## 1910  2365  6                  CRIM INDUS DIS RAD PTRATIO B 0.4033310
## 1650  2366  6                     CRIM ZN INDUS DIS RAD TAX 0.4032618
## 2027  2367  6                   CRIM AGE DIS RAD TAX PTRATIO 0.4027017
## 1602  2368  6                        CRIM ZN INDUS NX DIS B 0.4026654
## 1781  2369  6                  CRIM ZN DIS RAD TAX PTRATIO 0.4020125
## 1660  2370  6                  CRIM ZN INDUS RAD TAX PTRATIO 0.4018594
## 2405  2371  6                   INDUS AGE DIS RAD TAX PTRATIO 0.4000522
## 1600  2372  6                        CRIM ZN INDUS NX DIS TAX 0.3995628
## 2420  2373  6                     INDUS DIS RAD TAX PTRATIO B 0.3990570
## 2169  2374  6                      ZN INDUS RAD TAX PTRATIO B 0.3988317
## 1897  2375  6         CRIM INDUS AGE RAD TAX PTRATIO 0.3985743
## 2294  2376  6                        ZN DIS RAD TAX PTRATIO B 0.3984013
## 2415  2377  6                   INDUS AGE RAD TAX PTRATIO B 0.3981979
## 2162  2378  6                      ZN INDUS DIS RAD PTRATIO B 0.3973601
## 1823  2379  6         CRIM INDUS NX AGE RAD PTRATIO 0.3973014
## 2289  2380  6                      ZN AGE RAD TAX PTRATIO B 0.3972407
## 1605  2381  6                  CRIM ZN INDUS NX RAD PTRATIO 0.3972213
## 2144  2382  6                        ZN INDUS AGE DIS TAX B 0.3969660
## 1771  2383  6                  CRIM ZN AGE RAD TAX PTRATIO 0.3969480
## 2159  2384  6                   ZN INDUS DIS RAD TAX PTRATIO 0.3963232
## 2279  2385  6                      ZN AGE DIS RAD TAX PTRATIO 0.3955698
## 1655  2386  6                     CRIM ZN INDUS DIS TAX B 0.3949561
## 1913  2387  6                  CRIM INDUS DIS TAX PTRATIO B 0.3948137
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## 1900  2388  6                              CRIM INDUS AGE RAD PTRATIO B 0.3943295
## 1599  2389  6                              CRIM ZN INDUS NX DIS RAD 0.3942373
## 1706  2390  6                                CRIM ZN NX DIS RAD TAX 0.3936284
## 1663  2391  6                           CRIM ZN INDUS RAD PTRATIO B 0.3929931
## 1635  2392  6                             CRIM ZN INDUS AGE DIS RAD 0.3928961
## 2285  2393  6                                ZN AGE DIS TAX PTRATIO B 0.3928636
## 2140  2394  6                        ZN INDUS AGE DIS RAD PTRATIO 0.3924685
## 2348  2395  6                           INDUS NX AGE RAD PTRATIO B 0.3917170
## 2097  2396  6                             ZN INDUS NX RAD PTRATIO B 0.3916641
## 1611  2397  6                           CRIM ZN INDUS NX PTRATIO B 0.3913617
## 1848  2398  6                            CRIM INDUS NX TAX PTRATIO B 0.3908307
## 1829  2399  6                            CRIM INDUS NX AGE PTRATIO B 0.3902295
## 2094  2400  6                          ZN INDUS NX RAD TAX PTRATIO 0.3893399
## 1697  2401  6                            CRIM ZN NX AGE RAD PTRATIO 0.3885582
## 2219  2402  6                               ZN NX AGE RAD TAX PTRATIO 0.3883700
## 2345  2403  6                           INDUS NX AGE RAD TAX PTRATIO 0.3882419
## 2089  2404  6                                ZN INDUS NX DIS TAX B 0.3878903
## 2160  2405  6                                ZN INDUS DIS RAD TAX B 0.3875827
## 2042  2406  6                          CRIM DIS RAD TAX PTRATIO B 0.3869103
## 1761  2407  6                             CRIM ZN AGE DIS RAD TAX 0.3869050
## 1652  2408  6                              CRIM ZN INDUS DIS RAD B 0.3864760
## 1768  2409  6                            CRIM ZN AGE DIS PTRATIO B 0.3862794
## 1765  2410  6                           CRIM ZN AGE DIS TAX PTRATIO 0.3853599
## 2070  2411  6                               ZN INDUS NX AGE DIS TAX 0.3851879
## 2139  2412  6                             ZN INDUS AGE DIS RAD TAX 0.3848945
## 1647  2413  6                          CRIM ZN INDUS AGE PTRATIO B 0.3844095
## 1703  2414  6                             CRIM ZN NX AGE PTRATIO B 0.3839865
## 1722  2415  6                             CRIM ZN NX TAX PTRATIO B 0.3838339
## 2222  2416  6                               ZN NX AGE RAD PTRATIO B 0.3837923
## 2100  2417  6                             ZN INDUS NX TAX PTRATIO B 0.3836072
## 2081  2418  6                             ZN INDUS NX AGE PTRATIO B 0.3834218
## 2351  2419  6                            INDUS NX AGE TAX PTRATIO B 0.3830106
## 1666  2420  6                           CRIM ZN INDUS TAX PTRATIO B 0.3829983
## 2072  2421  6                                ZN INDUS NX AGE DIS B 0.3828523
## 1973  2422  6                             CRIM NX AGE TAX PTRATIO B 0.3826395
## 1903  2423  6                          CRIM INDUS AGE TAX PTRATIO B 0.3818832
## 1608  2424  6                          CRIM ZN INDUS NX TAX PTRATIO 0.3806784
## 1596  2425  6                          CRIM ZN INDUS NX AGE PTRATIO 0.3806772
## 1826  2426  6                         CRIM INDUS NX AGE TAX PTRATIO 0.3799010
## 2084  2427  6                               ZN INDUS NX DIS RAD TAX 0.3798003
## 2141  2428  6                               ZN INDUS AGE DIS RAD B 0.3791716
## 2033  2429  6                           CRIM AGE DIS TAX PTRATIO B 0.3780499
## 2280  2430  6                                 ZN AGE DIS RAD TAX B 0.3772370
## 2225  2431  6                               ZN NX AGE TAX PTRATIO B 0.3771651
## 1641  2432  6                         CRIM ZN INDUS AGE RAD PTRATIO 0.3770888
## 1782  2433  6                                 CRIM ZN DIS RAD TAX B 0.3769089
## 2155  2434  6                            ZN INDUS AGE TAX PTRATIO B 0.3766256
## 2152  2435  6                            ZN INDUS AGE RAD PTRATIO B 0.3763708
## 2149  2436  6                          ZN INDUS AGE RAD TAX PTRATIO 0.3746347
## 2230  2437  6                                  ZN NX DIS RAD TAX B 0.3738449
## 2030  2438  6                           CRIM AGE DIS RAD PTRATIO B 0.3733381
## 2086  2439  6                                ZN INDUS NX DIS RAD B 0.3727845
## 1700  2440  6                            CRIM ZN NX AGE TAX PTRATIO 0.3726293
## 1644  2441  6                         CRIM ZN INDUS AGE TAX PTRATIO 0.3715047
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## 1692  2442  6              CRIM ZN NX AGE DIS TAX 0.3706129
## 1787  2443  6         CRIM ZN DIS TAX PTRATIO B 0.3705150
## 1777  2444  6          CRIM ZN AGE TAX PTRATIO B 0.3682645
## 1774  2445  6          CRIM ZN AGE RAD PTRATIO B 0.3673743
## 2209  2446  6              ZN NX AGE DIS RAD TAX 0.3672079
## 2075  2447  6      ZN INDUS NX AGE RAD PTRATIO 0.3665517
## 2078  2448  6      ZN INDUS NX AGE TAX PTRATIO 0.3665240
## 2214  2449  6            ZN NX AGE DIS TAX B 0.3660474
## 2282  2450  6         ZN AGE DIS RAD PTRATIO B 0.3660151
## 2069  2451  6          ZN INDUS NX AGE DIS RAD 0.3657883
## 1820  2452  6          CRIM INDUS NX AGE DIS B 0.3653918
## 1711  2453  6              CRIM ZN NX DIS TAX B 0.3645716
## 1766  2454  6            CRIM ZN AGE DIS TAX B 0.3644537
## 1762  2455  6     CRIM ZN AGE DIS RAD PTRATIO 0.3620051
## 1892  2456  6          CRIM INDUS AGE DIS TAX B 0.3617894
## 1887  2457  6      CRIM INDUS AGE DIS RAD TAX 0.3615993
## 1661  2458  6          CRIM ZN INDUS RAD TAX B 0.3600488
## 1818  2459  6        CRIM INDUS NX AGE DIS TAX 0.3590755
## 1889  2460  6          CRIM INDUS AGE DIS RAD B 0.3583266
## 1817  2461  6        CRIM INDUS NX AGE DIS RAD 0.3565325
## 1694  2462  6              CRIM ZN NX AGE DIS B 0.3555427
## 1832  2463  6        CRIM INDUS NX DIS RAD TAX 0.3515247
## 2406  2464  6           INDUS AGE DIS RAD TAX B 0.3514180
## 1717  2465  6              CRIM ZN NX RAD TAX B 0.3510643
## 2340  2466  6           INDUS NX AGE DIS TAX B 0.3508455
## 1772  2467  6            CRIM ZN AGE RAD TAX B 0.3506516
## 1784  2468  6       CRIM ZN DIS RAD PTRATIO B 0.3500789
## 1604  2469  6        CRIM ZN INDUS NX RAD TAX 0.3477841
## 1640  2470  6        CRIM ZN INDUS AGE RAD TAX 0.3476811
## 1834  2471  6          CRIM INDUS NX DIS RAD B 0.3475391
## 1837  2472  6          CRIM INDUS NX DIS TAX B 0.3474895
## 1908  2473  6          CRIM INDUS DIS RAD TAX B 0.3444015
## 1691  2474  6            CRIM ZN NX AGE DIS RAD 0.3421413
## 2337  2475  6           INDUS NX AGE DIS RAD B 0.3418967
## 1708  2476  6              CRIM ZN NX DIS RAD B 0.3403945
## 2150  2477  6           ZN INDUS AGE RAD TAX B 0.3389618
## 2095  2478  6            ZN INDUS NX RAD TAX B 0.3387041
## 1696  2479  6            CRIM ZN NX AGE RAD TAX 0.3383264
## 2335  2480  6          INDUS NX AGE DIS RAD TAX 0.3377667
## 1609  2481  6          CRIM ZN INDUS NX TAX B 0.3358889
## 1645  2482  6          CRIM ZN INDUS AGE TAX B 0.3357648
## 2356  2483  6            INDUS NX DIS RAD TAX B 0.3345133
## 1898  2484  6          CRIM INDUS AGE RAD TAX B 0.3308297
## 1606  2485  6            CRIM ZN INDUS NX RAD B 0.3304179
## 1642  2486  6            CRIM ZN INDUS AGE RAD B 0.3303408
## 2220  2487  6              ZN NX AGE RAD TAX B 0.3300081
## 1597  2488  6            CRIM ZN INDUS NX AGE B 0.3296311
## 1957  2489  6          CRIM NX AGE DIS RAD TAX B 0.3288461
## 1843  2490  6          CRIM INDUS NX RAD TAX B 0.3281122
## 2211  2491  6              ZN NX AGE DIS RAD B 0.3263267
## 1595  2492  6        CRIM ZN INDUS NX AGE TAX 0.3261980
## 2079  2493  6            ZN INDUS NX AGE TAX B 0.3250599
## 1763  2494  6            CRIM ZN AGE DIS RAD B 0.3232561
## 2028  2495  6            CRIM AGE DIS RAD TAX B 0.3229574
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## 1822  2496  6                                    CRIM INDUS NX AGE RAD TAX 0.3194147
## 2074  2497  6                                      ZN INDUS NX AGE RAD TAX 0.3180080
## 1594  2498  6                                    CRIM ZN INDUS NX AGE RAD 0.3178088
## 2462  2499  6                                          NX AGE DIS RAD TAX B 0.3174809
## 1701  2500  6                                         CRIM ZN NX AGE TAX B 0.3168024
## 1978  2501  6                                        CRIM NX DIS RAD TAX B 0.3156758
## 1827  2502  6                                      CRIM INDUS NX AGE TAX B 0.3142686
## 1962  2503  6                                         CRIM NX AGE DIS TAX B 0.3128138
## 2346  2504  6                                        INDUS NX AGE RAD TAX B 0.3117774
## 1824  2505  6                                      CRIM INDUS NX AGE RAD B 0.3114058
## 1968  2506  6                                        CRIM NX AGE RAD TAX B 0.3109439
## 2076  2507  6                                        ZN INDUS NX AGE RAD B 0.3092477
## 1698  2508  6                                          CRIM ZN NX AGE RAD B 0.2962890
## 1959  2509  6                                         CRIM NX AGE DIS RAD B 0.2934807
## 3284  2510  7                             NX RM DIS RAD PTRATIO B LSTAT 0.7113216
## 3127  2511  7                             ZN NX RM DIS PTRATIO B LSTAT 0.7113141
## 2917  2512  7                           CRIM NX RM DIS PTRATIO B LSTAT 0.7095371
## 3300  2513  7                             RM DIS RAD TAX PTRATIO B LSTAT 0.7086591
## 3275  2514  7                             NX RM AGE DIS PTRATIO B LSTAT 0.7081351
## 3285  2515  7                             NX RM DIS TAX PTRATIO B LSTAT 0.7077404
## 3211  2516  7                          INDUS NX RM DIS PTRATIO B LSTAT 0.7077388
## 2912  2517  7                        CRIM NX RM DIS RAD PTRATIO LSTAT 0.7065725
## 2735  2518  7                           CRIM ZN RM DIS PTRATIO B LSTAT 0.7061784
## 3173  2519  7                             ZN RM DIS TAX PTRATIO B LSTAT 0.7060626
## 2659  2520  7                        CRIM ZN NX RM DIS PTRATIO LSTAT 0.7052943
## 3071  2521  7                          ZN INDUS RM DIS PTRATIO B LSTAT 0.7041512
## 3163  2522  7                             ZN RM AGE DIS PTRATIO B LSTAT 0.7040743
## 3282  2523  7                           NX RM DIS RAD TAX PTRATIO LSTAT 0.7031705
## 2962  2524  7                          CRIM RM DIS RAD PTRATIO B LSTAT 0.7028504
## 2953  2525  7                          CRIM RM AGE DIS PTRATIO B LSTAT 0.7028168
## 3172  2526  7                           ZN RM DIS RAD PTRATIO B LSTAT 0.7027706
## 3171  2527  7                               ZN RM DIS RAD TAX B LSTAT 0.7020565
## 2861  2528  7                        CRIM INDUS RM DIS PTRATIO B LSTAT 0.7018509
## 3298  2529  7                             RM AGE DIS TAX PTRATIO B LSTAT 0.7018323
## 3247  2530  7                          INDUS RM AGE DIS PTRATIO B LSTAT 0.7014138
## 2896  2531  7                         CRIM NX RM AGE DIS PTRATIO LSTAT 0.7011929
## 2963  2532  7                          CRIM RM DIS TAX PTRATIO B LSTAT 0.7010943
## 2785  2533  7                      CRIM INDUS NX RM DIS PTRATIO LSTAT 0.7010199
## 2915  2534  7                         CRIM NX RM DIS TAX PTRATIO LSTAT 0.7009648
## 3297  2535  7                             RM AGE DIS RAD PTRATIO B LSTAT 0.7008598
## 3257  2536  7                          INDUS RM DIS TAX PTRATIO B LSTAT 0.7003375
## 3125  2537  7                           ZN NX RM DIS TAX PTRATIO LSTAT 0.7002800
## 3256  2538  7                          INDUS RM DIS RAD PTRATIO B LSTAT 0.7002223
## 2960  2539  7                         CRIM RM DIS RAD TAX PTRATIO LSTAT 0.7001585
## 3170  2540  7                           ZN RM DIS RAD TAX PTRATIO LSTAT 0.6993422
## 3122  2541  7                           ZN NX RM DIS RAD PTRATIO LSTAT 0.6982895
## 2995  2542  7                        ZN INDUS NX RM DIS PTRATIO LSTAT 0.6981805
## 2734  2543  7                                 CRIM ZN RM DIS TAX B LSTAT 0.6981780
## 3106  2544  7                           ZN NX RM AGE DIS PTRATIO LSTAT 0.6980791
## 2728  2545  7                              CRIM ZN RM DIS RAD TAX LSTAT 0.6976171
## 2733  2546  7                        CRIM ZN RM DIS TAX PTRATIO LSTAT 0.6974565
## 3126  2547  7                               ZN NX RM DIS TAX B LSTAT 0.6968707
## 3162  2548  7                               ZN RM AGE DIS TAX B LSTAT 0.6965522
## 3070  2549  7                           ZN INDUS RM DIS TAX B LSTAT 0.6964742
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## 2589   2550   7                 CRIM ZN INDUS RM DIS PTRATIO LSTAT 0.6963664
## 3273   2551   7                    NX RM AGE DIS TAX PTRATIO LSTAT 0.6963539
## 3209   2552   7                 INDUS NX RM DIS TAX PTRATIO LSTAT 0.6961774
## 3206   2553   7                 INDUS NX RM DIS RAD PTRATIO LSTAT 0.6961219
## 3270   2554   7                    NX RM AGE DIS RAD PTRATIO LSTAT 0.6961110
## 2590   2555   7                       CRIM ZN INDUS RM DIS B LSTAT 0.6958593
## 2660   2556   7                            CRIM ZN NX RM DIS B LSTAT 0.6955907
## 3190   2557   7                 INDUS NX RM AGE DIS PTRATIO LSTAT 0.6955219
## 2714   2558   7                      CRIM ZN RM AGE DIS PTRATIO LSTAT 0.6948201
## 3258   2559   7                    INDUS RM RAD TAX PTRATIO B LSTAT 0.6937525
## 3161   2560   7                     ZN RM AGE DIS TAX PTRATIO LSTAT 0.6937486
## 2730   2561   7                    CRIM ZN RM DIS RAD PTRATIO LSTAT 0.6937485
## 3295   2562   7                     RM AGE DIS RAD TAX PTRATIO LSTAT 0.6933851
## 3069   2563   7                   ZN INDUS RM DIS TAX PTRATIO LSTAT 0.6933738
## 2715   2564   7                        CRIM ZN RM AGE DIS B LSTAT 0.6930216
## 2840   2565   7               CRIM INDUS RM AGE DIS PTRATIO LSTAT 0.6922277
## 2951   2566   7                   CRIM RM AGE DIS TAX PTRATIO LSTAT 0.6919581
## 2731   2567   7                        CRIM ZN RM DIS RAD B LSTAT 0.6919568
## 3254   2568   7                 INDUS RM DIS RAD TAX PTRATIO LSTAT 0.6918514
## 2964   2569   7                    CRIM RM RAD TAX PTRATIO B LSTAT 0.6917176
## 2856   2570   7               CRIM INDUS RM DIS RAD PTRATIO LSTAT 0.6916009
## 2657   2571   7                      CRIM ZN NX RM DIS TAX LSTAT 0.6915660
## 2859   2572   7               CRIM INDUS RM DIS TAX PTRATIO LSTAT 0.6912439
## 2996   2573   7                   ZN INDUS NX RM DIS B LSTAT 0.6909620
## 3299   2574   7                   RM AGE RAD TAX PTRATIO B LSTAT 0.6909399
## 2948   2575   7                CRIM RM AGE DIS RAD PTRATIO LSTAT 0.6906535
## 2587   2576   7                 CRIM ZN INDUS RM DIS TAX LSTAT 0.6905285
## 3067   2577   7                   ZN INDUS RM DIS RAD B LSTAT 0.6900857
## 3120   2578   7                   ZN NX RM DIS RAD TAX LSTAT 0.6898328
## 2712   2579   7                  CRIM ZN RM AGE DIS TAX LSTAT 0.6898034
## 3123   2580   7                     ZN NX RM DIS RAD B LSTAT 0.6896811
## 3051   2581   7                  ZN INDUS RM AGE DIS B LSTAT 0.6896751
## 3107   2582   7                     ZN NX RM AGE DIS B LSTAT 0.6888733
## 2520   2583   7                 CRIM ZN INDUS NX RM DIS LSTAT 0.6885910
## 3245   2584   7               INDUS RM AGE DIS TAX PTRATIO LSTAT 0.6883882
## 3156   2585   7                   ZN RM AGE DIS RAD TAX LSTAT 0.6883077
## 3064   2586   7                 ZN INDUS RM DIS RAD TAX LSTAT 0.6880346
## 3286   2587   7                     NX RM RAD TAX PTRATIO B LSTAT 0.6879522
## 3174   2588   7                    ZN RM RAD TAX PTRATIO B LSTAT 0.6878913
## 3159   2589   7                     ZN RM AGE DIS RAD B LSTAT 0.6878731
## 2957   2590   7                CRIM RM AGE RAD PTRATIO B LSTAT 0.6875689
## 3050   2591   7                 ZN INDUS RM AGE DIS PTRATIO LSTAT 0.6874294
## 3066   2592   7                 ZN INDUS RM DIS RAD PTRATIO LSTAT 0.6872955
## 2961   2593   7                   CRIM RM DIS RAD TAX B LSTAT 0.6866913
## 2865   2594   7               CRIM INDUS RM RAD PTRATIO B LSTAT 0.6866586
## 2993   2595   7                   ZN INDUS NX RM DIS TAX LSTAT 0.6861985
## 3104   2596   7                    ZN NX RM AGE DIS TAX LSTAT 0.6860006
## 3158   2597   7                 ZN RM AGE DIS RAD PTRATIO LSTAT 0.6858981
## 2640   2598   7                     CRIM ZN NX RM AGE DIS LSTAT 0.6858436
## 2570   2599   7                 CRIM ZN INDUS RM AGE DIS LSTAT 0.6857955
## 2654   2600   7                      CRIM ZN NX RM DIS RAD LSTAT 0.6857660
## 2739   2601   7                  CRIM ZN RM RAD PTRATIO B LSTAT 0.6857284
## 2921   2602   7                    CRIM NX RM RAD PTRATIO B LSTAT 0.6854827
## 2584   2603   7                 CRIM ZN INDUS RM DIS RAD LSTAT 0.6852516
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## 3279  2604  7                    NX RM AGE RAD PTRATIO B LSTAT 0.6851474
## 3048  2605  7             ZN INDUS RM AGE DIS TAX LSTAT 0.6851338
## 3296  2606  7                  RM AGE DIS RAD TAX B LSTAT 0.6846759
## 3242  2607  7      INDUS RM AGE DIS RAD PTRATIO LSTAT 0.6845198
## 3251  2608  7       INDUS RM AGE RAD PTRATIO B LSTAT 0.6842846
## 3283  2609  7                   NX RM DIS RAD TAX B LSTAT 0.6840440
## 3215  2610  7          INDUS NX RM RAD PTRATIO B LSTAT 0.6839400
## 2863  2611  7      CRIM INDUS RM RAD TAX PTRATIO LSTAT 0.6838771
## 3167  2612  7             ZN RM AGE RAD PTRATIO B LSTAT 0.6838326
## 2851  2613  7      CRIM INDUS RM AGE PTRATIO B LSTAT 0.6836597
## 3201  2614  7          INDUS NX RM AGE PTRATIO B LSTAT 0.6836201
## 3255  2615  7             INDUS RM DIS RAD TAX B LSTAT 0.6832347
## 3075  2616  7           ZN INDUS RM RAD PTRATIO B LSTAT 0.6831912
## 3252  2617  7          INDUS RM AGE TAX PTRATIO B LSTAT 0.6830095
## 2952  2618  7                 CRIM RM AGE DIS TAX B LSTAT 0.6829980
## 2841  2619  7             CRIM INDUS RM AGE DIS B LSTAT 0.6827627
## 2955  2620  7       CRIM RM AGE RAD TAX PTRATIO LSTAT 0.6827599
## 2907  2621  7           CRIM NX RM AGE PTRATIO B LSTAT 0.6827078
## 2725  2622  7           CRIM ZN RM AGE PTRATIO B LSTAT 0.6826766
## 2860  2623  7             CRIM INDUS RM DIS TAX B LSTAT 0.6826656
## 2958  2624  7         CRIM RM AGE TAX PTRATIO B LSTAT 0.6826266
## 3061  2625  7           ZN INDUS RM AGE PTRATIO B LSTAT 0.6826201
## 2786  2626  7            CRIM INDUS NX RM DIS B LSTAT 0.6825675
## 2916  2627  7                CRIM NX RM DIS TAX B LSTAT 0.6825171
## 2866  2628  7       CRIM INDUS RM TAX PTRATIO B LSTAT 0.6822133
## 3131  2629  7              ZN NX RM RAD PTRATIO B LSTAT 0.6822078
## 3246  2630  7                INDUS RM AGE DIS TAX B LSTAT 0.6822039
## 2796  2631  7          CRIM INDUS NX RM PTRATIO B LSTAT 0.6821977
## 2600  2632  7          CRIM ZN INDUS RM PTRATIO B LSTAT 0.6821442
## 3117  2633  7              ZN NX RM AGE PTRATIO B LSTAT 0.6817810
## 3280  2634  7               NX RM AGE TAX PTRATIO B LSTAT 0.6817774
## 3274  2635  7                  NX RM AGE DIS TAX B LSTAT 0.6817425
## 3168  2636  7               ZN RM AGE TAX PTRATIO B LSTAT 0.6816875
## 3216  2637  7           INDUS NX RM TAX PTRATIO B LSTAT 0.6815762
## 3076  2638  7            ZN INDUS RM TAX PTRATIO B LSTAT 0.6815446
## 3006  2639  7             ZN INDUS NX RM PTRATIO B LSTAT 0.6813461
## 3210  2640  7               INDUS NX RM DIS TAX B LSTAT 0.6812705
## 2897  2641  7                 CRIM NX RM AGE DIS B LSTAT 0.6811507
## 2709  2642  7             CRIM ZN RM AGE DIS RAD LSTAT 0.6811036
## 2857  2643  7             CRIM INDUS RM DIS RAD B LSTAT 0.6807738
## 2670  2644  7               CRIM ZN NX RM PTRATIO B LSTAT 0.6799568
## 2913  2645  7                CRIM NX RM DIS RAD B LSTAT 0.6799507
## 2922  2646  7           CRIM NX RM TAX PTRATIO B LSTAT 0.6799071
## 2740  2647  7           CRIM ZN RM TAX PTRATIO B LSTAT 0.6798207
## 2737  2648  7         CRIM ZN RM RAD TAX PTRATIO LSTAT 0.6796056
## 2919  2649  7         CRIM NX RM RAD TAX PTRATIO LSTAT 0.6795592
## 2910  2650  7              CRIM NX RM DIS RAD TAX LSTAT 0.6794017
## 3132  2651  7                ZN NX RM TAX PTRATIO B LSTAT 0.6790707
## 2949  2652  7                CRIM RM AGE DIS RAD B LSTAT 0.6787693
## 3191  2653  7                INDUS NX RM AGE DIS B LSTAT 0.6785262
## 3243  2654  7                INDUS RM AGE DIS RAD B LSTAT 0.6782591
## 2946  2655  7            CRIM RM AGE DIS RAD TAX LSTAT 0.6781906
## 2990  2656  7              ZN INDUS NX RM DIS RAD LSTAT 0.6781566
## 3213  2657  7        INDUS NX RM RAD TAX PTRATIO LSTAT 0.6780764
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## 3207   2658   7                          INDUS NX RM DIS RAD B LSTAT 0.6779219
## 3249   2659   7             INDUS RM AGE RAD TAX PTRATIO LSTAT 0.6778935
## 2854   2660   7             CRIM INDUS RM DIS RAD TAX LSTAT 0.6774742
## 2902   2661   7             CRIM NX RM AGE RAD PTRATIO LSTAT 0.6774637
## 3073   2662   7          ZN INDUS RM RAD TAX PTRATIO LSTAT 0.6770059
## 3271   2663   7                          NX RM AGE DIS RAD B LSTAT 0.6767003
## 3277   2664   7                NX RM AGE RAD TAX PTRATIO LSTAT 0.6764063
## 3045   2665   7             ZN INDUS RM AGE DIS RAD LSTAT 0.6760789
## 3101   2666   7                   ZN NX RM AGE DIS RAD LSTAT 0.6759327
## 2783   2667   7             CRIM INDUS NX RM DIS TAX LSTAT 0.6757009
## 3165   2668   7                ZN RM AGE RAD TAX PTRATIO LSTAT 0.6756520
## 2838   2669   7             CRIM INDUS RM AGE DIS TAX LSTAT 0.6754064
## 2894   2670   7                CRIM NX RM AGE DIS TAX LSTAT 0.6752544
## 2976   2671   7                ZN INDUS NX RM AGE DIS LSTAT 0.6745036
## 2775   2672   7       CRIM INDUS NX RM AGE PTRATIO LSTAT 0.6744769
## 2791   2673   7       CRIM INDUS NX RM RAD PTRATIO LSTAT 0.6743903
## 2766   2674   7          CRIM INDUS NX RM AGE DIS LSTAT 0.6743434
## 2720   2675   7          CRIM ZN RM AGE RAD PTRATIO LSTAT 0.6743190
## 2846   2676   7     CRIM INDUS RM AGE RAD PTRATIO LSTAT 0.6742661
## 2780   2677   7             CRIM INDUS NX RM DIS RAD LSTAT 0.6735277
## 2665   2678   7             CRIM ZN NX RM RAD PTRATIO LSTAT 0.6731630
## 2649   2679   7             CRIM ZN NX RM AGE PTRATIO LSTAT 0.6730999
## 2905   2680   7             CRIM NX RM AGE TAX PTRATIO LSTAT 0.6730850
## 2849   2681   7       CRIM INDUS RM AGE TAX PTRATIO LSTAT 0.6730744
## 2595   2682   7     CRIM ZN INDUS RM RAD PTRATIO LSTAT 0.6727764
## 2723   2683   7          CRIM ZN RM AGE TAX PTRATIO LSTAT 0.6725605
## 2579   2684   7     CRIM ZN INDUS RM AGE PTRATIO LSTAT 0.6725541
## 3268   2685   7                NX RM AGE DIS RAD TAX LSTAT 0.6722591
## 3129   2686   7                ZN NX RM RAD TAX PTRATIO LSTAT 0.6721738
## 2835   2687   7          CRIM INDUS RM AGE DIS RAD LSTAT 0.6721026
## 3199   2688   7          INDUS NX RM AGE TAX PTRATIO LSTAT 0.6718800
## 3204   2689   7             INDUS NX RM DIS RAD TAX LSTAT 0.6717878
## 2794   2690   7       CRIM INDUS NX RM TAX PTRATIO LSTAT 0.6715501
## 3240   2691   7             INDUS RM AGE DIS RAD TAX LSTAT 0.6713745
## 2598   2692   7     CRIM ZN INDUS RM TAX PTRATIO LSTAT 0.6713282
## 2529   2693   7       CRIM ZN INDUS NX RM PTRATIO LSTAT 0.6712280
## 3188   2694   7                INDUS NX RM AGE DIS TAX LSTAT 0.6710815
## 2891   2695   7                CRIM NX RM AGE DIS RAD LSTAT 0.6710151
## 3196   2696   7       INDUS NX RM AGE RAD PTRATIO LSTAT 0.6709906
## 3059   2697   7          ZN INDUS RM AGE TAX PTRATIO LSTAT 0.6706254
## 2985   2698   7          ZN INDUS NX RM AGE PTRATIO LSTAT 0.6704252
## 3115   2699   7                ZN NX RM AGE TAX PTRATIO LSTAT 0.6698774
## 3112   2700   7                ZN NX RM AGE RAD PTRATIO LSTAT 0.6697591
## 2668   2701   7             CRIM ZN NX RM TAX PTRATIO LSTAT 0.6694227
## 3166   2702   7                   ZN RM AGE RAD TAX B LSTAT 0.6692703
## 3004   2703   7          ZN INDUS NX RM TAX PTRATIO LSTAT 0.6689220
## 3130   2704   7                      ZN NX RM RAD TAX B LSTAT 0.6687529
## 3074   2705   7                ZN INDUS RM RAD TAX B LSTAT 0.6685140
## 2956   2706   7                CRIM RM AGE RAD TAX B LSTAT 0.6680910
## 2920   2707   7                   CRIM NX RM RAD TAX B LSTAT 0.6680392
## 2864   2708   7             CRIM INDUS RM RAD TAX B LSTAT 0.6678215
## 3001   2709   7          ZN INDUS NX RM RAD PTRATIO LSTAT 0.6675521
## 3056   2710   7       ZN INDUS RM AGE RAD PTRATIO LSTAT 0.6671619
## 2738   2711   7                CRIM ZN RM RAD TAX B LSTAT 0.6664790
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## 3116  2712  7                          ZN NX RM AGE TAX B LSTAT 0.6660808
## 3250  2713  7                       INDUS RM AGE RAD TAX B LSTAT 0.6660670
## 3214  2714  7                       INDUS NX RM RAD TAX B LSTAT 0.6660105
## 3185  2715  7                    INDUS NX RM AGE DIS RAD LSTAT 0.6658389
## 3278  2716  7                          NX RM AGE RAD TAX B LSTAT 0.6657602
## 2724  2717  7                         CRIM ZN RM AGE TAX B LSTAT 0.6656380
## 3060  2718  7                       ZN INDUS RM AGE TAX B LSTAT 0.6656251
## 2669  2719  7                         CRIM ZN NX RM TAX B LSTAT 0.6650456
## 3005  2720  7                       ZN INDUS NX RM TAX B LSTAT 0.6648327
## 2650  2721  7                       CRIM ZN NX RM AGE B LSTAT 0.6646287
## 2721  2722  7                        CRIM ZN RM AGE RAD B LSTAT 0.6643535
## 2580  2723  7                    CRIM ZN INDUS RM AGE B LSTAT 0.6642080
## 2718  2724  7                     CRIM ZN RM AGE RAD TAX LSTAT 0.6639432
## 2906  2725  7                        CRIM NX RM AGE TAX B LSTAT 0.6630433
## 2599  2726  7                    CRIM ZN INDUS RM TAX B LSTAT 0.6626339
## 2850  2727  7                    CRIM INDUS RM AGE TAX B LSTAT 0.6624622
## 2795  2728  7                    CRIM INDUS NX RM TAX B LSTAT 0.6624329
## 2666  2729  7                         CRIM ZN NX RM RAD B LSTAT 0.6623513
## 2530  2730  7                      CRIM ZN INDUS NX RM B LSTAT 0.6623366
## 3200  2731  7                       INDUS NX RM AGE TAX B LSTAT 0.6620172
## 3293  2732  7                    NX DIS RAD TAX PTRATIO B LSTAT 0.6618661
## 2593  2733  7                  CRIM ZN INDUS RM RAD TAX LSTAT 0.6615531
## 3113  2734  7                         ZN NX RM AGE RAD B LSTAT 0.6612641
## 2939  2735  7              CRIM NX DIS RAD TAX PTRATIO LSTAT 0.6611813
## 2663  2736  7                      CRIM ZN NX RM RAD TAX LSTAT 0.6609701
## 3181  2737  7                    ZN DIS RAD TAX PTRATIO B LSTAT 0.6609175
## 2903  2738  7                        CRIM NX RM AGE RAD B LSTAT 0.6608451
## 2986  2739  7                       ZN INDUS NX RM AGE B LSTAT 0.6608324
## 3057  2740  7                      ZN INDUS RM AGE RAD B LSTAT 0.6608267
## 2776  2741  7                      CRIM INDUS NX RM AGE B LSTAT 0.6608093
## 2847  2742  7                      CRIM INDUS RM AGE RAD B LSTAT 0.6607077
## 2596  2743  7                    CRIM ZN INDUS RM RAD B LSTAT 0.6606287
## 2792  2744  7                      CRIM INDUS NX RM RAD B LSTAT 0.6598936
## 3149  2745  7                  ZN NX DIS RAD TAX PTRATIO LSTAT 0.6597281
## 3054  2746  7                     ZN INDUS RM AGE RAD TAX LSTAT 0.6593144
## 3002  2747  7                       ZN INDUS NX RM RAD B LSTAT 0.6591890
## 2844  2748  7                    CRIM INDUS RM AGE RAD TAX LSTAT 0.6591489
## 2900  2749  7                       CRIM NX RM AGE RAD TAX LSTAT 0.6586492
## 2577  2750  7                   CRIM ZN INDUS RM AGE TAX LSTAT 0.6581759
## 2647  2751  7                       CRIM ZN NX RM AGE TAX LSTAT 0.6581376
## 2789  2752  7                     CRIM INDUS NX RM RAD TAX LSTAT 0.6580392
## 2941  2753  7                   CRIM NX DIS RAD PTRATIO B LSTAT 0.6578159
## 3197  2754  7                       INDUS NX RM AGE RAD B LSTAT 0.6577751
## 3110  2755  7                          ZN NX RM AGE RAD TAX LSTAT 0.6577722
## 2757  2756  7              CRIM ZN DIS RAD TAX PTRATIO LSTAT 0.6574134
## 2999  2757  7                       ZN INDUS NX RM RAD TAX LSTAT 0.6566431
## 3151  2758  7                  ZN NX DIS RAD PTRATIO B LSTAT 0.6562041
## 2695  2759  7              CRIM ZN NX DIS RAD PTRATIO LSTAT 0.6558352
## 2527  2760  7                    CRIM ZN INDUS NX RM TAX LSTAT 0.6557785
## 2983  2761  7                       ZN INDUS NX RM AGE TAX LSTAT 0.6552692
## 2644  2762  7                        CRIM ZN NX RM AGE RAD LSTAT 0.6538384
## 2515  2763  7                    CRIM ZN INDUS NX RM AGE LSTAT 0.6538298
## 2574  2764  7                   CRIM ZN INDUS RM AGE RAD LSTAT 0.6538231
## 2773  2765  7                    CRIM INDUS NX RM AGE TAX LSTAT 0.6537855
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## 3194   2766   7              INDUS NX RM AGE RAD TAX LSTAT 0.6530750
## 2700   2767   7              CRIM ZN NX DIS PTRATIO B LSTAT 0.6522412
## 3290   2768   7              NX AGE DIS RAD PTRATIO B LSTAT 0.6516339
## 3142   2769   7              ZN NX AGE DIS PTRATIO B LSTAT 0.6515259
## 3235   2770   7              INDUS NX DIS RAD PTRATIO B LSTAT 0.6513940
## 3036   2771   7              ZN INDUS NX DIS PTRATIO B LSTAT 0.6513350
## 3288   2772   7              NX AGE DIS RAD TAX PTRATIO LSTAT 0.6509997
## 2821   2773   7         CRIM INDUS NX DIS RAD PTRATIO LSTAT 0.6506935
## 2524   2774   7              CRIM ZN INDUS NX RM RAD LSTAT 0.6506458
## 2927   2775   7         CRIM NX AGE DIS RAD PTRATIO LSTAT 0.6506171
## 3152   2776   7              ZN NX DIS TAX PTRATIO B LSTAT 0.6503784
## 2971   2777   7              CRIM DIS RAD TAX PTRATIO B LSTAT 0.6502811
## 2770   2778   7              CRIM INDUS NX RM AGE RAD LSTAT 0.6501424
## 3233   2779   7              INDUS NX DIS RAD TAX PTRATIO LSTAT 0.6497851
## 2554   2780   7         CRIM ZN INDUS NX DIS PTRATIO LSTAT 0.6481153
## 2679   2781   7              CRIM ZN NX AGE DIS PTRATIO LSTAT 0.6480750
## 3093   2782   7              ZN INDUS DIS RAD TAX PTRATIO LSTAT 0.6472821
## 2980   2783   7              ZN INDUS NX RM AGE RAD LSTAT 0.6471563
## 3176   2784   7              ZN AGE DIS RAD TAX PTRATIO LSTAT 0.6468232
## 2698   2785   7              CRIM ZN NX DIS TAX PTRATIO LSTAT 0.6465208
## 3265   2786   7              INDUS DIS RAD TAX PTRATIO B LSTAT 0.6461592
## 2758   2787   7              CRIM ZN DIS RAD TAX B LSTAT 0.6457061
## 3137   2788   7              ZN NX AGE DIS RAD PTRATIO LSTAT 0.6454945
## 3301   2789   7              AGE DIS RAD TAX PTRATIO B LSTAT 0.6452853
## 2630   2790   7              CRIM ZN INDUS DIS PTRATIO B LSTAT 0.6452094
## 3031   2791   7              ZN INDUS NX DIS RAD PTRATIO LSTAT 0.6448758
## 3015   2792   7              ZN INDUS NX AGE DIS PTRATIO LSTAT 0.6443287
## 3140   2793   7              ZN NX AGE DIS TAX PTRATIO LSTAT 0.6442582
## 3096   2794   7              ZN INDUS DIS TAX PTRATIO B LSTAT 0.6438338
## 3095   2795   7              ZN INDUS DIS RAD PTRATIO B LSTAT 0.6436746
## 3034   2796   7              ZN INDUS NX DIS TAX PTRATIO LSTAT 0.6435083
## 2759   2797   7              CRIM ZN DIS RAD PTRATIO B LSTAT 0.6426308
## 2826   2798   7              CRIM INDUS NX DIS PTRATIO B LSTAT 0.6425406
## 3226   2799   7              INDUS NX AGE DIS PTRATIO B LSTAT 0.6423102
## 2932   2800   7              CRIM NX AGE DIS PTRATIO B LSTAT 0.6422594
## 3086   2801   7              ZN INDUS AGE DIS PTRATIO B LSTAT 0.6422182
## 2942   2802   7              CRIM NX DIS TAX PTRATIO B LSTAT 0.6421844
## 3236   2803   7              INDUS NX DIS TAX PTRATIO B LSTAT 0.6420027
## 2693   2804   7              CRIM ZN NX DIS RAD TAX LSTAT 0.6418223
## 2760   2805   7              CRIM ZN DIS TAX PTRATIO B LSTAT 0.6416724
## 3291   2806   7              NX AGE DIS TAX PTRATIO B LSTAT 0.6416525
## 2883   2807   7         CRIM INDUS DIS RAD TAX PTRATIO LSTAT 0.6410831
## 3179   2808   7              ZN AGE DIS TAX PTRATIO B LSTAT 0.6406002
## 3221   2809   7         INDUS NX AGE DIS RAD PTRATIO LSTAT 0.6404974
## 3150   2810   7              ZN NX DIS RAD TAX B LSTAT 0.6404939
## 2623   2811   7              CRIM ZN INDUS DIS RAD TAX LSTAT 0.6402065
## 2625   2812   7         CRIM ZN INDUS DIS RAD PTRATIO LSTAT 0.6401138
## 3094   2813   7              ZN INDUS DIS RAD TAX B LSTAT 0.6399947
## 2966   2814   7         CRIM AGE DIS RAD TAX PTRATIO LSTAT 0.6392566
## 2885   2815   7              CRIM INDUS DIS RAD PTRATIO B LSTAT 0.6392418
## 2750   2816   7              CRIM ZN AGE DIS PTRATIO B LSTAT 0.6391091
## 3177   2817   7              ZN AGE DIS RAD TAX B LSTAT 0.6390782
## 2628   2818   7         CRIM ZN INDUS DIS TAX PTRATIO LSTAT 0.6387006
## 2743   2819   7              CRIM ZN AGE DIS RAD TAX LSTAT 0.6383072
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## 2805 2820 7                      CRIM INDUS NX AGE DIS PTRATIO LSTAT 0.6382483
## 2824 2821 7                      CRIM INDUS NX DIS TAX PTRATIO LSTAT 0.6380377
## 2609 2822 7                      CRIM ZN INDUS AGE DIS PTRATIO LSTAT 0.6374327
## 2930 2823 7                       CRIM NX AGE DIS TAX PTRATIO LSTAT 0.6373616
## 3178 2824 7                         ZN AGE DIS RAD PTRATIO B LSTAT 0.6369644
## 3224 2825 7                      INDUS NX AGE DIS TAX PTRATIO LSTAT 0.6352136
## 3084 2826 7                      ZN INDUS AGE DIS TAX PTRATIO LSTAT 0.6346693
## 2748 2827 7                       CRIM ZN AGE DIS TAX PTRATIO LSTAT 0.6342496
## 3262 2828 7                      INDUS AGE DIS RAD PTRATIO B LSTAT 0.6337682
## 2970 2829 7                       CRIM AGE RAD TAX PTRATIO B LSTAT 0.6325986
## 3292 2830 7                         NX AGE RAD TAX PTRATIO B LSTAT 0.6324909
## 3260 2831 7                     INDUS AGE DIS RAD TAX PTRATIO LSTAT 0.6319981
## 3180 2832 7                          ZN AGE RAD TAX PTRATIO B LSTAT 0.6318497
## 3135 2833 7                          ZN NX AGE DIS RAD TAX LSTAT 0.6317507
## 2886 2834 7                     CRIM INDUS DIS TAX PTRATIO B LSTAT 0.6316054
## 2876 2835 7                     CRIM INDUS AGE DIS PTRATIO B LSTAT 0.6315997
## 2629 2836 7                         CRIM ZN INDUS DIS TAX B LSTAT 0.6314492
## 2968 2837 7                       CRIM AGE DIS RAD PTRATIO B LSTAT 0.6313457
## 2895 2838 7                         CRIM NX RM AGE DIS PTRATIO B 0.6311949
## 3029 2839 7                         ZN INDUS NX DIS RAD TAX LSTAT 0.6311502
## 2745 2840 7                      CRIM ZN AGE DIS RAD PTRATIO LSTAT 0.6306106
## 3263 2841 7                      INDUS AGE DIS TAX PTRATIO B LSTAT 0.6302970
## 2555 2842 7                          CRIM ZN INDUS NX DIS B LSTAT 0.6301422
## 3035 2843 7                          ZN INDUS NX DIS TAX B LSTAT 0.6296806
## 3079 2844 7                         ZN INDUS AGE DIS RAD TAX LSTAT 0.6296463
## 3081 2845 7                     ZN INDUS AGE DIS RAD PTRATIO LSTAT 0.6293853
## 3085 2846 7                          ZN INDUS AGE DIS TAX B LSTAT 0.6292139
## 2934 2847 7                     CRIM NX AGE RAD TAX PTRATIO LSTAT 0.6290412
## 3264 2848 7                      INDUS AGE RAD TAX PTRATIO B LSTAT 0.6289977
## 2871 2849 7                 CRIM INDUS AGE DIS RAD PTRATIO LSTAT 0.6284724
## 2699 2850 7                           CRIM ZN NX DIS TAX B LSTAT 0.6284236
## 2626 2851 7                        CRIM ZN INDUS DIS RAD B LSTAT 0.6284119
## 2610 2852 7                        CRIM ZN INDUS AGE DIS B LSTAT 0.6282484
## 2552 2853 7                       CRIM ZN INDUS NX DIS TAX LSTAT 0.6278882
## 3141 2854 7                           ZN NX AGE DIS TAX B LSTAT 0.6273442
## 2752 2855 7                      CRIM ZN AGE RAD TAX PTRATIO LSTAT 0.6269967
## 2936 2856 7                        CRIM NX AGE RAD PTRATIO B LSTAT 0.6267109
## 2607 2857 7                       CRIM ZN INDUS AGE DIS TAX LSTAT 0.6264433
## 2969 2858 7                       CRIM AGE DIS TAX PTRATIO B LSTAT 0.6263628
## 2887 2859 7                     CRIM INDUS RAD TAX PTRATIO B LSTAT 0.6262970
## 2749 2860 7                          CRIM ZN AGE DIS TAX B LSTAT 0.6262299
## 2535 2861 7                       CRIM ZN INDUS NX AGE DIS LSTAT 0.6257732
## 3189 2862 7                        INDUS NX RM AGE DIS PTRATIO B 0.6254927
## 2839 2863 7                       CRIM INDUS RM AGE DIS PTRATIO B 0.6250196
## 2549 2864 7                       CRIM ZN INDUS NX DIS RAD LSTAT 0.6248783
## 2677 2865 7                         CRIM ZN NX AGE DIS TAX LSTAT 0.6248553
## 3272 2866 7                           NX RM AGE DIS TAX PTRATIO B 0.6246235
## 3016 2867 7                          ZN INDUS NX AGE DIS B LSTAT 0.6245123
## 3105 2868 7                           ZN NX RM AGE DIS PTRATIO B 0.6240525
## 3269 2869 7                          NX RM AGE DIS RAD PTRATIO B 0.6240253
## 2874 2870 7                 CRIM INDUS AGE DIS TAX PTRATIO LSTAT 0.6239314
## 3013 2871 7                         ZN INDUS NX AGE DIS TAX LSTAT 0.6237791
## 3228 2872 7                     INDUS NX AGE RAD TAX PTRATIO LSTAT 0.6237288
## 3237 2873 7                        INDUS NX RAD TAX PTRATIO B LSTAT 0.6235925
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## 2911  2874  7                                CRIM NX RM DIS RAD PTRATIO B 0.6235649
## 2680  2875  7                                CRIM ZN NX AGE DIS B LSTAT 0.6234725
## 3097  2876  7                            ZN INDUS RAD TAX PTRATIO B LSTAT 0.6234293
## 3032  2877  7                               ZN INDUS NX DIS RAD B LSTAT 0.6232871
## 2761  2878  7                             CRIM ZN RAD TAX PTRATIO B LSTAT 0.6231429
## 2943  2879  7                             CRIM NX RAD TAX PTRATIO B LSTAT 0.6229829
## 3294  2880  7                                RM AGE DIS RAD TAX PTRATIO B 0.6226699
## 2878  2881  7                       CRIM INDUS AGE RAD TAX PTRATIO LSTAT 0.6226462
## 2696  2882  7                               CRIM ZN NX DIS RAD B LSTAT 0.6225416
## 3144  2883  7                           ZN NX AGE RAD TAX PTRATIO LSTAT 0.6223658
## 3146  2884  7                              ZN NX AGE RAD PTRATIO B LSTAT 0.6221489
## 3230  2885  7                           INDUS NX AGE RAD PTRATIO B LSTAT 0.6220361
## 3082  2886  7                             ZN INDUS AGE DIS RAD B LSTAT 0.6215679
## 2604  2887  7                           CRIM ZN INDUS AGE DIS RAD LSTAT 0.6211750
## 2889  2888  7                             CRIM NX RM AGE DIS RAD PTRATIO 0.6203098
## 3088  2889  7                          ZN INDUS AGE RAD TAX PTRATIO LSTAT 0.6200932
## 2950  2890  7                              CRIM RM AGE DIS TAX PTRATIO B 0.6199105
## 2764  2891  7                          CRIM INDUS NX RM AGE DIS PTRATIO 0.6198136
## 2754  2892  7                             CRIM ZN AGE RAD PTRATIO B LSTAT 0.6197332
## 2713  2893  7                              CRIM ZN RM AGE DIS PTRATIO B 0.6195668
## 2658  2894  7                               CRIM ZN NX RM DIS PTRATIO B 0.6187820
## 3244  2895  7                              INDUS RM AGE DIS TAX PTRATIO B 0.6187029
## 3153  2896  7                               ZN NX RAD TAX PTRATIO B LSTAT 0.6186861
## 3281  2897  7                                NX RM DIS RAD TAX PTRATIO B 0.6186794
## 2638  2898  7                              CRIM ZN NX RM AGE DIS PTRATIO 0.6183548
## 2880  2899  7                           CRIM INDUS AGE RAD PTRATIO B LSTAT 0.6182946
## 2685  2900  7                            CRIM ZN NX AGE RAD PTRATIO LSTAT 0.6182704
## 2784  2901  7                            CRIM INDUS NX RM DIS PTRATIO B 0.6182499
## 2908  2902  7                             CRIM NX RM DIS RAD TAX PTRATIO 0.6181221
## 2947  2903  7                             CRIM RM AGE DIS RAD PTRATIO B 0.6179397
## 3160  2904  7                                ZN RM AGE DIS TAX PTRATIO B 0.6179154
## 2811  2905  7                          CRIM INDUS NX AGE RAD PTRATIO LSTAT 0.6179072
## 2828  2906  7                          CRIM INDUS NX RAD TAX PTRATIO LSTAT 0.6176452
## 2674  2907  7                               CRIM ZN NX AGE DIS RAD LSTAT 0.6171996
## 2892  2908  7                             CRIM NX RM AGE DIS TAX PTRATIO 0.6169190
## 2632  2909  7                          CRIM ZN INDUS RAD TAX PTRATIO LSTAT 0.6168860
## 3049  2910  7                             ZN INDUS RM AGE DIS PTRATIO B 0.6168786
## 3138  2911  7                                ZN NX AGE DIS RAD B LSTAT 0.6167194
## 3090  2912  7                           ZN INDUS AGE RAD PTRATIO B LSTAT 0.6159110
## 2746  2913  7                               CRIM ZN AGE DIS RAD B LSTAT 0.6157756
## 3241  2914  7                              INDUS RM AGE DIS RAD PTRATIO B 0.6154283
## 2914  2915  7                                CRIM NX RM DIS TAX PTRATIO B 0.6153722
## 3010  2916  7                             ZN INDUS NX AGE DIS RAD LSTAT 0.6146605
## 2690  2917  7                             CRIM ZN NX AGE PTRATIO B LSTAT 0.6134728
## 3026  2918  7                             ZN INDUS NX AGE PTRATIO B LSTAT 0.6134019
## 2702  2919  7                           CRIM ZN NX RAD TAX PTRATIO LSTAT 0.6132981
## 3147  2920  7                               ZN NX AGE TAX PTRATIO B LSTAT 0.6130815
## 2944  2921  7                            CRIM RM AGE DIS RAD TAX PTRATIO 0.6127577
## 2918  2922  7                             CRIM NX RM RAD TAX PTRATIO B 0.6122401
## 2954  2923  7                              CRIM RM AGE RAD TAX PTRATIO B 0.6122161
## 2937  2924  7                             CRIM NX AGE TAX PTRATIO B LSTAT 0.6121450
## 2994  2925  7                               ZN INDUS NX RM DIS PTRATIO B 0.6120853
## 2816  2926  7                          CRIM INDUS NX AGE PTRATIO B LSTAT 0.6118169
## 3231  2927  7                             INDUS NX AGE TAX PTRATIO B LSTAT 0.6117952
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## 2755   2928   7                              CRIM ZN AGE TAX PTRATIO B LSTAT 0.6117630
## 2830   2929   7                           CRIM INDUS NX RAD PTRATIO B LSTAT 0.6117401
## 2620   2930   7                         CRIM ZN INDUS AGE PTRATIO B LSTAT 0.6117129
## 2569   2931   7                                 CRIM ZN INDUS RM AGE DIS B 0.6115510
## 3205   2932   7                                 INDUS NX RM DIS RAD PTRATIO B 0.6114411
## 2778   2933   7                          CRIM INDUS NX RM DIS RAD PTRATIO 0.6113445
## 3091   2934   7                          ZN INDUS AGE TAX PTRATIO B LSTAT 0.6112884
## 2704   2935   7                            CRIM ZN NX RAD PTRATIO B LSTAT 0.6111062
## 3124   2936   7                                 ZN NX RM DIS TAX PTRATIO B 0.6110843
## 3038   2937   7                      ZN INDUS NX RAD TAX PTRATIO LSTAT 0.6103976
## 3208   2938   7                              INDUS NX RM DIS TAX PTRATIO B 0.6102626
## 2634   2939   7                         CRIM ZN INDUS RAD PTRATIO B LSTAT 0.6101083
## 3021   2940   7                       ZN INDUS NX AGE RAD PTRATIO LSTAT 0.6100126
## 2568   2941   7                          CRIM ZN INDUS RM AGE DIS PTRATIO 0.6099488
## 3121   2942   7                                ZN NX RM DIS RAD PTRATIO B 0.6097112
## 2615   2943   7                       CRIM ZN INDUS AGE RAD PTRATIO LSTAT 0.6096723
## 3266   2944   7                              NX RM AGE DIS RAD TAX PTRATIO 0.6095391
## 2711   2945   7                                  CRIM ZN RM AGE DIS TAX B 0.6095179
## 2518   2946   7                         CRIM ZN INDUS NX RM DIS PTRATIO 0.6094231
## 2652   2947   7                          CRIM ZN NX RM DIS RAD PTRATIO 0.6090038
## 3157   2948   7                                ZN RM AGE DIS RAD PTRATIO B 0.6087927
## 2881   2949   7                          CRIM INDUS AGE TAX PTRATIO B LSTAT 0.6087673
## 2836   2950   7                         CRIM INDUS RM AGE DIS TAX PTRATIO 0.6086789
## 2544   2951   7                       CRIM ZN INDUS NX AGE PTRATIO LSTAT 0.6077077
## 3040   2952   7                         ZN INDUS NX RAD PTRATIO B LSTAT 0.6075142
## 2688   2953   7                         CRIM ZN NX AGE TAX PTRATIO LSTAT 0.6074937
## 3047   2954   7                               ZN INDUS RM AGE DIS TAX B 0.6072590
## 2833   2955   7                        CRIM INDUS RM AGE DIS RAD PTRATIO 0.6072096
## 3155   2956   7                                  ZN RM AGE DIS RAD TAX B 0.6068900
## 2884   2957   7                          CRIM INDUS DIS RAD TAX B LSTAT 0.6067604
## 2710   2958   7                          CRIM ZN RM AGE DIS TAX PTRATIO 0.6063421
## 2814   2959   7                      CRIM INDUS NX AGE TAX PTRATIO LSTAT 0.6060332
## 3024   2960   7                        ZN INDUS NX AGE TAX PTRATIO LSTAT 0.6059146
## 2655   2961   7                          CRIM ZN NX RM DIS TAX PTRATIO 0.6058261
## 3102   2962   7                           ZN NX RM AGE DIS TAX PTRATIO 0.6057295
## 2781   2963   7                        CRIM INDUS NX RM DIS TAX PTRATIO 0.6056960
## 2736   2964   7                              CRIM ZN RM RAD TAX PTRATIO B 0.6056454
## 3186   2965   7                           INDUS NX RM AGE DIS TAX PTRATIO 0.6055153
## 2588   2966   7                          CRIM ZN INDUS RM DIS PTRATIO B 0.6052846
## 2940   2967   7                               CRIM NX DIS RAD TAX B LSTAT 0.6050256
## 2618   2968   7                      CRIM ZN INDUS AGE TAX PTRATIO LSTAT 0.6047311
## 2959   2969   7                             CRIM RM DIS RAD TAX PTRATIO B 0.6046618
## 2901   2970   7                             CRIM NX RM AGE RAD PTRATIO B 0.6045240
## 2862   2971   7                           CRIM INDUS RM RAD TAX PTRATIO B 0.6041182
## 2753   2972   7                             CRIM ZN AGE RAD TAX B LSTAT 0.6038839
## 3276   2973   7                              NX RM AGE RAD TAX PTRATIO B 0.6038214
## 3103   2974   7                                 ZN NX RM AGE DIS TAX B 0.6036903
## 3234   2975   7                             INDUS NX DIS RAD TAX B LSTAT 0.6032960
## 2837   2976   7                             CRIM INDUS RM AGE DIS TAX B 0.6030918
## 2819   2977   7                         CRIM INDUS NX DIS RAD TAX LSTAT 0.6030800
## 2639   2978   7                                  CRIM ZN NX RM AGE DIS B 0.6029254
## 2664   2979   7                            CRIM ZN NX RM RAD PTRATIO B 0.6027809
## 3248   2980   7                          INDUS RM AGE RAD TAX PTRATIO B 0.6027489
## 2790   2981   7                         CRIM INDUS NX RM RAD PTRATIO B 0.6025746
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## 2706   2982   7                              CRIM ZN RM AGE DIS RAD TAX 0.6024965
## 3164   2983   7                          ZN RM AGE RAD TAX PTRATIO B 0.6024441
## 2567   2984   7                      CRIM ZN INDUS RM AGE DIS TAX 0.6022082
## 2974   2985   7                      ZN INDUS NX RM AGE DIS PTRATIO 0.6019970
## 3261   2986   7                      INDUS AGE DIS RAD TAX B LSTAT 0.6016968
## 3183   2987   7                  INDUS NX RM AGE DIS RAD PTRATIO 0.6016800
## 2765   2988   7                          CRIM INDUS NX RM AGE DIS B 0.6016784
## 3212   2989   7                      INDUS NX RM RAD TAX PTRATIO B 0.6015270
## 2945   2990   7                          CRIM RM AGE DIS RAD TAX B 0.6013056
## 2560   2991   7          CRIM ZN INDUS NX RAD PTRATIO LSTAT 0.6011992
## 2967   2992   7                      CRIM AGE DIS RAD TAX B LSTAT 0.6011947
## 2855   2993   7                  CRIM INDUS RM DIS RAD PTRATIO B 0.6010822
## 2845   2994   7                  CRIM INDUS RM AGE RAD PTRATIO B 0.6010140
## 3169   2995   7                          ZN RM DIS RAD TAX PTRATIO B 0.6010112
## 3128   2996   7                          ZN NX RM RAD TAX PTRATIO B 0.6008709
## 3289   2997   7                          NX AGE DIS RAD TAX B LSTAT 0.6001244
## 2719   2998   7                      CRIM ZN RM AGE RAD PTRATIO B 0.6000881
## 3089   2999   7                      ZN INDUS AGE RAD TAX B LSTAT 0.6000530
## 2858   3000   7                  CRIM INDUS RM DIS TAX PTRATIO B 0.6000401
## 2869   3001   7                  CRIM INDUS AGE DIS RAD TAX LSTAT 0.5999835
## 2834   3002   7                      CRIM INDUS RM AGE DIS RAD B 0.5999803
## 3145   3003   7                              ZN NX AGE RAD TAX B LSTAT 0.5998796
## 2648   3004   7                          CRIM ZN NX RM AGE PTRATIO B 0.5995030
## 2822   3005   7                      CRIM INDUS NX DIS RAD B LSTAT 0.5994116
## 2904   3006   7                      CRIM NX RM AGE TAX PTRATIO B 0.5992848
## 2774   3007   7                      CRIM INDUS NX RM AGE PTRATIO B 0.5991995
## 2925   3008   7                      CRIM NX AGE DIS RAD TAX LSTAT 0.5991962
## 2635   3009   7          CRIM ZN INDUS TAX PTRATIO B LSTAT 0.5990384
## 2565   3010   7          CRIM ZN INDUS NX PTRATIO B LSTAT 0.5990211
## 2825   3011   7                  CRIM INDUS NX DIS TAX B LSTAT 0.5989677
## 2510   3012   7                  CRIM ZN INDUS NX RM AGE DIS 0.5988702
## 2831   3013   7          CRIM INDUS NX TAX PTRATIO B LSTAT 0.5988590
## 3041   3014   7                  ZN INDUS NX TAX PTRATIO B LSTAT 0.5987567
## 3068   3015   7                  ZN INDUS RM DIS TAX PTRATIO B 0.5986966
## 3099   3016   7                      ZN NX RM AGE DIS RAD PTRATIO 0.5986116
## 2705   3017   7                  CRIM ZN NX TAX PTRATIO B LSTAT 0.5983779
## 2806   3018   7                  CRIM INDUS NX AGE DIS B LSTAT 0.5983422
## 3044   3019   7                          ZN INDUS RM AGE DIS RAD B 0.5983111
## 2848   3020   7                  CRIM INDUS RM AGE TAX PTRATIO B 0.5982870
## 3046   3021   7                  ZN INDUS RM AGE DIS TAX PTRATIO 0.5982668
## 2637   3022   7                          CRIM ZN NX RM AGE DIS TAX 0.5982611
## 2722   3023   7                      CRIM ZN RM AGE TAX PTRATIO B 0.5982027
## 3154   3024   7                          ZN RM AGE DIS RAD TAX PTRATIO 0.5981760
## 3118   3025   7                          ZN NX RM DIS RAD TAX PTRATIO 0.5981528
## 2578   3026   7                  CRIM ZN INDUS RM AGE PTRATIO B 0.5980095
## 2732   3027   7                      CRIM ZN RM DIS TAX PTRATIO B 0.5980063
## 3253   3028   7                      INDUS RM DIS RAD TAX PTRATIO B 0.5978404
## 2613   3029   7                  CRIM ZN INDUS AGE RAD TAX LSTAT 0.5977555
## 2519   3030   7                          CRIM ZN INDUS NX RM DIS B 0.5976828
## 2683   3031   7                      CRIM ZN NX AGE RAD TAX LSTAT 0.5974150
## 2708   3032   7                              CRIM ZN RM AGE DIS RAD B 0.5973822
## 2875   3033   7                  CRIM INDUS AGE DIS TAX B LSTAT 0.5973590
## 3238   3034   7                  INDUS RM AGE DIS RAD TAX PTRATIO 0.5971254
## 2707   3035   7                      CRIM ZN RM AGE DIS RAD PTRATIO 0.5970532
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## 2893  3036  7                             CRIM NX RM AGE DIS TAX B 0.5970314
## 3225  3037  7                       INDUS NX AGE DIS TAX B LSTAT 0.5967985
## 2898  3038  7                         CRIM NX RM AGE RAD TAX PTRATIO 0.5966536
## 2872  3039  7                        CRIM INDUS AGE DIS RAD B LSTAT 0.5964535
## 2528  3040  7                        CRIM ZN INDUS NX RM PTRATIO B 0.5964254
## 2793  3041  7                        CRIM INDUS NX RM TAX PTRATIO B 0.5964236
## 2667  3042  7                          CRIM ZN NX RM TAX PTRATIO B 0.5963599
## 2727  3043  7                             CRIM ZN RM DIS RAD TAX B 0.5963429
## 3239  3044  7                          INDUS RM AGE DIS RAD TAX B 0.5960191
## 2586  3045  7                          CRIM ZN INDUS RM DIS TAX B 0.5957558
## 2787  3046  7                    CRIM INDUS NX RM RAD TAX PTRATIO 0.5955721
## 2975  3047  7                           ZN INDUS NX RM AGE DIS B 0.5955218
## 3202  3048  7                  INDUS NX RM DIS RAD TAX PTRATIO 0.5953813
## 3187  3049  7                        INDUS NX RM AGE DIS TAX B 0.5953292
## 3111  3050  7                         ZN NX RM AGE RAD PTRATIO B 0.5952475
## 2661  3051  7                       CRIM ZN NX RM RAD TAX PTRATIO 0.5951224
## 2566  3052  7                        CRIM ZN INDUS RM AGE DIS RAD 0.5951155
## 3114  3053  7                          ZN NX RM AGE TAX PTRATIO B 0.5949737
## 3219  3054  7                    INDUS NX AGE DIS RAD TAX LSTAT 0.5948360
## 3198  3055  7                        INDUS NX RM AGE TAX PTRATIO B 0.5947281
## 3072  3056  7                          ZN INDUS RM RAD TAX PTRATIO B 0.5946636
## 2803  3057  7                     CRIM INDUS NX AGE DIS TAX LSTAT 0.5945735
## 3195  3058  7                        INDUS NX RM AGE RAD PTRATIO B 0.5940787
## 2984  3059  7                         ZN INDUS NX RM AGE PTRATIO B 0.5940359
## 2656  3060  7                             CRIM ZN NX RM DIS TAX B 0.5939205
## 2594  3061  7                       CRIM ZN INDUS RM RAD PTRATIO B 0.5939188
## 3222  3062  7                          INDUS NX AGE DIS RAD B LSTAT 0.5939020
## 3058  3063  7                          ZN INDUS RM AGE TAX PTRATIO B 0.5938565
## 2800  3064  7                     CRIM INDUS NX AGE DIS RAD LSTAT 0.5938549
## 2726  3065  7                       CRIM ZN RM DIS RAD TAX PTRATIO 0.5936196
## 2991  3066  7                         ZN INDUS NX RM DIS TAX PTRATIO 0.5934848
## 2716  3067  7                       CRIM ZN RM AGE RAD TAX PTRATIO 0.5928254
## 2842  3068  7                  CRIM INDUS RM AGE RAD TAX PTRATIO 0.5927057
## 3267  3069  7                            NX RM AGE DIS RAD TAX B 0.5926136
## 3065  3070  7                         ZN INDUS RM DIS RAD PTRATIO B 0.5925506
## 2597  3071  7                        CRIM ZN INDUS RM TAX PTRATIO B 0.5923135
## 3055  3072  7                          ZN INDUS RM AGE RAD PTRATIO B 0.5918035
## 2931  3073  7                          CRIM NX AGE DIS TAX B LSTAT 0.5916303
## 2563  3074  7                 CRIM ZN INDUS NX TAX PTRATIO LSTAT 0.5916040
## 3000  3075  7                          ZN INDUS NX RM RAD PTRATIO B 0.5915951
## 2651  3076  7                           CRIM ZN NX RM DIS RAD TAX 0.5915300
## 2832  3077  7                       CRIM INDUS RM AGE DIS RAD TAX 0.5914330
## 3003  3078  7                         ZN INDUS NX RM TAX PTRATIO B 0.5911660
## 2585  3079  7                 CRIM ZN INDUS RM DIS TAX PTRATIO 0.5909559
## 2763  3080  7                        CRIM INDUS NX RM AGE DIS TAX 0.5906746
## 2729  3081  7                        CRIM ZN RM DIS RAD PTRATIO B 0.5905920
## 2852  3082  7                 CRIM INDUS RM DIS RAD TAX PTRATIO 0.5905666
## 3019  3083  7                    ZN INDUS NX AGE RAD TAX LSTAT 0.5904684
## 2890  3084  7                          CRIM NX RM AGE DIS RAD B 0.5903178
## 2992  3085  7                          ZN INDUS NX RM DIS TAX B 0.5902259
## 2583  3086  7                        CRIM ZN INDUS RM DIS RAD B 0.5900700
## 3119  3087  7                            ZN NX RM DIS RAD TAX B 0.5900092
## 3100  3088  7                            ZN NX RM AGE DIS RAD B 0.5898422
## 3184  3089  7                        INDUS NX RM AGE DIS RAD B 0.5897296
```

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## 2517  3090  7                       CRIM ZN INDUS NX RM DIS TAX 0.5891774
## 3043  3091  7               ZN INDUS RM AGE DIS RAD PTRATIO 0.5891186
## 2988  3092  7               ZN INDUS NX RM DIS RAD PTRATIO 0.5888774
## 2703  3093  7                     CRIM ZN NX RAD TAX B LSTAT 0.5885963
## 3063  3094  7                       ZN INDUS RM DIS RAD TAX B 0.5885439
## 2888  3095  7                     CRIM NX RM AGE DIS RAD TAX 0.5884117
## 2928  3096  7                     CRIM NX AGE DIS RAD B LSTAT 0.5881045
## 2973  3097  7                     ZN INDUS NX RM AGE DIS TAX 0.5875105
## 2581  3098  7                     CRIM ZN INDUS RM DIS RAD TAX 0.5873018
## 2689  3099  7                     CRIM ZN NX AGE TAX B LSTAT 0.5870940
## 2762  3100  7                   CRIM INDUS NX RM AGE DIS RAD 0.5870097
## 2642  3101  7                   CRIM ZN NX RM AGE RAD PTRATIO 0.5868472
## 2582  3102  7             CRIM ZN INDUS RM DIS RAD PTRATIO 0.5867721
## 2636  3103  7                       CRIM ZN NX RM AGE DIS RAD 0.5867496
## 2619  3104  7                 CRIM ZN INDUS AGE TAX B LSTAT 0.5866574
## 3042  3105  7                   ZN INDUS RM AGE DIS RAD TAX 0.5864981
## 2591  3106  7             CRIM ZN INDUS RM RAD TAX PTRATIO 0.5864348
## 3025  3107  7                   ZN INDUS NX AGE TAX B LSTAT 0.5863818
## 2768  3108  7             CRIM INDUS NX RM AGE RAD PTRATIO 0.5860817
## 3039  3109  7                     ZN INDUS NX RAD TAX B LSTAT 0.5857991
## 3098  3110  7                       ZN NX RM AGE DIS RAD TAX 0.5853524
## 2522  3111  7               CRIM ZN INDUS NX RM RAD PTRATIO 0.5850794
## 2616  3112  7                 CRIM ZN INDUS AGE RAD B LSTAT 0.5849784
## 2653  3113  7                         CRIM ZN NX RM DIS RAD B 0.5849571
## 2633  3114  7                 CRIM ZN INDUS RAD TAX B LSTAT 0.5841439
## 2516  3115  7                   CRIM ZN INDUS NX RM DIS RAD 0.5840635
## 2645  3116  7                   CRIM ZN NX RM AGE TAX PTRATIO 0.5840148
## 2545  3117  7                   CRIM ZN INDUS NX AGE B LSTAT 0.5839330
## 2771  3118  7             CRIM INDUS NX RM AGE TAX PTRATIO 0.5838177
## 2717  3119  7                       CRIM ZN RM AGE RAD TAX B 0.5837899
## 2879  3120  7                 CRIM INDUS AGE RAD TAX B LSTAT 0.5836467
## 2513  3121  7             CRIM ZN INDUS NX RM AGE PTRATIO 0.5836164
## 2686  3122  7                   CRIM ZN NX AGE RAD B LSTAT 0.5834762
## 2935  3123  7                   CRIM NX AGE RAD TAX B LSTAT 0.5834546
## 2782  3124  7                     CRIM INDUS NX RM DIS TAX B 0.5828517
## 2542  3125  7               CRIM ZN INDUS NX AGE TAX LSTAT 0.5818443
## 2989  3126  7                       ZN INDUS NX RM DIS RAD B 0.5818437
## 2575  3127  7             CRIM ZN INDUS RM AGE TAX PTRATIO 0.5816611
## 2525  3128  7               CRIM ZN INDUS NX RM TAX PTRATIO 0.5816040
## 2558  3129  7               CRIM ZN INDUS NX RAD TAX LSTAT 0.5811742
## 2779  3130  7                   CRIM INDUS NX RM DIS RAD B 0.5810487
## 2572  3131  7             CRIM ZN INDUS RM AGE RAD PTRATIO 0.5809033
## 2853  3132  7                   CRIM INDUS RM DIS RAD TAX B 0.5808465
## 2909  3133  7                       CRIM NX RM DIS RAD TAX B 0.5808261
## 2592  3134  7                   CRIM ZN INDUS RM RAD TAX B 0.5807433
## 3022  3135  7                   ZN INDUS NX AGE RAD B LSTAT 0.5806564
## 2662  3136  7                       CRIM ZN NX RM RAD TAX B 0.5805648
## 3229  3137  7                 INDUS NX AGE RAD TAX B LSTAT 0.5800266
## 2899  3138  7                       CRIM NX RM AGE RAD TAX B 0.5795747
## 3192  3139  7             INDUS NX RM AGE RAD TAX PTRATIO 0.5795565
## 2843  3140  7                   CRIM INDUS RM AGE RAD TAX B 0.5794805
## 3108  3141  7                     ZN NX RM AGE RAD TAX PTRATIO 0.5790019
## 2539  3142  7               CRIM ZN INDUS NX AGE RAD LSTAT 0.5778113
## 3062  3143  7               ZN INDUS RM DIS RAD TAX PTRATIO 0.5773204
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## 2809  3144  7              CRIM INDUS NX AGE RAD TAX LSTAT 0.5771286
## 2972  3145  7                 ZN INDUS NX RM AGE DIS RAD 0.5769145
## 2997  3146  7              ZN INDUS NX RM RAD TAX PTRATIO 0.5765367
## 2646  3147  7                   CRIM ZN NX RM AGE TAX B 0.5762138
## 2576  3148  7                CRIM ZN INDUS RM AGE TAX B 0.5757711
## 3052  3149  7            ZN INDUS RM AGE RAD TAX PTRATIO 0.5756534
## 2829  3150  7               CRIM INDUS NX RAD TAX B LSTAT 0.5753739
## 3182  3151  7              INDUS NX RM AGE DIS RAD TAX 0.5749480
## 3109  3152  7                  ZN NX RM AGE RAD TAX B 0.5748234
## 3203  3153  7               INDUS NX RM DIS RAD TAX B 0.5741162
## 2772  3154  7              CRIM INDUS NX RM AGE TAX B 0.5740699
## 2777  3155  7             CRIM INDUS NX RM DIS RAD TAX 0.5740293
## 3053  3156  7               ZN INDUS RM AGE RAD TAX B 0.5738965
## 2981  3157  7            ZN INDUS NX RM AGE TAX PTRATIO 0.5737109
## 2788  3158  7               CRIM INDUS NX RM RAD TAX B 0.5729352
## 2526  3159  7                CRIM ZN INDUS NX RM TAX B 0.5727467
## 2514  3160  7                CRIM ZN INDUS NX RM AGE B 0.5721135
## 2564  3161  7             CRIM ZN INDUS NX TAX B LSTAT 0.5720017
## 2987  3162  7               ZN INDUS NX RM DIS RAD TAX 0.5719580
## 2573  3163  7               CRIM ZN INDUS RM AGE RAD B 0.5718138
## 2815  3164  7             CRIM INDUS NX AGE TAX B LSTAT 0.5715048
## 2982  3165  7                 ZN INDUS NX RM AGE TAX B 0.5711113
## 3193  3166  7               INDUS NX RM AGE RAD TAX B 0.5709829
## 2812  3167  7            CRIM INDUS NX AGE RAD B LSTAT 0.5709132
## 2769  3168  7                CRIM INDUS NX RM AGE RAD B 0.5702354
## 2998  3169  7                 ZN INDUS NX RM RAD TAX B 0.5697933
## 2643  3170  7                  CRIM ZN NX RM AGE RAD B 0.5694897
## 2978  3171  7            ZN INDUS NX RM AGE RAD PTRATIO 0.5692840
## 2561  3172  7              CRIM ZN INDUS NX RAD B LSTAT 0.5687296
## 2523  3173  7                CRIM ZN INDUS NX RM RAD B 0.5683721
## 2641  3174  7                 CRIM ZN NX RM AGE RAD TAX 0.5679531
## 2571  3175  7              CRIM ZN INDUS RM AGE RAD TAX 0.5679425
## 2521  3176  7               CRIM ZN INDUS NX RM RAD TAX 0.5650714
## 2767  3177  7              CRIM INDUS NX RM AGE RAD TAX 0.5636711
## 2979  3178  7                 ZN INDUS NX RM AGE RAD B 0.5626930
## 2512  3179  7               CRIM ZN INDUS NX RM AGE TAX 0.5619038
## 2511  3180  7               CRIM ZN INDUS NX RM AGE RAD 0.5553296
## 2977  3181  7                 ZN INDUS NX RM AGE RAD TAX 0.5514604
## 2691  3182  7            CRIM ZN NX DIS RAD TAX PTRATIO 0.4722100
## 2938  3183  7             CRIM NX DIS RAD TAX PTRATIO B 0.4685394
## 2923  3184  7           CRIM NX AGE DIS RAD TAX PTRATIO 0.4649754
## 2817  3185  7         CRIM INDUS NX DIS RAD TAX PTRATIO 0.4642467
## 2820  3186  7          CRIM INDUS NX DIS RAD PTRATIO B 0.4628974
## 2547  3187  7         CRIM ZN INDUS NX DIS RAD PTRATIO 0.4604627
## 2798  3188  7         CRIM INDUS NX AGE DIS RAD PTRATIO 0.4590829
## 3148  3189  7               ZN NX DIS RAD TAX PTRATIO B 0.4560128
## 3287  3190  7               NX AGE DIS RAD TAX PTRATIO B 0.4536949
## 2533  3191  7         CRIM ZN INDUS NX AGE DIS PTRATIO 0.4526150
## 2553  3192  7           CRIM ZN INDUS NX DIS PTRATIO B 0.4522518
## 2926  3193  7            CRIM NX AGE DIS RAD PTRATIO B 0.4516801
## 2694  3194  7              CRIM ZN NX DIS RAD PTRATIO B 0.4500516
## 3232  3195  7             INDUS NX DIS RAD TAX PTRATIO B 0.4494269
## 2804  3196  7         CRIM INDUS NX AGE DIS PTRATIO B 0.4475400
## 3014  3197  7           ZN INDUS NX AGE DIS PTRATIO B 0.4472923
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## 3220   3198   7                    INDUS NX AGE DIS RAD PTRATIO B 0.4458775
## 2550   3199   7         CRIM ZN INDUS NX DIS TAX PTRATIO 0.4441208
## 2672   3200   7          CRIM ZN NX AGE DIS RAD PTRATIO 0.4434972
## 3030   3201   7          ZN INDUS NX DIS RAD PTRATIO B 0.4430783
## 3133   3202   7          ZN NX AGE DIS RAD TAX PTRATIO 0.4413938
## 3027   3203   7         ZN INDUS NX DIS RAD TAX PTRATIO 0.4404382
## 2801   3204   7       CRIM INDUS NX AGE DIS TAX PTRATIO 0.4402863
## 2608   3205   7        CRIM ZN INDUS AGE DIS PTRATIO B 0.4396097
## 2678   3206   7             CRIM ZN NX AGE DIS PTRATIO B 0.4395369
## 2823   3207   7         CRIM INDUS NX DIS TAX PTRATIO B 0.4386373
## 3033   3208   7            ZN INDUS NX DIS TAX PTRATIO B 0.4379743
## 3217   3209   7      INDUS NX AGE DIS RAD TAX PTRATIO 0.4377286
## 3223   3210   7          INDUS NX AGE DIS TAX PTRATIO B 0.4372856
## 2701   3211   7             CRIM ZN NX RAD TAX PTRATIO B 0.4343728
## 2621   3212   7        CRIM ZN INDUS DIS RAD TAX PTRATIO 0.4337347
## 2827   3213   7          CRIM INDUS NX RAD TAX PTRATIO B 0.4331842
## 2933   3214   7            CRIM NX AGE RAD TAX PTRATIO B 0.4325422
## 2867   3215   7   CRIM INDUS AGE DIS RAD TAX PTRATIO 0.4318927
## 2870   3216   7        CRIM INDUS AGE DIS RAD PTRATIO B 0.4317245
## 3011   3217   7          ZN INDUS NX AGE DIS TAX PTRATIO 0.4313928
## 3136   3218   7                ZN NX AGE DIS PTRATIO B 0.4308559
## 2741   3219   7          CRIM ZN AGE DIS RAD TAX PTRATIO 0.4305455
## 2675   3220   7          CRIM ZN NX AGE DIS TAX PTRATIO 0.4300197
## 2697   3221   7             CRIM ZN NX DIS TAX PTRATIO B 0.4295054
## 3139   3222   7                ZN NX AGE DIS TAX PTRATIO B 0.4294271
## 3008   3223   7          ZN INDUS NX AGE DIS RAD PTRATIO 0.4287478
## 3259   3224   7          INDUS AGE DIS RAD TAX PTRATIO B 0.4284000
## 2602   3225   7        CRIM ZN INDUS AGE DIS RAD PTRATIO 0.4282103
## 2605   3226   7        CRIM ZN INDUS AGE DIS TAX PTRATIO 0.4281172
## 3083   3227   7          ZN INDUS AGE DIS TAX PTRATIO B 0.4279293
## 3175   3228   7                ZN AGE DIS RAD TAX PTRATIO B 0.4278276
## 2929   3229   7             CRIM NX AGE DIS TAX PTRATIO B 0.4271989
## 2965   3230   7             CRIM AGE DIS RAD TAX PTRATIO B 0.4251233
## 3092   3231   7             ZN INDUS DIS RAD TAX PTRATIO B 0.4244413
## 2624   3232   7          CRIM ZN INDUS DIS RAD PTRATIO B 0.4235298
## 2756   3233   7             CRIM ZN DIS RAD TAX PTRATIO B 0.4233118
## 2873   3234   7        CRIM INDUS AGE DIS TAX PTRATIO B 0.4222255
## 2601   3235   7          CRIM ZN INDUS AGE DIS RAD TAX 0.4218151
## 2882   3236   7        CRIM INDUS DIS RAD TAX PTRATIO B 0.4216534
## 3080   3237   7          ZN INDUS AGE DIS RAD PTRATIO B 0.4214336
## 2546   3238   7             CRIM ZN INDUS NX DIS RAD TAX 0.4203211
## 2627   3239   7        CRIM ZN INDUS DIS TAX PTRATIO B 0.4200175
## 2556   3240   7       CRIM ZN INDUS NX RAD TAX PTRATIO 0.4197689
## 2631   3241   7          CRIM ZN INDUS RAD TAX PTRATIO B 0.4195509
## 3077   3242   7          ZN INDUS AGE DIS RAD TAX PTRATIO 0.4191947
## 2681   3243   7             CRIM ZN NX AGE RAD TAX PTRATIO B 0.4191191
## 2807   3244   7    CRIM INDUS NX AGE RAD TAX PTRATIO 0.4182573
## 2877   3245   7        CRIM INDUS AGE RAD TAX PTRATIO B 0.4168311
## 2751   3246   7          CRIM ZN AGE RAD TAX PTRATIO B 0.4167331
## 2622   3247   7             CRIM ZN INDUS DIS RAD TAX B 0.4160869
## 2534   3248   7                CRIM ZN INDUS NX AGE DIS B 0.4142882
## 3037   3249   7          ZN INDUS NX RAD TAX PTRATIO B 0.4138329
## 2606   3250   7             CRIM ZN INDUS AGE DIS TAX B 0.4135216
## 3143   3251   7                ZN NX AGE RAD TAX PTRATIO B 0.4133844
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## 2559  3252  7                    CRIM ZN INDUS NX RAD PTRATIO B 0.4127219
## 3227  3253  7                    INDUS NX AGE RAD TAX PTRATIO B 0.4127099
## 2810  3254  7                 CRIM INDUS NX AGE RAD PTRATIO B 0.4127019
## 2532  3255  7                    CRIM ZN INDUS NX AGE DIS TAX 0.4108498
## 3078  3256  7                    ZN INDUS AGE DIS RAD TAX B 0.4074453
## 2551  3257  7                    CRIM ZN INDUS NX DIS TAX B 0.4069529
## 2603  3258  7                    CRIM ZN INDUS AGE DIS RAD B 0.4062832
## 2671  3259  7                    CRIM ZN NX AGE DIS RAD TAX 0.4061800
## 2684  3260  7                    CRIM ZN NX AGE RAD PTRATIO B 0.4052854
## 2531  3261  7                    CRIM ZN INDUS NX AGE DIS RAD 0.4049438
## 2692  3262  7                       CRIM ZN NX DIS RAD TAX B 0.4046644
## 2611  3263  7           CRIM ZN INDUS AGE RAD TAX PTRATIO 0.4040792
## 2548  3264  7                    CRIM ZN INDUS NX DIS RAD B 0.4040657
## 2742  3265  7                       CRIM ZN AGE DIS RAD TAX B 0.4030384
## 3087  3266  7                 ZN INDUS AGE RAD TAX PTRATIO B 0.4023451
## 3012  3267  7                    ZN INDUS NX AGE DIS TAX B 0.4012631
## 2747  3268  7                 CRIM ZN AGE DIS TAX PTRATIO B 0.4012486
## 3028  3269  7                       ZN INDUS NX DIS RAD TAX B 0.3990616
## 2537  3270  7           CRIM ZN INDUS NX AGE RAD PTRATIO 0.3973453
## 2614  3271  7              CRIM ZN INDUS AGE RAD PTRATIO B 0.3958446
## 3007  3272  7                    ZN INDUS NX AGE DIS RAD TAX 0.3923251
## 3020  3273  7              ZN INDUS NX AGE RAD PTRATIO B 0.3917197
## 2562  3274  7                 CRIM ZN INDUS NX TAX PTRATIO B 0.3916516
## 2543  3275  7              CRIM ZN INDUS NX AGE PTRATIO B 0.3913651
## 2813  3276  7                 CRIM INDUS NX AGE TAX PTRATIO B 0.3908864
## 3017  3277  7              ZN INDUS NX AGE RAD TAX PTRATIO 0.3893676
## 3134  3278  7                        ZN NX AGE DIS RAD TAX B 0.3892247
## 2744  3279  7              CRIM ZN AGE DIS RAD PTRATIO B 0.3882446
## 3009  3280  7                    ZN INDUS NX AGE DIS RAD B 0.3861564
## 2617  3281  7           CRIM ZN INDUS AGE TAX PTRATIO B 0.3845696
## 2687  3282  7                 CRIM ZN NX AGE TAX PTRATIO B 0.3840298
## 3023  3283  7              ZN INDUS NX AGE TAX PTRATIO B 0.3836841
## 2540  3284  7           CRIM ZN INDUS NX AGE TAX PTRATIO 0.3806941
## 2676  3285  7                       CRIM ZN NX AGE DIS TAX B 0.3795839
## 2868  3286  7                 CRIM INDUS AGE DIS RAD TAX B 0.3737208
## 2797  3287  7              CRIM INDUS NX AGE DIS RAD TAX 0.3703290
## 2802  3288  7                 CRIM INDUS NX AGE DIS TAX B 0.3672220
## 2799  3289  7                 CRIM INDUS NX AGE DIS RAD B 0.3665587
## 2818  3290  7                 CRIM INDUS NX DIS RAD TAX B 0.3604263
## 2612  3291  7                 CRIM ZN INDUS AGE RAD TAX B 0.3600763
## 2557  3292  7                 CRIM ZN INDUS NX RAD TAX B 0.3600493
## 3218  3293  7                    INDUS NX AGE DIS RAD TAX B 0.3561897
## 2673  3294  7                       CRIM ZN NX AGE DIS RAD B 0.3555586
## 2682  3295  7                       CRIM ZN NX AGE RAD TAX B 0.3514691
## 2536  3296  7              CRIM ZN INDUS NX AGE RAD TAX 0.3477850
## 2924  3297  7                       CRIM NX AGE DIS RAD TAX B 0.3405171
## 3018  3298  7                    ZN INDUS NX AGE RAD TAX B 0.3390715
## 2541  3299  7                 CRIM ZN INDUS NX AGE TAX B 0.3359592
## 2808  3300  7                 CRIM INDUS NX AGE RAD TAX B 0.3309703
## 2538  3301  7                 CRIM ZN INDUS NX AGE RAD B 0.3304357
## 3794  3302  8        NX RM DIS RAD TAX PTRATIO B LSTAT 0.7178176
## 3614  3303  8     CRIM NX RM DIS RAD PTRATIO B LSTAT 0.7175961
## 3750  3304  8        ZN RM DIS RAD TAX PTRATIO B LSTAT 0.7158142
## 3457  3305  8     CRIM ZN NX RM DIS PTRATIO B LSTAT 0.7140810
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## 3612  3306  8          CRIM NX RM DIS RAD TAX PTRATIO LSTAT 0.7137116
## 3734  3307  8          ZN NX RM DIS RAD PTRATIO B LSTAT 0.7136167
## 3630  3308  8          CRIM RM DIS RAD TAX PTRATIO B LSTAT 0.7132635
## 3735  3309  8          ZN NX RM DIS TAX PTRATIO B LSTAT 0.7117400
## 3791  3310  8          NX RM AGE DIS RAD PTRATIO B LSTAT 0.7115255
## 3725  3311  8          ZN NX RM AGE DIS PTRATIO B LSTAT 0.7114646
## 3661  3312  8          ZN INDUS NX RM DIS PTRATIO B LSTAT 0.7113350
## 3770  3313  8          INDUS NX RM DIS RAD PTRATIO B LSTAT 0.7113251
## 3796  3314  8          RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7105684
## 3605  3315  8          CRIM NX RM AGE DIS PTRATIO B LSTAT 0.7100127
## 3615  3316  8          CRIM NX RM DIS TAX PTRATIO B LSTAT 0.7097645
## 3541  3317  8          CRIM INDUS NX RM DIS PTRATIO B LSTAT 0.7095410
## 3452  3318  8          CRIM ZN NX RM DIS RAD PTRATIO LSTAT 0.7095110
## 3500  3319  8          CRIM ZN RM DIS RAD TAX PTRATIO LSTAT 0.7092200
## 3786  3320  8          INDUS RM DIS RAD TAX PTRATIO B LSTAT 0.7086593
## 3792  3321  8          NX RM AGE DIS TAX PTRATIO B LSTAT 0.7081454
## 3761  3322  8          INDUS NX RM AGE DIS PTRATIO B LSTAT 0.7081361
## 3501  3323  8          CRIM ZN RM DIS RAD TAX B LSTAT 0.7080052
## 3503  3324  8          CRIM ZN RM DIS TAX PTRATIO B LSTAT 0.7078396
## 3732  3325  8          ZN NX RM DIS RAD TAX PTRATIO LSTAT 0.7077573
## 3771  3326  8          INDUS NX RM DIS RAD TAX PTRATIO LSTAT 0.7077405
## 3502  3327  8          CRIM ZN RM DIS RAD PTRATIO B LSTAT 0.7077314
## 3401  3328  8          CRIM ZN INDUS RM DIS PTRATIO B LSTAT 0.7077089
## 3493  3329  8          CRIM ZN RM AGE DIS PTRATIO B LSTAT 0.7075863
## 3748  3330  8          ZN RM AGE DIS TAX PTRATIO B LSTAT 0.7071726
## 3536  3331  8          CRIM INDUS NX RM DIS RAD PTRATIO LSTAT 0.7067047
## 3600  3332  8          CRIM NX RM AGE DIS RAD PTRATIO LSTAT 0.7066417
## 3707  3333  8          ZN INDUS RM DIS TAX PTRATIO B LSTAT 0.7064338
## 3455  3334  8          CRIM ZN NX RM DIS TAX PTRATIO LSTAT 0.7055422
## 3325  3335  8          CRIM ZN INDUS NX RM DIS PTRATIO LSTAT 0.7054544
## 3436  3336  8          CRIM ZN NX RM AGE DIS PTRATIO LSTAT 0.7053450
## 3697  3337  8          ZN INDUS RM AGE DIS PTRATIO B LSTAT 0.7053012
## 3627  3338  8          CRIM RM AGE DIS RAD PTRATIO B LSTAT 0.7052846
## 3586  3339  8          CRIM INDUS RM DIS RAD PTRATIO B LSTAT 0.7048957
## 3706  3340  8          ZN INDUS RM DIS RAD PTRATIO B LSTAT 0.7043804
## 3747  3341  8          ZN RM AGE DIS RAD PTRATIO B LSTAT 0.7041963
## 3577  3342  8          CRIM INDUS RM AGE DIS PTRATIO B LSTAT 0.7038651
## 3768  3343  8          INDUS NX RM DIS RAD TAX PTRATIO LSTAT 0.7037800
## 3628  3344  8          CRIM RM AGE DIS TAX PTRATIO B LSTAT 0.7032930
## 3789  3345  8          NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7032562
## 3733  3346  8          ZN NX RM DIS RAD TAX B LSTAT 0.7030446
## 3746  3347  8          ZN RM AGE DIS RAD TAX B LSTAT 0.7026474
## 3784  3348  8          INDUS RM AGE DIS TAX PTRATIO B LSTAT 0.7022411
## 3783  3349  8          INDUS RM AGE DIS RAD PTRATIO B LSTAT 0.7021339
## 3705  3350  8          ZN INDUS RM DIS RAD TAX B LSTAT 0.7021002
## 3625  3351  8          CRIM RM AGE DIS RAD TAX PTRATIO LSTAT 0.7020643
## 3587  3352  8          CRIM INDUS RM DIS TAX PTRATIO B LSTAT 0.7019732
## 3520  3353  8          CRIM INDUS NX RM AGE DIS PTRATIO LSTAT 0.7012601
## 3603  3354  8          CRIM NX RM AGE DIS TAX PTRATIO LSTAT 0.7011943
## 3539  3355  8          CRIM INDUS NX RM DIS TAX PTRATIO LSTAT 0.7010435
## 3584  3356  8          CRIM INDUS RM DIS RAD TAX PTRATIO LSTAT 0.7003506
## 3450  3357  8          CRIM ZN NX RM DIS RAD TAX LSTAT 0.7003285
## 3723  3358  8          ZN NX RM AGE DIS TAX PTRATIO LSTAT 0.7003217
## 3659  3359  8          ZN INDUS NX RM DIS TAX PTRATIO LSTAT 0.7002802
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## 3745 3360 8                      ZN RM AGE DIS RAD TAX PTRATIO LSTAT 0.7000445
## 3456 3361 8                        CRIM ZN NX RM DIS TAX B LSTAT 0.6995945
## 3704 3362 8                  ZN INDUS RM DIS RAD TAX PTRATIO LSTAT 0.6993438
## 3400 3363 8                    CRIM ZN INDUS RM DIS TAX B LSTAT 0.6992680
## 3492 3364 8                     CRIM ZN RM AGE DIS TAX B LSTAT 0.6990096
## 3491 3365 8                  CRIM ZN RM AGE DIS TAX PTRATIO LSTAT 0.6984524
## 3399 3366 8                CRIM ZN INDUS RM DIS TAX PTRATIO LSTAT 0.6984371
## 3656 3367 8                  ZN INDUS NX RM DIS RAD PTRATIO LSTAT 0.6984074
## 3720 3368 8                    ZN NX RM AGE DIS RAD PTRATIO LSTAT 0.6982930
## 3640 3369 8                  ZN INDUS NX RM AGE DIS PTRATIO LSTAT 0.6981913
## 3486 3370 8                    CRIM ZN RM AGE DIS RAD TAX LSTAT 0.6981756
## 3394 3371 8                   CRIM ZN INDUS RM DIS RAD TAX LSTAT 0.6979720
## 3326 3372 8                     CRIM ZN INDUS NX RM DIS B LSTAT 0.6977544
## 3380 3373 8                CRIM ZN INDUS RM AGE DIS PTRATIO LSTAT 0.6973442
## 3588 3374 8                  CRIM INDUS RM RAD TAX PTRATIO B LSTAT 0.6973355
## 3660 3375 8                     ZN INDUS NX RM DIS TAX B LSTAT 0.6972405
## 3724 3376 8                       ZN NX RM AGE DIS TAX B LSTAT 0.6972346
## 3696 3377 8                     ZN INDUS RM AGE DIS TAX B LSTAT 0.6971264
## 3396 3378 8                CRIM ZN INDUS RM DIS RAD PTRATIO LSTAT 0.6970096
## 3381 3379 8                   CRIM ZN INDUS RM AGE DIS B LSTAT 0.6966623
## 3759 3380 8                 INDUS NX RM AGE DIS TAX PTRATIO LSTAT 0.6963539
## 3756 3381 8                 INDUS NX RM AGE DIS RAD PTRATIO LSTAT 0.6961749
## 3397 3382 8                    CRIM ZN INDUS RM DIS RAD B LSTAT 0.6959055
## 3437 3383 8                      CRIM ZN NX RM AGE DIS B LSTAT 0.6958941
## 3453 3384 8                      CRIM ZN NX RM DIS RAD B LSTAT 0.6956704
## 3488 3385 8                   CRIM ZN RM AGE DIS RAD PTRATIO LSTAT 0.6950916
## 3629 3386 8                   CRIM RM AGE RAD TAX PTRATIO B LSTAT 0.6949405
## 3785 3387 8                  INDUS RM AGE RAD TAX PTRATIO B LSTAT 0.6946075
## 3772 3388 8                   INDUS NX RM RAD TAX PTRATIO B LSTAT 0.6945431
## 3695 3389 8                 ZN INDUS RM AGE DIS TAX PTRATIO LSTAT 0.6941359
## 3708 3390 8                   ZN INDUS RM RAD TAX PTRATIO B LSTAT 0.6939394
## 3572 3391 8               CRIM INDUS RM AGE DIS RAD PTRATIO LSTAT 0.6934118
## 3781 3392 8                 INDUS RM AGE DIS RAD TAX PTRATIO LSTAT 0.6934082
## 3489 3393 8                     CRIM ZN RM AGE DIS RAD B LSTAT 0.6930654
## 3575 3394 8               CRIM INDUS RM AGE DIS TAX PTRATIO LSTAT 0.6930073
## 3323 3395 8                  CRIM ZN INDUS NX RM DIS TAX LSTAT 0.6923508
## 3616 3396 8                   CRIM NX RM RAD TAX PTRATIO B LSTAT 0.6918812
## 3504 3397 8                    CRIM ZN RM RAD TAX PTRATIO B LSTAT 0.6918615
## 3434 3398 8                    CRIM ZN NX RM AGE DIS TAX LSTAT 0.6917547
## 3657 3399 8                     ZN INDUS NX RM DIS RAD B LSTAT 0.6916185
## 3793 3400 8                    NX RM AGE RAD TAX PTRATIO B LSTAT 0.6913007
## 3641 3401 8                     ZN INDUS NX RM AGE DIS B LSTAT 0.6912166
## 3378 3402 8                   CRIM ZN INDUS RM AGE DIS TAX LSTAT 0.6911086
## 3749 3403 8                   ZN RM AGE RAD TAX PTRATIO B LSTAT 0.6910984
## 3693 3404 8                   ZN INDUS RM AGE DIS RAD B LSTAT 0.6908191
## 3721 3405 8                        ZN NX RM AGE DIS RAD B LSTAT 0.6899869
## 3718 3406 8                     ZN NX RM AGE DIS RAD TAX LSTAT 0.6899221
## 3654 3407 8                   ZN INDUS NX RM DIS RAD TAX LSTAT 0.6898429
## 3609 3408 8                   CRIM NX RM AGE RAD PTRATIO B LSTAT 0.6893174
## 3626 3409 8                     CRIM RM AGE DIS RAD TAX B LSTAT 0.6889249
## 3306 3410 8                  CRIM ZN INDUS NX RM AGE DIS LSTAT 0.6887129
## 3613 3411 8                      CRIM NX RM DIS RAD TAX B LSTAT 0.6886397
## 3320 3412 8                  CRIM ZN INDUS NX RM DIS RAD LSTAT 0.6885990
## 3690 3413 8                  ZN INDUS RM AGE DIS RAD TAX LSTAT 0.6884451
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## 3692 3414 8                   ZN INDUS RM AGE DIS RAD PTRATIO LSTAT 0.6881762
## 3736 3415 8                      ZN NX RM RAD TAX PTRATIO B LSTAT 0.6880192
## 3581 3416 8              CRIM INDUS RM AGE RAD PTRATIO B LSTAT 0.6878855
## 3545 3417 8              CRIM INDUS NX RM RAD PTRATIO B LSTAT 0.6877027
## 3497 3418 8                CRIM ZN RM AGE RAD PTRATIO B LSTAT 0.6875882
## 3585 3419 8                 CRIM INDUS RM DIS RAD TAX B LSTAT 0.6875572
## 3765 3420 8               INDUS NX RM AGE RAD PTRATIO B LSTAT 0.6869052
## 3405 3421 8             CRIM ZN INDUS RM RAD PTRATIO B LSTAT 0.6867060
## 3638 3422 8                 ZN INDUS NX RM AGE DIS TAX LSTAT 0.6863422
## 3461 3423 8                CRIM ZN NX RM RAD PTRATIO B LSTAT 0.6859969
## 3375 3424 8             CRIM ZN INDUS RM AGE DIS RAD LSTAT 0.6859122
## 3431 3425 8                CRIM ZN NX RM AGE DIS RAD LSTAT 0.6858889
## 3543 3426 8          CRIM INDUS NX RM RAD TAX PTRATIO LSTAT 0.6854453
## 3790 3427 8                     NX RM AGE DIS RAD TAX B LSTAT 0.6853457
## 3729 3428 8                    ZN NX RM AGE RAD PTRATIO B LSTAT 0.6852289
## 3782 3429 8                   INDUS RM AGE DIS RAD TAX B LSTAT 0.6851004
## 3579 3430 8          CRIM INDUS RM AGE RAD TAX PTRATIO LSTAT 0.6850119
## 3576 3431 8                CRIM INDUS RM AGE DIS TAX B LSTAT 0.6846415
## 3531 3432 8              CRIM INDUS NX RM AGE PTRATIO B LSTAT 0.6845282
## 3665 3433 8                 ZN INDUS NX RM RAD PTRATIO B LSTAT 0.6843934
## 3769 3434 8                    INDUS NX RM DIS RAD TAX B LSTAT 0.6843083
## 3701 3435 8                ZN INDUS RM AGE RAD PTRATIO B LSTAT 0.6843012
## 3403 3436 8          CRIM ZN INDUS RM RAD TAX PTRATIO LSTAT 0.6842093
## 3607 3437 8              CRIM NX RM AGE RAD TAX PTRATIO LSTAT 0.6842003
## 3604 3438 8                  CRIM NX RM AGE DIS TAX B LSTAT 0.6839255
## 3540 3439 8                CRIM INDUS NX RM DIS TAX B LSTAT 0.6838216
## 3391 3440 8             CRIM ZN INDUS RM AGE PTRATIO B LSTAT 0.6838201
## 3521 3441 8                CRIM INDUS NX RM AGE DIS B LSTAT 0.6837938
## 3766 3442 8               INDUS NX RM AGE TAX PTRATIO B LSTAT 0.6837650
## 3582 3443 8              CRIM INDUS RM AGE TAX PTRATIO B LSTAT 0.6837508
## 3651 3444 8                 ZN INDUS NX RM AGE PTRATIO B LSTAT 0.6836348
## 3495 3445 8              CRIM ZN RM AGE RAD TAX PTRATIO LSTAT 0.6832461
## 3702 3446 8                ZN INDUS RM AGE TAX PTRATIO B LSTAT 0.6832179
## 3610 3447 8                CRIM NX RM AGE TAX PTRATIO B LSTAT 0.6828063
## 3573 3448 8                CRIM INDUS RM AGE DIS RAD B LSTAT 0.6828014
## 3537 3449 8                CRIM INDUS NX RM DIS RAD B LSTAT 0.6827936
## 3447 3450 8                CRIM ZN NX RM AGE PTRATIO B LSTAT 0.6827485
## 3498 3451 8                CRIM ZN RM AGE TAX PTRATIO B LSTAT 0.6826888
## 3760 3452 8                   INDUS NX RM AGE DIS TAX B LSTAT 0.6825905
## 3546 3453 8              CRIM INDUS NX RM TAX PTRATIO B LSTAT 0.6822460
## 3336 3454 8              CRIM ZN INDUS NX RM PTRATIO B LSTAT 0.6822317
## 3406 3455 8              CRIM ZN INDUS RM TAX PTRATIO B LSTAT 0.6822153
## 3730 3456 8                   ZN NX RM AGE TAX PTRATIO B LSTAT 0.6817879
## 3666 3457 8                ZN INDUS NX RM TAX PTRATIO B LSTAT 0.6815927
## 3763 3458 8          INDUS NX RM AGE RAD TAX PTRATIO LSTAT 0.6813078
## 3601 3459 8                  CRIM NX RM AGE DIS RAD B LSTAT 0.6811774
## 3598 3460 8                CRIM NX RM AGE DIS RAD TAX LSTAT 0.6803520
## 3462 3461 8                CRIM ZN NX RM TAX PTRATIO B LSTAT 0.6800098
## 3534 3462 8                CRIM INDUS NX RM DIS RAD TAX LSTAT 0.6799865
## 3459 3463 8                CRIM ZN NX RM RAD TAX PTRATIO LSTAT 0.6796107
## 3570 3464 8              CRIM INDUS RM AGE DIS RAD TAX LSTAT 0.6792709
## 3757 3465 8                  INDUS NX RM AGE DIS RAD B LSTAT 0.6790756
## 3699 3466 8          ZN INDUS RM AGE RAD TAX PTRATIO LSTAT 0.6787742
## 3526 3467 8          CRIM INDUS NX RM AGE RAD PTRATIO LSTAT 0.6787074
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## 3635  3468  8              ZN INDUS NX RM AGE DIS RAD LSTAT 0.6782621
## 3663  3469  8             ZN INDUS NX RM RAD TAX PTRATIO LSTAT 0.6780787
## 3442  3470  8            CRIM ZN NX RM AGE RAD PTRATIO LSTAT 0.6774993
## 3518  3471  8            CRIM INDUS NX RM AGE DIS TAX LSTAT 0.6766773
## 3727  3472  8               ZN NX RM AGE RAD TAX PTRATIO LSTAT 0.6764696
## 3331  3473  8          CRIM ZN INDUS NX RM RAD PTRATIO LSTAT 0.6748535
## 3529  3474  8           CRIM INDUS NX RM AGE TAX PTRATIO LSTAT 0.6746419
## 3315  3475  8          CRIM ZN INDUS NX RM AGE PTRATIO LSTAT 0.6745103
## 3386  3476  8           CRIM ZN INDUS RM AGE RAD PTRATIO LSTAT 0.6743709
## 3515  3477  8            CRIM INDUS NX RM AGE DIS RAD LSTAT 0.6743434
## 3389  3478  8          CRIM ZN INDUS RM AGE TAX PTRATIO LSTAT 0.6734528
## 3496  3479  8                CRIM ZN RM AGE RAD TAX B LSTAT 0.6733099
## 3445  3480  8              CRIM ZN NX RM AGE TAX PTRATIO LSTAT 0.6731175
## 3479  3481  8             CRIM ZN NX DIS RAD TAX PTRATIO LSTAT 0.6726566
## 3754  3482  8               INDUS NX RM AGE DIS RAD TAX LSTAT 0.6726131
## 3700  3483  8                ZN INDUS RM AGE RAD TAX B LSTAT 0.6725456
## 3460  3484  8                 CRIM ZN NX RM RAD TAX B LSTAT 0.6721642
## 3404  3485  8               CRIM ZN INDUS RM RAD TAX B LSTAT 0.6720415
## 3649  3486  8              ZN INDUS NX RM AGE TAX PTRATIO LSTAT 0.6719628
## 3743  3487  8                ZN NX DIS RAD TAX PTRATIO B LSTAT 0.6719579
## 3334  3488  8          CRIM ZN INDUS NX RM TAX PTRATIO LSTAT 0.6715695
## 3728  3489  8                  ZN NX RM AGE RAD TAX B LSTAT 0.6713073
## 3664  3490  8                ZN INDUS NX RM RAD TAX B LSTAT 0.6712715
## 3646  3491  8             ZN INDUS NX RM AGE RAD PTRATIO LSTAT 0.6710515
## 3623  3492  8              CRIM NX DIS RAD TAX PTRATIO B LSTAT 0.6693544
## 3580  3493  8               CRIM INDUS RM AGE RAD TAX B LSTAT 0.6693035
## 3544  3494  8               CRIM INDUS NX RM RAD TAX B LSTAT 0.6690163
## 3608  3495  8                 CRIM NX RM AGE RAD TAX B LSTAT 0.6689663
## 3511  3496  8            CRIM ZN DIS RAD TAX PTRATIO B LSTAT 0.6676918
## 3446  3497  8                 CRIM ZN NX RM AGE TAX B LSTAT 0.6673566
## 3390  3498  8               CRIM ZN INDUS RM AGE TAX B LSTAT 0.6668116
## 3650  3499  8                 ZN INDUS NX RM AGE TAX B LSTAT 0.6667644
## 3764  3500  8                INDUS NX RM AGE RAD TAX B LSTAT 0.6665607
## 3384  3501  8            CRIM ZN INDUS RM AGE RAD TAX LSTAT 0.6661935
## 3335  3502  8               CRIM ZN INDUS NX RM TAX B LSTAT 0.6658295
## 3443  3503  8                 CRIM ZN NX RM AGE RAD B LSTAT 0.6647411
## 3440  3504  8                CRIM ZN NX RM AGE RAD TAX LSTAT 0.6646898
## 3316  3505  8                CRIM ZN INDUS NX RM AGE B LSTAT 0.6646362
## 3481  3506  8             CRIM ZN NX DIS RAD PTRATIO B LSTAT 0.6644905
## 3387  3507  8               CRIM ZN INDUS RM AGE RAD B LSTAT 0.6644212
## 3530  3508  8               CRIM INDUS NX RM AGE TAX B LSTAT 0.6631576
## 3329  3509  8             CRIM ZN INDUS NX RM RAD TAX LSTAT 0.6631429
## 3795  3510  8              NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6627753
## 3332  3511  8                CRIM ZN INDUS NX RM RAD B LSTAT 0.6623920
## 3618  3512  8           CRIM NX AGE DIS RAD TAX PTRATIO LSTAT 0.6623156
## 3779  3513  8            INDUS NX DIS RAD TAX PTRATIO B LSTAT 0.6619537
## 3738  3514  8             ZN NX AGE DIS RAD TAX PTRATIO LSTAT 0.6616024
## 3647  3515  8                 ZN INDUS NX RM AGE RAD B LSTAT 0.6612713
## 3715  3516  8             ZN INDUS DIS RAD TAX PTRATIO B LSTAT 0.6612596
## 3563  3517  8        CRIM INDUS NX DIS RAD TAX PTRATIO LSTAT 0.6611837
## 3751  3518  8               ZN AGE DIS RAD TAX PTRATIO B LSTAT 0.6610339
## 3527  3519  8              CRIM INDUS NX RM AGE RAD B LSTAT 0.6609044
## 3683  3520  8            ZN INDUS NX DIS RAD TAX PTRATIO LSTAT 0.6598018
## 3644  3521  8                ZN INDUS NX RM AGE RAD TAX LSTAT 0.6595500
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## 3524   3522   8                    CRIM INDUS NX RM AGE RAD TAX LSTAT 0.6591912
## 3565   3523   8              CRIM INDUS NX DIS RAD PTRATIO B LSTAT 0.6590357
## 3620   3524   8                 CRIM NX AGE DIS RAD PTRATIO B LSTAT 0.6589996
## 3313   3525   8                  CRIM ZN INDUS NX RM AGE TAX LSTAT 0.6585917
## 3423   3526   8          CRIM ZN INDUS DIS RAD TAX PTRATIO LSTAT 0.6583974
## 3467   3527   8             CRIM ZN NX AGE DIS RAD PTRATIO LSTAT 0.6579371
## 3740   3528   8                 ZN NX AGE DIS RAD PTRATIO B LSTAT 0.6579333
## 3361   3529   8          CRIM ZN INDUS NX DIS RAD PTRATIO LSTAT 0.6577564
## 3506   3530   8             CRIM ZN AGE DIS RAD TAX PTRATIO LSTAT 0.6575272
## 3685   3531   8              ZN INDUS NX DIS RAD PTRATIO B LSTAT 0.6574246
## 3310   3532   8                 CRIM ZN INDUS NX RM AGE RAD LSTAT 0.6538479
## 3366   3533   8            CRIM ZN INDUS NX DIS PTRATIO B LSTAT 0.6536711
## 3472   3534   8               CRIM ZN NX AGE DIS PTRATIO B LSTAT 0.6536392
## 3676   3535   8                ZN INDUS NX AGE DIS PTRATIO B LSTAT 0.6527082
## 3776   3536   8              INDUS NX AGE DIS RAD PTRATIO B LSTAT 0.6525289
## 3482   3537   8                 CRIM ZN NX DIS TAX PTRATIO B LSTAT 0.6522462
## 3551   3538   8          CRIM INDUS NX AGE DIS RAD PTRATIO LSTAT 0.6520659
## 3741   3539   8                 ZN NX AGE DIS TAX PTRATIO B LSTAT 0.6517782
## 3595   3540   8           CRIM INDUS DIS RAD TAX PTRATIO B LSTAT 0.6515519
## 3686   3541   8               ZN INDUS NX DIS TAX PTRATIO B LSTAT 0.6514343
## 3774   3542   8           INDUS NX AGE DIS RAD TAX PTRATIO LSTAT 0.6510391
## 3425   3543   8           CRIM ZN INDUS DIS RAD PTRATIO B LSTAT 0.6504648
## 3631   3544   8             CRIM AGE DIS RAD TAX PTRATIO B LSTAT 0.6503491
## 3345   3545   8          CRIM ZN INDUS NX AGE DIS PTRATIO LSTAT 0.6497015
## 3480   3546   8                   CRIM ZN NX DIS RAD TAX B LSTAT 0.6484373
## 3470   3547   8              CRIM ZN NX AGE DIS TAX PTRATIO LSTAT 0.6481829
## 3364   3548   8          CRIM ZN INDUS NX DIS TAX PTRATIO LSTAT 0.6481182
## 3424   3549   8                CRIM ZN INDUS DIS RAD TAX B LSTAT 0.6475756
## 3710   3550   8             ZN INDUS AGE DIS RAD TAX PTRATIO LSTAT 0.6475059
## 3671   3551   8             ZN INDUS NX AGE DIS RAD PTRATIO LSTAT 0.6469434
## 3787   3552   8             INDUS AGE DIS RAD TAX PTRATIO B LSTAT 0.6461739
## 3507   3553   8                 CRIM ZN AGE DIS RAD TAX B LSTAT 0.6461026
## 3426   3554   8           CRIM ZN INDUS DIS TAX PTRATIO B LSTAT 0.6457540
## 3416   3555   8           CRIM ZN INDUS AGE DIS PTRATIO B LSTAT 0.6453582
## 3674   3556   8              ZN INDUS NX AGE DIS TAX PTRATIO LSTAT 0.6451818
## 3713   3557   8               ZN INDUS AGE DIS TAX PTRATIO B LSTAT 0.6440307
## 3566   3558   8            CRIM INDUS NX DIS TAX PTRATIO B LSTAT 0.6438124
## 3712   3559   8              ZN INDUS AGE DIS RAD PTRATIO B LSTAT 0.6437809
## 3465   3560   8                CRIM ZN NX AGE DIS RAD TAX LSTAT 0.6432894
## 3556   3561   8           CRIM INDUS NX AGE DIS PTRATIO B LSTAT 0.6432259
## 3359   3562   8              CRIM ZN INDUS NX DIS RAD TAX LSTAT 0.6430670
## 3621   3563   8              CRIM NX AGE DIS TAX PTRATIO B LSTAT 0.6430446
## 3777   3564   8              INDUS NX AGE DIS TAX PTRATIO B LSTAT 0.6428341
## 3508   3565   8               CRIM ZN AGE DIS RAD TAX B LSTAT 0.6426430
## 3509   3566   8               CRIM ZN AGE DIS TAX PTRATIO B LSTAT 0.6417851
## 3739   3567   8                   ZN NX AGE DIS RAD TAX B LSTAT 0.6416940
## 3684   3568   8                 ZN INDUS NX DIS RAD TAX B LSTAT 0.6413070
## 3590   3569   8          CRIM INDUS AGE DIS RAD TAX PTRATIO LSTAT 0.6411006
## 3409   3570   8             CRIM ZN INDUS AGE DIS RAD TAX LSTAT 0.6407247
## 3711   3571   8                 ZN INDUS AGE DIS RAD TAX B LSTAT 0.6405504
## 3411   3572   8           CRIM ZN INDUS AGE DIS RAD PTRATIO LSTAT 0.6402297
## 3592   3573   8           CRIM INDUS AGE DIS RAD PTRATIO B LSTAT 0.6392640
## 3554   3574   8           CRIM INDUS NX AGE DIS TAX PTRATIO LSTAT 0.6390484
## 3414   3575   8           CRIM ZN INDUS AGE DIS TAX PTRATIO LSTAT 0.6389264
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## 3599   3576  8                        CRIM NX RM AGE DIS RAD PTRATIO B 0.6377094
## 3622   3577  8              CRIM NX AGE RAD TAX PTRATIO B LSTAT 0.6375134
## 3510   3578  8              CRIM ZN AGE RAD TAX PTRATIO B LSTAT 0.6366010
## 3778   3579  8             INDUS NX AGE RAD TAX PTRATIO B LSTAT 0.6358968
## 3788   3580  8                NX RM AGE DIS RAD TAX PTRATIO B 0.6342211
## 3742   3581  8               ZN NX AGE RAD TAX PTRATIO B LSTAT 0.6341279
## 3611   3582  8                CRIM NX RM DIS RAD TAX PTRATIO B 0.6337468
## 3624   3583  8                CRIM RM AGE DIS RAD TAX PTRATIO B 0.6336993
## 3714   3584  8             ZN INDUS AGE RAD TAX PTRATIO B LSTAT 0.6335756
## 3519   3585  8            CRIM INDUS NX RM AGE DIS PTRATIO B 0.6335601
## 3435   3586  8                 CRIM ZN NX RM AGE DIS PTRATIO B 0.6332454
## 3594   3587  8         CRIM INDUS AGE RAD TAX PTRATIO B LSTAT 0.6331113
## 3365   3588  8                CRIM ZN INDUS NX DIS TAX B LSTAT 0.6327498
## 3669   3589  8              ZN INDUS NX AGE DIS RAD TAX LSTAT 0.6326522
## 3415   3590  8               CRIM ZN INDUS AGE DIS TAX B LSTAT 0.6319623
## 3558   3591  8        CRIM INDUS NX AGE RAD TAX PTRATIO LSTAT 0.6319247
## 3593   3592  8        CRIM INDUS AGE DIS TAX PTRATIO B LSTAT 0.6316083
## 3596   3593  8              CRIM NX RM AGE DIS RAD TAX PTRATIO 0.6314598
## 3362   3594  8               CRIM ZN INDUS NX DIS RAD B LSTAT 0.6314200
## 3346   3595  8               CRIM ZN INDUS NX AGE DIS B LSTAT 0.6313413
## 3602   3596  8               CRIM NX RM AGE DIS TAX PTRATIO B 0.6312193
## 3474   3597  8          CRIM ZN NX AGE RAD TAX PTRATIO LSTAT 0.6309192
## 3675   3598  8                ZN INDUS NX AGE DIS TAX B LSTAT 0.6307846
## 3471   3599  8                  CRIM ZN NX AGE DIS TAX B LSTAT 0.6296014
## 3343   3600  8          CRIM ZN INDUS NX AGE DIS TAX LSTAT 0.6291994
## 3412   3601  8              CRIM ZN INDUS AGE DIS RAD B LSTAT 0.6288306
## 3379   3602  8             CRIM ZN INDUS RM AGE DIS PTRATIO B 0.6280748
## 3418   3603  8       CRIM ZN INDUS AGE RAD TAX PTRATIO LSTAT 0.6280000
## 3567   3604  8           CRIM INDUS NX RAD TAX PTRATIO B LSTAT 0.6278952
## 3427   3605  8          CRIM ZN INDUS RAD TAX PTRATIO B LSTAT 0.6276456
## 3476   3606  8             CRIM ZN NX AGE RAD PTRATIO B LSTAT 0.6272058
## 3571   3607  8            CRIM INDUS RM AGE DIS RAD PTRATIO B 0.6271071
## 3560   3608  8          CRIM INDUS NX AGE RAD PTRATIO B LSTAT 0.6269561
## 3535   3609  8             CRIM INDUS NX RM DIS RAD PTRATIO B 0.6268425
## 3744   3610  8                ZN RM AGE DIS RAD TAX PTRATIO B 0.6266824
## 3639   3611  8                ZN INDUS NX RM AGE DIS PTRATIO B 0.6266157
## 3722   3612  8                  ZN NX RM AGE DIS TAX PTRATIO B 0.6265005
## 3755   3613  8                INDUS NX RM AGE DIS RAD PTRATIO B 0.6264450
## 3340   3614  8          CRIM ZN INDUS NX AGE DIS RAD LSTAT 0.6264285
## 3758   3615  8                 INDUS NX RM AGE DIS TAX PTRATIO B 0.6262113
## 3678   3616  8        ZN INDUS NX AGE RAD TAX PTRATIO LSTAT 0.6259724
## 3451   3617  8                 CRIM ZN NX RM DIS RAD PTRATIO B 0.6255150
## 3574   3618  8              CRIM INDUS RM AGE DIS TAX PTRATIO B 0.6254422
## 3719   3619  8                   ZN NX RM AGE DIS RAD PTRATIO B 0.6245969
## 3672   3620  8                ZN INDUS NX AGE DIS RAD B LSTAT 0.6245737
## 3780   3621  8               INDUS RM AGE DIS RAD TAX PTRATIO B 0.6245316
## 3687   3622  8            ZN INDUS NX RAD TAX PTRATIO B LSTAT 0.6240770
## 3513   3623  8           CRIM INDUS NX RM AGE DIS RAD PTRATIO 0.6240581
## 3468   3624  8                 CRIM ZN NX AGE DIS RAD B LSTAT 0.6240173
## 3490   3625  8               CRIM ZN RM AGE DIS TAX PTRATIO B 0.6239360
## 3483   3626  8             CRIM ZN NX RAD TAX PTRATIO B LSTAT 0.6231551
## 3448   3627  8              CRIM ZN NX RM DIS RAD TAX PTRATIO 0.6230872
## 3680   3628  8          ZN INDUS NX AGE RAD PTRATIO B LSTAT 0.6224662
## 3731   3629  8                  ZN NX RM DIS RAD TAX PTRATIO B 0.6222116
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## 3324  3630  8              CRIM ZN INDUS NX RM DIS PTRATIO B 0.6221797
## 3304  3631  8           CRIM ZN INDUS NX RM AGE DIS PTRATIO 0.6221492
## 3694  3632  8               ZN INDUS RM AGE DIS TAX PTRATIO B 0.6218014
## 3429  3633  8            CRIM ZN NX RM AGE DIS RAD PTRATIO 0.6214732
## 3420  3634  8       CRIM ZN INDUS AGE RAD PTRATIO B LSTAT 0.6202752
## 3487  3635  8           CRIM ZN RM AGE DIS RAD PTRATIO B 0.6200898
## 3485  3636  8               CRIM ZN RM AGE DIS RAD TAX B 0.6198445
## 3516  3637  8         CRIM INDUS NX RM AGE DIS TAX PTRATIO 0.6198413
## 3432  3638  8           CRIM ZN NX RM AGE DIS TAX PTRATIO 0.6195125
## 3767  3639  8             INDUS NX RM DIS RAD TAX PTRATIO B 0.6190193
## 3454  3640  8            CRIM ZN NX RM DIS TAX PTRATIO B 0.6189664
## 3532  3641  8         CRIM INDUS NX RM DIS RAD TAX PTRATIO 0.6189577
## 3484  3642  8          CRIM ZN RM AGE DIS RAD TAX PTRATIO 0.6189153
## 3538  3643  8           CRIM INDUS NX RM DIS TAX PTRATIO B 0.6185701
## 3351  3644  8     CRIM ZN INDUS NX AGE RAD PTRATIO LSTAT 0.6184283
## 3368  3645  8       CRIM ZN INDUS NX RAD TAX PTRATIO LSTAT 0.6181360
## 3691  3646  8              ZN INDUS RM AGE DIS RAD PTRATIO B 0.6170467
## 3568  3647  8        CRIM INDUS RM AGE DIS RAD TAX PTRATIO 0.6166895
## 3377  3648  8            CRIM ZN INDUS RM AGE DIS TAX B 0.6164072
## 3499  3649  8            CRIM ZN RM DIS RAD TAX PTRATIO B 0.6143920
## 3606  3650  8            CRIM NX RM AGE RAD TAX PTRATIO B 0.6142294
## 3356  3651  8       CRIM ZN INDUS NX AGE PTRATIO B LSTAT 0.6138197
## 3318  3652  8        CRIM ZN INDUS NX RM DIS RAD PTRATIO 0.6138074
## 3305  3653  8              CRIM ZN INDUS NX RM AGE DIS B 0.6137525
## 3477  3654  8         CRIM ZN NX AGE TAX PTRATIO B LSTAT 0.6136632
## 3681  3655  8        ZN INDUS NX AGE TAX PTRATIO B LSTAT 0.6134035
## 3658  3656  8           ZN INDUS NX RM DIS TAX PTRATIO B 0.6132664
## 3376  3657  8        CRIM ZN INDUS RM AGE DIS TAX PTRATIO 0.6130906
## 3542  3658  8          CRIM INDUS NX RM RAD TAX PTRATIO B 0.6129751
## 3655  3659  8           ZN INDUS NX RM DIS RAD PTRATIO B 0.6129629
## 3578  3660  8         CRIM INDUS RM AGE RAD TAX PTRATIO B 0.6124195
## 3561  3661  8       CRIM INDUS NX AGE TAX PTRATIO B LSTAT 0.6122686
## 3458  3662  8            CRIM ZN NX RM RAD TAX PTRATIO B 0.6122462
## 3494  3663  8           CRIM ZN RM AGE RAD TAX PTRATIO B 0.6122356
## 3433  3664  8               CRIM ZN NX RM AGE DIS TAX B 0.6118623
## 3716  3665  8            ZN NX RM AGE DIS RAD TAX PTRATIO 0.6118399
## 3370  3666  8       CRIM ZN INDUS NX RAD PTRATIO B LSTAT 0.6117869
## 3421  3667  8        CRIM ZN INDUS AGE TAX PTRATIO B LSTAT 0.6117632
## 3374  3668  8           CRIM ZN INDUS RM AGE DIS RAD B 0.6116034
## 3689  3669  8             ZN INDUS RM AGE DIS RAD TAX B 0.6101876
## 3583  3670  8          CRIM INDUS RM DIS RAD TAX PTRATIO B 0.6101691
## 3373  3671  8         CRIM ZN INDUS RM AGE DIS RAD PTRATIO 0.6100976
## 3752  3672  8           INDUS NX RM AGE DIS RAD TAX PTRATIO 0.6100071
## 3321  3673  8          CRIM ZN INDUS NX RM DIS TAX PTRATIO 0.6095707
## 3564  3674  8          CRIM INDUS NX DIS RAD TAX B LSTAT 0.6089296
## 3717  3675  8                  ZN NX RM AGE DIS RAD TAX B 0.6085197
## 3372  3676  8          CRIM ZN INDUS RM AGE DIS RAD TAX 0.6079432
## 3637  3677  8                ZN INDUS NX RM AGE DIS TAX B 0.6079383
## 3354  3678  8     CRIM ZN INDUS NX AGE TAX PTRATIO LSTAT 0.6077080
## 3636  3679  8          ZN INDUS NX RM AGE DIS TAX PTRATIO 0.6074856
## 3428  3680  8             CRIM ZN NX RM AGE DIS RAD TAX 0.6073378
## 3569  3681  8            CRIM INDUS RM AGE DIS RAD TAX B 0.6072252
## 3398  3682  8          CRIM ZN INDUS RM DIS TAX PTRATIO B 0.6070648
## 3591  3683  8          CRIM INDUS AGE DIS RAD TAX B LSTAT 0.6067619
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## 3395   3684   8              CRIM ZN INDUS RM DIS RAD PTRATIO B 0.6063079
## 3402   3685   8              CRIM ZN INDUS RM RAD TAX PTRATIO B 0.6058686
## 3449   3686   8                    CRIM ZN NX RM DIS RAD TAX B 0.6056874
## 3441   3687   8               CRIM ZN NX RM AGE RAD PTRATIO B 0.6054044
## 3619   3688   8              CRIM NX AGE DIS RAD TAX B LSTAT 0.6052230
## 3762   3689   8             INDUS NX RM AGE RAD TAX PTRATIO B 0.6051130
## 3703   3690   8              ZN INDUS RM DIS RAD TAX PTRATIO B 0.6048427
## 3419   3691   8              CRIM ZN INDUS AGE RAD TAX B LSTAT 0.6046252
## 3303   3692   8           CRIM ZN INDUS NX RM AGE DIS TAX 0.6045408
## 3525   3693   8         CRIM INDUS NX RM AGE RAD PTRATIO B 0.6045290
## 3475   3694   8              CRIM ZN NX AGE RAD TAX B LSTAT 0.6043940
## 3726   3695   8               ZN NX RM AGE RAD TAX PTRATIO B 0.6040152
## 3517   3696   8             CRIM INDUS NX RM AGE DIS TAX B 0.6040007
## 3597   3697   8               CRIM NX RM AGE DIS RAD TAX B 0.6037878
## 3775   3698   8           INDUS NX AGE DIS RAD TAX B LSTAT 0.6035022
## 3549   3699   8         CRIM INDUS NX AGE DIS RAD TAX LSTAT 0.6033774
## 3393   3700   8             CRIM ZN INDUS RM DIS RAD TAX B 0.6033061
## 3430   3701   8                CRIM ZN NX RM AGE DIS RAD B 0.6031363
## 3330   3702   8             CRIM ZN INDUS NX RM RAD PTRATIO B 0.6029012
## 3698   3703   8              ZN INDUS RM AGE RAD TAX PTRATIO B 0.6027516
## 3633   3704   8         ZN INDUS NX RM AGE DIS RAD PTRATIO 0.6024089
## 3514   3705   8               CRIM INDUS NX RM AGE DIS RAD B 0.6016801
## 3662   3706   8               ZN INDUS NX RM RAD TAX PTRATIO B 0.6015433
## 3385   3707   8         CRIM ZN INDUS RM AGE RAD PTRATIO B 0.6012660
## 3688   3708   8         ZN INDUS RM AGE DIS RAD TAX PTRATIO 0.6010988
## 3322   3709   8               CRIM ZN INDUS NX RM DIS TAX B 0.6010696
## 3679   3710   8               ZN INDUS NX AGE RAD TAX B LSTAT 0.6003858
## 3392   3711   8         CRIM ZN INDUS RM DIS RAD TAX PTRATIO 0.6001408
## 3552   3712   8             CRIM INDUS NX AGE DIS RAD B LSTAT 0.5996965
## 3634   3713   8                 ZN INDUS NX RM AGE DIS RAD B 0.5996483
## 3444   3714   8              CRIM ZN NX RM AGE TAX PTRATIO B 0.5995271
## 3314   3715   8              CRIM ZN INDUS NX RM AGE PTRATIO B 0.5995031
## 3528   3716   8             CRIM INDUS NX RM AGE TAX PTRATIO B 0.5992903
## 3555   3717   8             CRIM INDUS NX AGE DIS TAX B LSTAT 0.5991779
## 3302   3718   8               CRIM ZN INDUS NX RM AGE DIS RAD 0.5990719
## 3371   3719   8         CRIM ZN INDUS NX TAX PTRATIO B LSTAT 0.5990384
## 3652   3720   8              ZN INDUS NX RM DIS RAD TAX PTRATIO 0.5988355
## 3388   3721   8           CRIM ZN INDUS RM AGE TAX PTRATIO B 0.5983351
## 3349   3722   8           CRIM ZN INDUS NX AGE RAD TAX LSTAT 0.5977773
## 3319   3723   8               CRIM ZN INDUS NX RM DIS RAD B 0.5977354
## 3522   3724   8         CRIM INDUS NX RM AGE RAD TAX PTRATIO 0.5974763
## 3438   3725   8              CRIM ZN NX RM AGE RAD TAX PTRATIO 0.5967213
## 3753   3726   8               INDUS NX RM AGE DIS RAD TAX B 0.5966845
## 3333   3727   8              CRIM ZN INDUS NX RM TAX PTRATIO B 0.5964296
## 3317   3728   8             CRIM ZN INDUS NX RM DIS RAD TAX 0.5961518
## 3327   3729   8         CRIM ZN INDUS NX RM RAD TAX PTRATIO 0.5955995
## 3645   3730   8              ZN INDUS NX RM AGE RAD PTRATIO B 0.5952551
## 3648   3731   8              ZN INDUS NX RM AGE TAX PTRATIO B 0.5950180
## 3512   3732   8             CRIM INDUS NX RM AGE DIS RAD TAX 0.5939870
## 3653   3733   8                 ZN INDUS NX RM DIS RAD TAX B 0.5934535
## 3382   3734   8         CRIM ZN INDUS RM AGE RAD TAX PTRATIO 0.5928311
## 3369   3735   8              CRIM ZN INDUS NX RAD TAX B LSTAT 0.5895651
## 3632   3736   8               ZN INDUS NX RM AGE DIS RAD TAX 0.5886327
## 3533   3737   8              CRIM INDUS NX RM DIS RAD TAX B 0.5872938
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## 3355  3738  8                        CRIM ZN INDUS NX AGE TAX B LSTAT 0.5872298
## 3308  3739  8              CRIM ZN INDUS NX RM AGE RAD PTRATIO 0.5869738
## 3352  3740  8                  CRIM ZN INDUS NX AGE RAD B LSTAT 0.5849967
## 3439  3741  8                           CRIM ZN NX RM AGE RAD TAX B 0.5844477
## 3311  3742  8              CRIM ZN INDUS NX RM AGE TAX PTRATIO 0.5840233
## 3383  3743  8                  CRIM ZN INDUS RM AGE RAD TAX B 0.5838144
## 3559  3744  8              CRIM INDUS NX AGE RAD TAX B LSTAT 0.5836506
## 3328  3745  8                  CRIM ZN INDUS NX RM RAD TAX B 0.5807469
## 3523  3746  8                  CRIM INDUS NX RM AGE RAD TAX B 0.5798883
## 3642  3747  8              ZN INDUS NX RM AGE RAD TAX PTRATIO 0.5796871
## 3312  3748  8                      CRIM ZN INDUS NX RM AGE TAX B 0.5767871
## 3643  3749  8                          ZN INDUS NX RM AGE RAD TAX B 0.5748325
## 3309  3750  8                      CRIM ZN INDUS NX RM AGE RAD B 0.5721261
## 3307  3751  8                  CRIM ZN INDUS NX RM AGE RAD TAX 0.5680350
## 3478  3752  8                  CRIM ZN NX DIS RAD TAX PTRATIO B 0.4853966
## 3357  3753  8          CRIM ZN INDUS NX DIS RAD TAX PTRATIO 0.4804572
## 3463  3754  8              CRIM ZN NX AGE DIS RAD TAX PTRATIO 0.4800073
## 3617  3755  8              CRIM NX AGE DIS RAD TAX PTRATIO B 0.4791134
## 3562  3756  8          CRIM INDUS NX DIS RAD TAX PTRATIO B 0.4765921
## 3547  3757  8      CRIM INDUS NX AGE DIS RAD TAX PTRATIO 0.4734939
## 3360  3758  8          CRIM ZN INDUS NX DIS RAD PTRATIO B 0.4728983
## 3550  3759  8          CRIM INDUS NX AGE DIS RAD PTRATIO B 0.4722839
## 3338  3760  8      CRIM ZN INDUS NX AGE DIS RAD PTRATIO 0.4676578
## 3737  3761  8                  ZN NX AGE DIS RAD TAX PTRATIO B 0.4659879
## 3682  3762  8              ZN INDUS NX DIS RAD TAX PTRATIO B 0.4630280
## 3344  3763  8          CRIM ZN INDUS NX AGE DIS PTRATIO B 0.4614963
## 3773  3764  8              INDUS NX AGE DIS RAD TAX PTRATIO B 0.4607938
## 3466  3765  8              CRIM ZN NX AGE DIS RAD PTRATIO B 0.4588628
## 3407  3766  8      CRIM ZN INDUS AGE DIS RAD TAX PTRATIO 0.4546957
## 3363  3767  8          CRIM ZN INDUS NX DIS TAX PTRATIO B 0.4526760
## 3341  3768  8      CRIM ZN INDUS NX AGE DIS TAX PTRATIO 0.4526357
## 3670  3769  8              ZN INDUS NX AGE DIS RAD PTRATIO B 0.4524167
## 3505  3770  8              CRIM ZN AGE DIS RAD TAX PTRATIO B 0.4511958
## 3422  3771  8          CRIM ZN INDUS DIS RAD TAX PTRATIO B 0.4505952
## 3589  3772  8          CRIM INDUS AGE DIS RAD TAX PTRATIO B 0.4498503
## 3553  3773  8          CRIM INDUS NX AGE DIS TAX PTRATIO B 0.4497345
## 3667  3774  8          ZN INDUS NX AGE DIS RAD TAX PTRATIO 0.4492882
## 3673  3775  8              ZN INDUS NX AGE DIS TAX PTRATIO B 0.4480401
## 3709  3776  8              ZN INDUS AGE DIS RAD TAX PTRATIO B 0.4469607
## 3410  3777  8          CRIM ZN INDUS AGE DIS RAD PTRATIO B 0.4459968
## 3413  3778  8          CRIM ZN INDUS AGE DIS TAX PTRATIO B 0.4407524
## 3469  3779  8              CRIM ZN NX AGE DIS TAX PTRATIO B 0.4400490
## 3367  3780  8          CRIM ZN INDUS NX RAD TAX PTRATIO B 0.4348045
## 3408  3781  8                  CRIM ZN INDUS AGE DIS RAD TAX B 0.4345083
## 3473  3782  8                  CRIM ZN NX AGE RAD TAX PTRATIO B 0.4343730
## 3557  3783  8          CRIM INDUS NX AGE RAD TAX PTRATIO B 0.4332192
## 3337  3784  8              CRIM ZN INDUS NX AGE DIS RAD TAX 0.4309185
## 3358  3785  8                  CRIM ZN INDUS NX DIS RAD TAX B 0.4299292
## 3417  3786  8          CRIM ZN INDUS AGE RAD TAX PTRATIO B 0.4218756
## 3347  3787  8      CRIM ZN INDUS NX AGE RAD TAX PTRATIO 0.4198476
## 3342  3788  8                  CRIM ZN INDUS NX AGE DIS TAX B 0.4188889
## 3464  3789  8                      CRIM ZN NX AGE DIS RAD TAX B 0.4179435
## 3339  3790  8                  CRIM ZN INDUS NX AGE DIS RAD B 0.4154615
## 3677  3791  8              ZN INDUS NX AGE RAD TAX PTRATIO B 0.4139247
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## 3350   3792   8                     CRIM ZN INDUS NX AGE RAD PTRATIO B 0.4127513
## 3668   3793   8                        ZN INDUS NX AGE DIS RAD TAX B 0.4122891
## 3353   3794   8                   CRIM ZN INDUS NX AGE TAX PTRATIO B 0.3916527
## 3548   3795   8                     CRIM INDUS NX AGE DIS RAD TAX B 0.3801463
## 3348   3796   8                      CRIM ZN INDUS NX AGE RAD TAX B 0.3600880
## 3959   3797   9     CRIM NX RM DIS RAD TAX PTRATIO B LSTAT 0.7241948
## 4004   3798   9        ZN NX RM DIS RAD TAX PTRATIO B LSTAT 0.7223840
## 3915   3799   9      CRIM ZN RM DIS RAD TAX PTRATIO B LSTAT 0.7215813
## 3899   3800   9    CRIM ZN NX RM DIS RAD PTRATIO B LSTAT 0.7204429
## 3897   3801   9    CRIM ZN NX RM DIS RAD TAX PTRATIO LSTAT 0.7193366
## 4013   3802   9      INDUS NX RM DIS RAD TAX PTRATIO B LSTAT 0.7186930
## 4016   3803   9        NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7180789
## 3956   3804   9      CRIM NX RM AGE DIS RAD PTRATIO B LSTAT 0.7177997
## 3935   3805   9    CRIM INDUS NX RM DIS RAD PTRATIO B LSTAT 0.7176266
## 4006   3806   9        ZN RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7167519
## 3996   3807   9      ZN INDUS RM DIS RAD TAX PTRATIO B LSTAT 0.7158603
## 3961   3808   9      CRIM RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7153906
## 3890   3809   9    CRIM ZN NX RM AGE DIS PTRATIO B LSTAT 0.7142641
## 3933   3810   9 CRIM INDUS NX RM DIS RAD TAX PTRATIO LSTAT 0.7141471
## 3826   3811   9    CRIM ZN INDUS NX RM DIS PTRATIO B LSTAT 0.7141274
## 3900   3812   9      CRIM ZN NX RM DIS TAX PTRATIO B LSTAT 0.7140910
## 3954   3813   9    CRIM NX RM AGE DIS RAD TAX PTRATIO LSTAT 0.7138206
## 4001   3814   9        ZN NX RM AGE DIS RAD PTRATIO B LSTAT 0.7136970
## 3980   3815   9      ZN INDUS NX RM DIS RAD PTRATIO B LSTAT 0.7136405
## 3951   3816   9    CRIM INDUS RM DIS RAD TAX PTRATIO B LSTAT 0.7132877
## 4002   3817   9        ZN NX RM AGE DIS TAX PTRATIO B LSTAT 0.7119192
## 3981   3818   9      ZN INDUS NX RM DIS TAX PTRATIO B LSTAT 0.7117400
## 4010   3819   9      INDUS NX RM AGE DIS RAD PTRATIO B LSTAT 0.7115298
## 3971   3820   9      ZN INDUS NX RM AGE DIS PTRATIO B LSTAT 0.7114865
## 4015   3821   9      INDUS RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7105837
## 3957   3822   9      CRIM NX RM AGE DIS TAX PTRATIO B LSTAT 0.7101921
## 3910   3823   9    CRIM ZN RM AGE DIS RAD TAX PTRATIO LSTAT 0.7100715
## 3926   3824   9    CRIM INDUS NX RM AGE DIS PTRATIO B LSTAT 0.7100183
## 3871   3825   9    CRIM ZN INDUS RM DIS RAD PTRATIO B LSTAT 0.7098765
## 3936   3826   9    CRIM INDUS NX RM DIS TAX PTRATIO B LSTAT 0.7098034
## 3821   3827   9  CRIM ZN INDUS NX RM DIS RAD PTRATIO LSTAT 0.7097384
## 3898   3828   9            CRIM ZN NX RM DIS RAD TAX B LSTAT 0.7095565
## 3885   3829   9    CRIM ZN NX RM AGE DIS RAD PTRATIO LSTAT 0.7095162
## 3912   3830   9      CRIM ZN RM AGE DIS RAD PTRATIO B LSTAT 0.7092885
## 3869   3831   9  CRIM ZN INDUS RM DIS RAD TAX PTRATIO LSTAT 0.7092712
## 3913   3832   9      CRIM ZN RM AGE DIS TAX PTRATIO B LSTAT 0.7090318
## 3862   3833   9    CRIM ZN INDUS RM AGE DIS PTRATIO B LSTAT 0.7088671
## 3911   3834   9          CRIM ZN RM AGE DIS RAD TAX B LSTAT 0.7086800
## 3872   3835   9    CRIM ZN INDUS RM DIS RAD TAX B LSTAT 0.7085012
## 3978   3836   9      ZN INDUS NX RM DIS RAD TAX PTRATIO LSTAT 0.7084378
## 3870   3837   9        CRIM ZN INDUS RM DIS RAD TAX B LSTAT 0.7081520
## 4011   3838   9      INDUS NX RM AGE DIS TAX PTRATIO B LSTAT 0.7081454
## 3999   3839   9        ZN NX RM AGE DIS RAD TAX PTRATIO LSTAT 0.7077608
## 3994   3840   9      ZN INDUS RM AGE DIS TAX PTRATIO B LSTAT 0.7074573
## 3948   3841   9    CRIM INDUS RM AGE DIS RAD PTRATIO B LSTAT 0.7069879
## 3921   3842   9 CRIM INDUS NX RM AGE DIS RAD PTRATIO LSTAT 0.7067775
## 3824   3843   9  CRIM ZN INDUS NX RM DIS TAX PTRATIO LSTAT 0.7056197
## 3888   3844   9    CRIM ZN NX RM AGE DIS TAX PTRATIO LSTAT 0.7056066
## 3993   3845   9      ZN INDUS RM AGE DIS RAD PTRATIO B LSTAT 0.7055612
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## 3805   3846   9             CRIM ZN INDUS NX RM AGE DIS PTRATIO LSTAT 0.7055078
## 3949   3847   9             CRIM INDUS RM AGE DIS TAX PTRATIO B LSTAT 0.7039764
## 4008   3848   9             INDUS NX RM AGE DIS RAD TAX PTRATIO LSTAT 0.7038614
## 4000   3849   9                    ZN NX RM AGE DIS RAD TAX B LSTAT 0.7033118
## 3979   3850   9                 ZN INDUS NX RM DIS RAD TAX B LSTAT 0.7030447
## 3992   3851   9                 ZN INDUS RM AGE DIS RAD TAX B LSTAT 0.7026736
## 3946   3852   9       CRIM INDUS RM AGE DIS RAD TAX PTRATIO LSTAT 0.7021771
## 3924   3853   9       CRIM INDUS NX RM AGE DIS TAX PTRATIO LSTAT 0.7012727
## 3883   3854   9             CRIM ZN NX RM AGE DIS RAD TAX LSTAT 0.7004303
## 3819   3855   9           CRIM ZN INDUS NX RM DIS RAD TAX LSTAT 0.7003867
## 3969   3856   9         ZN INDUS NX RM AGE DIS TAX PTRATIO LSTAT 0.7003220
## 3825   3857   9             CRIM ZN INDUS NX RM DIS TAX B LSTAT 0.7002645
## 3991   3858   9         ZN INDUS RM AGE DIS RAD TAX PTRATIO LSTAT 0.7000447
## 3861   3859   9           CRIM ZN INDUS RM AGE DIS TAX B LSTAT 0.6999832
## 3889   3860   9                CRIM ZN NX RM AGE DIS TAX B LSTAT 0.6999684
## 3860   3861   9       CRIM ZN INDUS RM AGE DIS TAX PTRATIO LSTAT 0.6993071
## 3855   3862   9         CRIM ZN INDUS RM AGE DIS RAD TAX LSTAT 0.6984811
## 3966   3863   9         ZN INDUS NX RM AGE DIS RAD PTRATIO LSTAT 0.6984113
## 3937   3864   9        CRIM INDUS NX RM RAD TAX PTRATIO B LSTAT 0.6983296
## 3950   3865   9        CRIM INDUS RM AGE RAD TAX PTRATIO B LSTAT 0.6982298
## 3806   3866   9             CRIM ZN INDUS NX RM AGE DIS B LSTAT 0.6980593
## 3857   3867   9       CRIM ZN INDUS RM AGE DIS RAD PTRATIO LSTAT 0.6980325
## 3822   3868   9             CRIM ZN INDUS NX RM DIS RAD B LSTAT 0.6980266
## 3873   3869   9         CRIM ZN INDUS RM RAD TAX PTRATIO B LSTAT 0.6975990
## 3970   3870   9                ZN INDUS NX RM AGE DIS TAX B LSTAT 0.6975964
## 4012   3871   9         INDUS NX RM AGE RAD TAX PTRATIO B LSTAT 0.6968745
## 3858   3872   9           CRIM ZN INDUS RM AGE DIS RAD B LSTAT 0.6967139
## 3886   3873   9                CRIM ZN NX RM AGE DIS RAD B LSTAT 0.6959605
## 3958   3874   9           CRIM NX RM AGE RAD TAX PTRATIO B LSTAT 0.6955378
## 3995   3875   9          ZN INDUS RM AGE RAD TAX PTRATIO B LSTAT 0.6953244
## 3914   3876   9            CRIM ZN RM AGE RAD TAX PTRATIO B LSTAT 0.6952118
## 3982   3877   9          ZN INDUS NX RM RAD TAX PTRATIO B LSTAT 0.6945546
## 3803   3878   9           CRIM ZN INDUS NX RM AGE DIS TAX LSTAT 0.6925327
## 3901   3879   9             CRIM ZN NX RM RAD TAX PTRATIO B LSTAT 0.6919249
## 3967   3880   9                ZN INDUS NX RM AGE DIS RAD B LSTAT 0.6919151
## 4003   3881   9                ZN NX RM AGE RAD TAX PTRATIO B LSTAT 0.6913520
## 3930   3882   9       CRIM INDUS NX RM AGE RAD PTRATIO B LSTAT 0.6909669
## 3955   3883   9             CRIM NX RM AGE DIS RAD TAX B LSTAT 0.6899765
## 3964   3884   9            ZN INDUS NX RM AGE DIS RAD TAX LSTAT 0.6899322
## 3947   3885   9           CRIM INDUS RM AGE DIS RAD TAX B LSTAT 0.6895939
## 3894   3886   9             CRIM ZN NX RM AGE RAD PTRATIO B LSTAT 0.6893633
## 3934   3887   9            CRIM INDUS NX RM DIS RAD TAX B LSTAT 0.6890565
## 3928   3888   9       CRIM INDUS NX RM AGE RAD TAX PTRATIO LSTAT 0.6889627
## 3800   3889   9            CRIM ZN INDUS NX RM AGE DIS RAD LSTAT 0.6887179
## 3830   3890   9         CRIM ZN INDUS NX RM RAD PTRATIO B LSTAT 0.6881001
## 3866   3891   9         CRIM ZN INDUS RM AGE RAD PTRATIO B LSTAT 0.6879347
## 3975   3892   9          ZN INDUS NX RM AGE RAD PTRATIO B LSTAT 0.6869640
## 3864   3893   9       CRIM ZN INDUS RM AGE RAD TAX PTRATIO LSTAT 0.6861358
## 4009   3894   9              INDUS NX RM AGE DIS RAD TAX B LSTAT 0.6855876
## 3828   3895   9         CRIM ZN INDUS NX RM RAD TAX PTRATIO LSTAT 0.6854591
## 3925   3896   9              CRIM INDUS NX RM AGE DIS TAX B LSTAT 0.6851734
## 3816   3897   9          CRIM ZN INDUS NX RM AGE PTRATIO B LSTAT 0.6845851
## 3931   3898   9         CRIM INDUS NX RM AGE TAX PTRATIO B LSTAT 0.6845289
## 3892   3899   9            CRIM ZN NX RM AGE RAD TAX PTRATIO LSTAT 0.6843224
```

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## 3922  3900  9          CRIM INDUS NX RM AGE DIS RAD B LSTAT 0.6839769
## 3867  3901  9    CRIM ZN INDUS RM AGE TAX PTRATIO B LSTAT 0.6839722
## 3976  3902  9       ZN INDUS NX RM AGE TAX PTRATIO B LSTAT 0.6838244
## 3895  3903  9         CRIM ZN NX RM AGE TAX PTRATIO B LSTAT 0.6828222
## 3831  3904  9       CRIM ZN INDUS NX RM TAX PTRATIO B LSTAT 0.6822618
## 3973  3905  9    ZN INDUS NX RM AGE RAD TAX PTRATIO LSTAT 0.6815677
## 3919  3906  9      CRIM INDUS NX RM AGE DIS RAD TAX LSTAT 0.6809121
## 3908  3907  9      CRIM ZN NX DIS RAD TAX PTRATIO B LSTAT 0.6806765
## 3811  3908  9  CRIM ZN INDUS NX RM AGE RAD PTRATIO LSTAT 0.6787308
## 3865  3909  9      CRIM ZN INDUS RM AGE RAD TAX B LSTAT 0.6763083
## 3893  3910  9           CRIM ZN NX RM AGE RAD TAX B LSTAT 0.6750127
## 3814  3911  9  CRIM ZN INDUS NX RM AGE TAX PTRATIO LSTAT 0.6747341
## 3829  3912  9          CRIM ZN INDUS NX RM RAD TAX B LSTAT 0.6745871
## 3903  3913  9     CRIM ZN NX AGE DIS RAD TAX PTRATIO LSTAT 0.6744368
## 4005  3914  9        ZN NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6734169
## 3974  3915  9          ZN INDUS NX RM AGE RAD TAX B LSTAT 0.6733732
## 3848  3916  9  CRIM ZN INDUS NX DIS RAD TAX PTRATIO LSTAT 0.6726793
## 3989  3917  9     ZN INDUS NX DIS RAD TAX PTRATIO B LSTAT 0.6721170
## 3960  3918  9       CRIM NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6702348
## 3929  3919  9        CRIM INDUS NX RM AGE RAD TAX B LSTAT 0.6696656
## 3944  3920  9   CRIM INDUS NX DIS RAD TAX PTRATIO B LSTAT 0.6693854
## 3880  3921  9    CRIM ZN INDUS DIS RAD TAX PTRATIO B LSTAT 0.6682796
## 3815  3922  9        CRIM ZN INDUS NX RM AGE TAX B LSTAT 0.6678778
## 3916  3923  9      CRIM ZN AGE DIS RAD TAX PTRATIO B LSTAT 0.6677674
## 3809  3924  9     CRIM ZN INDUS NX RM AGE RAD TAX LSTAT 0.6663628
## 3905  3925  9     CRIM ZN NX AGE DIS RAD PTRATIO B LSTAT 0.6662207
## 3850  3926  9   CRIM ZN INDUS NX DIS RAD PTRATIO B LSTAT 0.6660225
## 3812  3927  9          CRIM ZN INDUS NX RM AGE RAD B LSTAT 0.6647423
## 4014  3928  9    INDUS NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6628769
## 3939  3929  9  CRIM INDUS NX AGE DIS RAD TAX PTRATIO LSTAT 0.6623215
## 3984  3930  9    ZN INDUS NX AGE DIS RAD TAX PTRATIO LSTAT 0.6616984
## 3997  3931  9     ZN INDUS AGE DIS RAD TAX PTRATIO B LSTAT 0.6613963
## 3941  3932  9   CRIM INDUS NX AGE DIS RAD PTRATIO B LSTAT 0.6601298
## 3836  3933  9  CRIM ZN INDUS NX AGE DIS RAD PTRATIO LSTAT 0.6597157
## 3986  3934  9      ZN INDUS NX AGE DIS RAD PTRATIO B LSTAT 0.6590570
## 3875  3935  9  CRIM ZN INDUS AGE DIS RAD TAX PTRATIO LSTAT 0.6585436
## 3841  3936  9    CRIM ZN INDUS NX AGE DIS PTRATIO B LSTAT 0.6549736
## 3851  3937  9    CRIM ZN INDUS NX DIS TAX PTRATIO B LSTAT 0.6537308
## 3906  3938  9      CRIM ZN NX AGE DIS TAX PTRATIO B LSTAT 0.6536394
## 3987  3939  9       ZN INDUS NX AGE DIS TAX PTRATIO B LSTAT 0.6527783
## 3952  3940  9   CRIM INDUS AGE DIS RAD TAX PTRATIO B LSTAT 0.6515905
## 3877  3941  9   CRIM ZN INDUS AGE DIS RAD PTRATIO B LSTAT 0.6505366
## 3839  3942  9   CRIM ZN INDUS NX AGE DIS TAX PTRATIO B LSTAT 0.6497015
## 3904  3943  9         CRIM ZN NX AGE DIS RAD TAX B LSTAT 0.6496321
## 3849  3944  9       CRIM ZN INDUS NX DIS RAD TAX B LSTAT 0.6495044
## 3876  3945  9      CRIM ZN INDUS AGE DIS RAD TAX B LSTAT 0.6480374
## 3953  3946  9       CRIM NX RM AGE DIS RAD TAX PTRATIO B 0.6478818
## 3878  3947  9   CRIM ZN INDUS AGE DIS TAX PTRATIO B LSTAT 0.6459313
## 3942  3948  9   CRIM INDUS NX AGE DIS TAX PTRATIO B LSTAT 0.6446208
## 3834  3949  9     CRIM ZN INDUS NX AGE DIS RAD TAX LSTAT 0.6444746
## 3985  3950  9         ZN INDUS NX AGE DIS RAD TAX B LSTAT 0.6424665
## 3943  3951  9   CRIM INDUS NX AGE RAD TAX PTRATIO B LSTAT 0.6407753
## 3920  3952  9     CRIM INDUS NX RM AGE DIS RAD PTRATIO B 0.6404209
## 3907  3953  9       CRIM ZN NX AGE RAD TAX PTRATIO B LSTAT 0.6393495
```

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## 3909   3954   9                    CRIM ZN RM AGE DIS RAD TAX PTRATIO B 0.6390882
## 3884   3955   9               CRIM ZN NX RM AGE DIS RAD PTRATIO B 0.6387980
## 3896   3956   9                CRIM ZN NX RM DIS RAD TAX PTRATIO B 0.6384615
## 3988   3957   9        ZN INDUS NX AGE RAD TAX PTRATIO B LSTAT 0.6381995
## 3879   3958   9    CRIM ZN INDUS AGE RAD TAX PTRATIO B LSTAT 0.6381216
## 3998   3959   9              ZN NX RM AGE DIS RAD TAX PTRATIO B 0.6365201
## 3945   3960   9      CRIM INDUS RM AGE DIS RAD TAX PTRATIO B 0.6361061
## 3804   3961   9       CRIM ZN INDUS NX RM AGE DIS PTRATIO B 0.6359954
## 3881   3962   9       CRIM ZN NX RM AGE DIS RAD TAX PTRATIO 0.6350007
## 3843   3963   9  CRIM ZN INDUS NX AGE RAD TAX PTRATIO LSTAT 0.6344531
## 4007   3964   9           INDUS NX RM AGE DIS RAD TAX PTRATIO B 0.6343831
## 3932   3965   9      CRIM INDUS NX RM DIS RAD TAX PTRATIO B 0.6342069
## 3840   3966   9         CRIM ZN INDUS NX AGE DIS TAX B LSTAT 0.6338394
## 3923   3967   9      CRIM INDUS NX RM AGE DIS TAX PTRATIO B 0.6336360
## 3887   3968   9          CRIM ZN NX RM AGE DIS TAX PTRATIO B 0.6335544
## 3837   3969   9        CRIM ZN INDUS NX AGE DIS RAD B LSTAT 0.6326952
## 3917   3970   9  CRIM INDUS NX RM AGE DIS RAD TAX PTRATIO 0.6320205
## 3856   3971   9    CRIM ZN INDUS RM AGE DIS RAD PTRATIO B 0.6296140
## 3859   3972   9      CRIM ZN INDUS RM AGE DIS TAX PTRATIO B 0.6292007
## 3820   3973   9       CRIM ZN INDUS NX RM DIS RAD PTRATIO B 0.6291748
## 3852   3974   9   CRIM ZN INDUS NX RAD TAX PTRATIO B LSTAT 0.6284462
## 3990   3975   9        ZN INDUS RM AGE DIS RAD TAX PTRATIO B 0.6282645
## 3968   3976   9        ZN INDUS NX RM AGE DIS TAX PTRATIO B 0.6280936
## 3845   3977   9   CRIM ZN INDUS NX AGE RAD PTRATIO B LSTAT 0.6274824
## 3965   3978   9        ZN INDUS NX RM AGE DIS RAD PTRATIO B 0.6272041
## 3798   3979   9  CRIM ZN INDUS NX RM AGE DIS RAD PTRATIO 0.6255591
## 3817   3980   9  CRIM ZN INDUS NX RM DIS RAD TAX PTRATIO 0.6238612
## 3854   3981   9        CRIM ZN INDUS RM AGE DIS RAD TAX B 0.6238112
## 3977   3982   9          ZN INDUS NX RM DIS RAD TAX PTRATIO B 0.6225167
## 3801   3983   9   CRIM ZN INDUS NX RM AGE DIS TAX PTRATIO 0.6224758
## 3882   3984   9                CRIM ZN NX RM AGE DIS RAD TAX B 0.6224512
## 3853   3985   9  CRIM ZN INDUS RM AGE DIS RAD TAX PTRATIO 0.6223576
## 3823   3986   9      CRIM ZN INDUS NX RM DIS TAX PTRATIO B 0.6221825
## 3868   3987   9       CRIM ZN INDUS RM DIS RAD TAX PTRATIO B 0.6189283
## 3802   3988   9           CRIM ZN INDUS NX RM AGE DIS TAX B 0.6174575
## 3927   3989   9      CRIM INDUS NX RM AGE RAD TAX PTRATIO B 0.6155010
## 3891   3990   9          CRIM ZN NX RM AGE RAD TAX PTRATIO B 0.6143153
## 3846   3991   9   CRIM ZN INDUS NX AGE TAX PTRATIO B LSTAT 0.6139044
## 3799   3992   9            CRIM ZN INDUS NX RM AGE DIS RAD B 0.6137624
## 3827   3993   9       CRIM ZN INDUS NX RM RAD TAX PTRATIO B 0.6130170
## 3863   3994   9       CRIM ZN INDUS RM AGE RAD TAX PTRATIO B 0.6124774
## 3962   3995   9      ZN INDUS NX RM AGE DIS RAD TAX PTRATIO 0.6122831
## 3963   3996   9             ZN INDUS NX RM AGE DIS RAD TAX B 0.6110128
## 3797   3997   9         CRIM ZN INDUS NX RM AGE DIS RAD TAX 0.6109315
## 3818   3998   9             CRIM ZN INDUS NX RM DIS RAD TAX B 0.6095212
## 3940   3999   9       CRIM INDUS NX AGE DIS RAD TAX B LSTAT 0.6091157
## 3918   4000   9          CRIM INDUS NX RM AGE DIS RAD TAX B 0.6084158
## 3810   4001   9        CRIM ZN INDUS NX RM AGE RAD PTRATIO B 0.6054124
## 3972   4002   9         ZN INDUS NX RM AGE RAD TAX PTRATIO B 0.6052175
## 3844   4003   9        CRIM ZN INDUS NX AGE RAD TAX B LSTAT 0.6048437
## 3813   4004   9        CRIM ZN INDUS NX RM AGE TAX PTRATIO B 0.5995281
## 3807   4005   9      CRIM ZN INDUS NX RM AGE RAD TAX PTRATIO 0.5975039
## 3808   4006   9            CRIM ZN INDUS NX RM AGE RAD TAX B 0.5844582
## 3902   4007   9           CRIM ZN NX AGE DIS RAD TAX PTRATIO B 0.4937598
```

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## 3847 4008  9              CRIM ZN INDUS NX DIS RAD TAX PTRATIO B 0.4925566
## 3832 4009  9           CRIM ZN INDUS NX AGE DIS RAD TAX PTRATIO 0.4877148
## 3938 4010  9              CRIM INDUS NX AGE DIS RAD TAX PTRATIO B 0.4864596
## 3835 4011  9           CRIM ZN INDUS NX AGE DIS RAD PTRATIO B 0.4806616
## 3983 4012  9              ZN INDUS NX AGE DIS RAD TAX PTRATIO B 0.4724207
## 3874 4013  9           CRIM ZN INDUS AGE DIS RAD TAX PTRATIO B 0.4715612
## 3838 4014  9           CRIM ZN INDUS NX AGE DIS TAX PTRATIO B 0.4617609
## 3833 4015  9                CRIM ZN INDUS NX AGE DIS RAD TAX B 0.4412052
## 3842 4016  9           CRIM ZN INDUS NX AGE RAD TAX PTRATIO B 0.4348152
## 4059 4017 10     CRIM ZN NX RM DIS RAD TAX PTRATIO B LSTAT 0.7295844
## 4068 4018 10   CRIM INDUS NX RM DIS RAD TAX PTRATIO B LSTAT 0.7248657
## 4071 4019 10    CRIM NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7244562
## 4078 4020 10      ZN INDUS NX RM DIS RAD TAX PTRATIO B LSTAT 0.7233437
## 4061 4021 10     CRIM ZN RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7226200
## 4081 4022 10       ZN NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7224615
## 4051 4023 10   CRIM ZN INDUS RM DIS RAD TAX PTRATIO B LSTAT 0.7215830
## 4035 4024 10   CRIM ZN INDUS NX RM DIS RAD PTRATIO B LSTAT 0.7205252
## 4056 4025 10      CRIM ZN NX RM AGE DIS RAD PTRATIO B LSTAT 0.7205122
## 4033 4026 10   CRIM ZN INDUS NX RM DIS RAD TAX PTRATIO LSTAT 0.7198306
## 4054 4027 10    CRIM ZN NX RM AGE DIS RAD TAX PTRATIO LSTAT 0.7193418
## 4082 4028 10    INDUS NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7189474
## 4065 4029 10   CRIM INDUS NX RM AGE DIS RAD PTRATIO B LSTAT 0.7178327
## 4080 4030 10    ZN INDUS RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7168313
## 4070 4031 10   CRIM INDUS RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7153925
## 4026 4032 10   CRIM ZN INDUS NX RM AGE DIS PTRATIO B LSTAT 0.7143123
## 4057 4033 10      CRIM ZN NX RM AGE DIS TAX PTRATIO B LSTAT 0.7142787
## 4063 4034 10  CRIM INDUS NX RM AGE DIS RAD TAX PTRATIO LSTAT 0.7142519
## 4036 4035 10   CRIM ZN INDUS NX RM DIS TAX PTRATIO B LSTAT 0.7141295
## 4075 4036 10      ZN INDUS NX RM AGE DIS RAD PTRATIO B LSTAT 0.7137216
## 4076 4037 10      ZN INDUS NX RM AGE DIS TAX PTRATIO B LSTAT 0.7119192
## 4048 4038 10   CRIM ZN INDUS RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7111436
## 4066 4039 10   CRIM INDUS NX RM AGE DIS TAX PTRATIO B LSTAT 0.7102302
## 4046 4040 10  CRIM ZN INDUS RM AGE DIS RAD TAX PTRATIO LSTAT 0.7100994
## 4055 4041 10         CRIM ZN NX RM AGE DIS RAD TAX B LSTAT 0.7098077
## 4021 4042 10  CRIM ZN INDUS NX RM AGE DIS RAD PTRATIO LSTAT 0.7097445
## 4049 4043 10   CRIM ZN INDUS RM AGE DIS TAX PTRATIO B LSTAT 0.7095779
## 4034 4044 10      CRIM ZN INDUS NX RM DIS TAX B LSTAT 0.7095712
## 4047 4045 10      CRIM ZN INDUS RM AGE DIS TAX B LSTAT 0.7087917
## 4073 4046 10   ZN INDUS NX RM AGE DIS RAD TAX PTRATIO LSTAT 0.7084402
## 4024 4047 10  CRIM ZN INDUS NX RM AGE DIS TAX PTRATIO LSTAT 0.7056841
## 4074 4048 10        ZN INDUS NX RM AGE DIS RAD TAX B LSTAT 0.7033118
## 4067 4049 10   CRIM INDUS NX RM AGE RAD TAX PTRATIO B LSTAT 0.7009271
## 4025 4050 10       CRIM ZN INDUS NX RM AGE DIS TAX B LSTAT 0.7006282
## 4019 4051 10    CRIM ZN INDUS NX RM AGE DIS RAD TAX LSTAT 0.7004884
## 4050 4052 10   CRIM ZN INDUS RM AGE RAD TAX PTRATIO B LSTAT 0.6991213
## 4037 4053 10    CRIM ZN INDUS NX RM RAD TAX PTRATIO B LSTAT 0.6983529
## 4022 4054 10       CRIM ZN INDUS NX RM AGE DIS RAD B LSTAT 0.6983063
## 4077 4055 10     ZN INDUS NX RM AGE RAD TAX PTRATIO B LSTAT 0.6971259
## 4058 4056 10       CRIM ZN NX RM AGE RAD TAX PTRATIO B LSTAT 0.6956297
## 4030 4057 10    CRIM ZN INDUS NX RM AGE RAD PTRATIO B LSTAT 0.6909971
## 4064 4058 10       CRIM INDUS NX RM AGE DIS RAD TAX B LSTAT 0.6903653
## 4028 4059 10  CRIM ZN INDUS NX RM AGE RAD TAX PTRATIO LSTAT 0.6893275
## 4031 4060 10   CRIM ZN INDUS NX RM AGE TAX PTRATIO B LSTAT 0.6845940
## 4060 4061 10     CRIM ZN NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6821330
```

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## 4044   4062 10      CRIM ZN INDUS NX DIS RAD TAX PTRATIO B LSTAT 0.6807525
## 4029   4063 10        CRIM ZN INDUS NX RM AGE RAD TAX B LSTAT 0.6769629
## 4039   4064 10   CRIM ZN INDUS NX AGE DIS RAD TAX PTRATIO LSTAT 0.6744723
## 4079   4065 10      ZN INDUS NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6736025
## 4069   4066 10    CRIM INDUS NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6702743
## 4052   4067 10     CRIM ZN INDUS AGE DIS RAD TAX PTRATIO B LSTAT 0.6683763
## 4041   4068 10    CRIM ZN INDUS NX AGE DIS RAD PTRATIO B LSTAT 0.6676441
## 4042   4069 10    CRIM ZN INDUS NX AGE DIS TAX PTRATIO B LSTAT 0.6550568
## 4053   4070 10       CRIM ZN NX RM AGE DIS RAD TAX PTRATIO B 0.6511670
## 4040   4071 10       CRIM ZN INDUS NX AGE DIS RAD TAX B LSTAT 0.6506527
## 4062   4072 10     CRIM INDUS NX RM AGE DIS RAD TAX PTRATIO B 0.6481333
## 4043   4073 10     CRIM ZN INDUS NX AGE RAD TAX PTRATIO B LSTAT 0.6432962
## 4020   4074 10      CRIM ZN INDUS NX RM AGE DIS RAD PTRATIO B 0.6417890
## 4045   4075 10      CRIM ZN INDUS RM AGE DIS RAD TAX PTRATIO B 0.6411580
## 4032   4076 10       CRIM ZN INDUS NX RM DIS RAD TAX PTRATIO B 0.6388797
## 4072   4077 10        ZN INDUS NX RM AGE DIS RAD TAX PTRATIO B 0.6366676
## 4023   4078 10       CRIM ZN INDUS NX RM AGE DIS TAX PTRATIO B 0.6360109
## 4017   4079 10     CRIM ZN INDUS NX RM AGE DIS RAD TAX PTRATIO 0.6355308
## 4018   4080 10        CRIM ZN INDUS NX RM AGE DIS RAD TAX B 0.6253036
## 4027   4081 10      CRIM ZN INDUS NX RM AGE RAD TAX PTRATIO B 0.6155321
## 4038   4082 10       CRIM ZN INDUS NX AGE DIS RAD TAX PTRATIO B 0.5003765
## 4089   4083 11   CRIM ZN INDUS NX RM DIS RAD TAX PTRATIO B LSTAT 0.7303229
## 4092   4084 11    CRIM ZN NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7296508
## 4093   4085 11   CRIM INDUS NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7251211
## 4094   4086 11     ZN INDUS NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7234161
## 4091   4087 11   CRIM ZN INDUS RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7226319
## 4086   4088 11    CRIM ZN INDUS NX RM AGE DIS RAD PTRATIO B LSTAT 0.7205957
## 4084   4089 11   CRIM ZN INDUS NX RM AGE DIS RAD TAX PTRATIO LSTAT 0.7198346
## 4087   4090 11     CRIM ZN INDUS NX RM AGE DIS TAX PTRATIO B LSTAT 0.7143167
## 4085   4091 11        CRIM ZN INDUS NX RM AGE DIS RAD TAX B LSTAT 0.7098220
## 4088   4092 11     CRIM ZN INDUS NX RM AGE RAD TAX PTRATIO B LSTAT 0.7012546
## 4090   4093 11    CRIM ZN INDUS NX AGE DIS RAD TAX PTRATIO B LSTAT 0.6822275
## 4083   4094 11       CRIM ZN INDUS NX RM AGE DIS RAD TAX PTRATIO B 0.6514006
## 4095   4095 12 CRIM ZN INDUS NX RM AGE DIS RAD TAX PTRATIO B LSTAT 0.7303853
##      Adj. R-Square Mallow's Cp
## 12     0.54177288  0.53510351
## 5      0.45923960  0.44703974
## 3      0.24961225  0.24174652
## 10     0.22725184  0.21773915
## 9      0.21246465  0.20401460
## 4      0.18682565  0.17980057
## 6      0.15094661  0.14270472
## 2      0.14867335  0.13926089
## 1      0.14443753  0.13116740
## 8      0.13300927  0.12448069
## 11     0.11310000  0.10869958
## 7      0.07693847  0.06799824
## 57     0.63652146  0.62333911
## 77     0.58615915  0.57847750
## 68     0.55611060  0.54603644
## 78     0.55151857  0.54506775
## 75     0.54835649  0.53923622
## 33     0.54709153  0.53650487
## 63     0.54701998  0.53696992
```

```
## 23         0.54699092   0.54023420
## 42         0.54203373   0.53225028
## 72         0.54137787   0.53212513
## 50         0.54026377   0.53117333
## 54         0.52915163   0.51449382
## 55         0.52250613   0.51050923
## 56         0.52104528   0.50942768
## 16         0.51832221   0.50353895
## 35         0.51097814   0.49735937
## 53         0.50838771   0.49211989
## 51         0.50837106   0.49514264
## 43         0.50456599   0.49086066
## 26         0.48333490   0.47076022
## 52         0.47027635   0.45636816
## 48         0.34968065   0.34060397
## 40         0.33442860   0.32354791
## 73         0.29877913   0.28774254
## 61         0.29807901   0.28685523
## 76         0.29308650   0.28481424
## 14         0.28988505   0.28215222
## 21         0.28650692   0.27570014
## 30         0.27959277   0.26837204
## 41         0.27846698   0.27180861
## 39         0.27657841   0.26798624
## 24         0.26961996   0.25783998
## 31         0.26109737   0.24858621
## 38         0.26041899   0.25071296
## 37         0.25992846   0.24965888
## 34         0.25567522   0.24675734
## 36         0.25483830   0.24505100
## 70         0.24927941   0.23808984
## 66         0.24880292   0.23604653
## 60         0.24633727   0.23590320
## 13         0.24437459   0.23120581
## 47         0.24348777   0.23452954
## 15         0.23776539   0.23066069
## 74         0.23279269   0.22494361
## 20         0.22839109   0.22085664
## 32         0.22254919   0.21457332
## 69         0.22237799   0.21179530
## 25         0.22146347   0.21091804
## 49         0.21975790   0.21389457
## 17         0.21931007   0.20836951
## 29         0.21585426   0.20401697
## 65         0.21192054   0.20126677
## 62         0.20791793   0.20094488
## 46         0.20571484   0.19695297
## 59         0.19649448   0.18605368
## 44         0.19563669   0.18711429
## 45         0.19087503   0.18152387
## 27         0.19035542   0.17882596
## 22         0.17849082   0.16702721
## 71         0.16818875   0.16032014
## 19         0.16701608   0.15719469
```

```
## 18       0.16410461  0.15129678
## 58       0.14891173  0.13955911
## 28       0.14815897  0.13488966
## 67       0.14664234  0.13923070
## 64       0.14487815  0.13422577
## 262      0.66146330  0.64786321
## 263      0.65182409  0.63851387
## 253      0.64610724  0.63047450
## 112      0.64448189  0.63050478
## 260      0.64306228  0.62420312
## 257      0.63819665  0.61869550
## 157      0.63683599  0.62173861
## 248      0.63644773  0.61900495
## 193      0.63542664  0.61887567
## 221      0.63531905  0.61931264
## 287      0.60673482  0.59581248
## 277      0.59366934  0.58268866
## 298      0.59364081  0.58615127
## 293      0.58735613  0.57726006
## 132      0.58681102  0.57872216
## 168      0.58564302  0.57299666
## 296      0.58513661  0.57502293
## 213      0.58494072  0.57414337
## 241      0.58488935  0.57440674
## 177      0.58484025  0.57349061
## 204      0.57505745  0.56357411
## 285      0.57492056  0.56373843
## 288      0.57084771  0.56096152
## 261      0.56913967  0.55789402
## 232      0.56688507  0.55626164
## 123      0.56665719  0.55654281
## 163      0.56209094  0.54906597
## 219      0.56063778  0.54836849
## 282      0.56054747  0.54891198
## 278      0.55859004  0.54879764
## 275      0.55837941  0.54663673
## 110      0.55627885  0.54346866
## 178      0.55614320  0.54575189
## 291      0.55526299  0.54514656
## 268      0.55464176  0.54292761
## 118      0.55401289  0.54380636
## 258      0.55362625  0.53962253
## 297      0.55336025  0.54451137
## 199      0.55265671  0.54089612
## 175      0.55242263  0.53948417
## 246      0.55240856  0.54006529
## 133      0.55231507  0.54586862
## 88       0.55203997  0.54137562
## 259      0.55100415  0.53595886
## 242      0.55088725  0.54208843
## 214      0.55051823  0.54118909
## 294      0.55006253  0.54109682
## 239      0.54936960  0.53824348
## 130      0.54882611  0.53990931
```

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## 227      0.54871033   0.53757036
## 272      0.54830602   0.53626407
## 247      0.54804120   0.53522960
## 211      0.54688301   0.53615478
## 150      0.54673499   0.53418237
## 97       0.54631642   0.53676992
## 172      0.54611606   0.53308235
## 191      0.54602024   0.53316036
## 105      0.54583331   0.53684174
## 142      0.54577374   0.53234445
## 127      0.54571700   0.53707128
## 192      0.54446334   0.53128523
## 111      0.54333365   0.52839204
## 245      0.54187247   0.52724689
## 106      0.54183289   0.52772291
## 90       0.54179370   0.52793188
## 186      0.54161498   0.53011435
## 109      0.54094909   0.52607294
## 208      0.54089688   0.52941896
## 236      0.54015902   0.52891637
## 154      0.53899109   0.52383616
## 220      0.53771222   0.52458169
## 255      0.53668876   0.52114912
## 98       0.53622406   0.52245297
## 256      0.53587814   0.51900726
## 156      0.53560464   0.52341591
## 190      0.53426427   0.51889238
## 81       0.53334363   0.51876081
## 218      0.53292254   0.51796909
## 254      0.52865154   0.51247761
## 244      0.52844073   0.51224959
## 250      0.52798256   0.51343139
## 155      0.52565041   0.51312295
## 189      0.52517811   0.50811140
## 108      0.52508286   0.50724327
## 251      0.52468813   0.51158531
## 252      0.52158258   0.50814666
## 187      0.52051976   0.50657122
## 217      0.51957489   0.50284636
## 153      0.51866460   0.50176163
## 107      0.51769301   0.50216434
## 179      0.51518941   0.50085954
## 243      0.51393504   0.50088707
## 188      0.51393087   0.50006140
## 135      0.51379398   0.49957837
## 215      0.51323451   0.49908939
## 151      0.50937782   0.49554953
## 216      0.50861602   0.49395162
## 143      0.50799373   0.49371285
## 249      0.50694136   0.49064293
## 152      0.48207445   0.46768972
## 230      0.37830026   0.36700051
## 240      0.36805937   0.36012460
## 103      0.36446301   0.35634289
```

```
## 212         0.36039425    0.35074385
## 184         0.35769231    0.34688916
## 95          0.35717887    0.34701108
## 237         0.35161144    0.34091302
## 234         0.34995553    0.33958133
## 225         0.34802082    0.33654511
## 148         0.34790148    0.33498146
## 202         0.34259901    0.32937099
## 209         0.34122993    0.32969521
## 197         0.33978730    0.32747491
## 276         0.33737191    0.32722987
## 140         0.33603927    0.32141667
## 206         0.33253695    0.32011223
## 116         0.32826004    0.31701582
## 273         0.32624375    0.31382780
## 295         0.32324299    0.31234534
## 289         0.32314082    0.30987837
## 173         0.32311579    0.30917507
## 176         0.31735964    0.30615443
## 131         0.31474713    0.30367217
## 86          0.31474526    0.30104276
## 128         0.31154085    0.30121105
## 79          0.31031749    0.29836961
## 92          0.30911955    0.29832551
## 137         0.30632307    0.29290738
## 139         0.30140068    0.28926015
## 266         0.30077932    0.28782327
## 96          0.29994513    0.29229247
## 270         0.29977102    0.28717671
## 161         0.29961227    0.28514283
## 141         0.29895408    0.28820579
## 286         0.29885657    0.28744202
## 283         0.29747804    0.28405805
## 174         0.29619384    0.28533753
## 165         0.29538632    0.28199785
## 169         0.29507116    0.28193658
## 94          0.29415637    0.28629272
## 85          0.29379096    0.28324621
## 292         0.29319705    0.28209102
## 203         0.29194767    0.28275007
## 194         0.29164454    0.28091573
## 210         0.29155920    0.28358372
## 91          0.29131893    0.28160997
## 89          0.29082956    0.28261772
## 201         0.29070895    0.27991799
## 121         0.29065909    0.27744079
## 181         0.28756235    0.27668267
## 93          0.28753435    0.27729254
## 125         0.28427378    0.27118527
## 147         0.28274905    0.27061169
## 198         0.28202559    0.27343257
## 160         0.28193751    0.26869061
## 138         0.27965377    0.26586845
## 207         0.27958651    0.27046724
```

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## 185        0.27952838    0.27198600
## 196        0.27942547    0.26890351
## 205        0.27823378    0.26746856
## 170        0.27780601    0.26329722
## 183        0.27646220    0.26694382
## 200        0.27553656    0.26355153
## 80         0.27324685    0.26223802
## 134        0.27087941    0.25812441
## 136        0.26871761    0.25500624
## 87         0.26757855    0.25523556
## 195        0.26330425    0.25164636
## 274        0.26306088    0.25333596
## 182        0.26168457    0.25116123
## 166        0.26146166    0.24480105
## 115        0.25878769    0.24913595
## 82         0.25809056    0.24403205
## 102        0.25807547    0.25020624
## 265        0.25783362    0.24643495
## 238        0.25682042    0.24883377
## 280        0.25679734    0.24308991
## 149        0.25653232    0.24718551
## 269        0.25630802    0.24397764
## 180        0.25556147    0.24487111
## 233        0.25355827    0.24296617
## 124        0.25261694    0.24119658
## 145        0.25241919    0.23968448
## 229        0.25135793    0.24039759
## 224        0.25046598    0.23952144
## 84         0.24957904    0.23628791
## 104        0.24897227    0.24216109
## 290        0.24850585    0.23879317
## 100        0.24772786    0.23784915
## 171        0.24623343    0.23491345
## 83         0.24536639    0.22764633
## 162        0.24448519    0.23404422
## 99         0.24305979    0.23407553
## 129        0.24069414    0.23216502
## 117        0.24048261    0.23012241
## 146        0.23995345    0.22751677
## 101        0.23573116    0.22646800
## 284        0.23133667    0.22130066
## 159        0.22984316    0.21588605
## 226        0.22943645    0.22214170
## 120        0.22691035    0.21712618
## 235        0.22582878    0.21789571
## 231        0.22401065    0.21572237
## 271        0.22375564    0.21409394
## 113        0.22310054    0.20990170
## 114        0.22293939    0.21149804
## 279        0.22200433    0.20933812
## 144        0.22132492    0.20887811
## 167        0.22036350    0.20860158
## 164        0.21690946    0.20214917
## 222        0.21523708    0.20522310
```

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## 223        0.21359769    0.20300817
## 228        0.21186612    0.20082044
## 267        0.20936531    0.20113977
## 264        0.20111131    0.18964569
## 158        0.20080849    0.18794328
## 122        0.19050897    0.17837616
## 126        0.18908014    0.17775958
## 281        0.17591542    0.16602215
## 119        0.17481547    0.16322577
## 747        0.67555956    0.65969649
## 758        0.67412560    0.66057568
## 748        0.66624241    0.65082239
## 427        0.66478582    0.65061440
## 737        0.66261157    0.64482027
## 745        0.66246563    0.64358219
## 756        0.66154826    0.64327107
## 631        0.66118506    0.64492491
## 547        0.66061707    0.64536920
## 753        0.66045696    0.64195030
## 687        0.66040125    0.64362064
## 418        0.65904324    0.64303854
## 538        0.65801502    0.64171593
## 428        0.65360383    0.63944505
## 678        0.65343732    0.63687263
## 742        0.65311467    0.63322636
## 622        0.65310544    0.63654063
## 757        0.65291372    0.63445729
## 738        0.65263518    0.63526752
## 688        0.65184542    0.63631689
## 548        0.65169190    0.63649977
## 632        0.65092115    0.63470699
## 754        0.65073193    0.63171395
## 728        0.64705766    0.62925586
## 425        0.64559759    0.62730406
## 413        0.64526669    0.62726568
## 735        0.64513712    0.62365575
## 322        0.64461307    0.62873947
## 685        0.64420277    0.62468584
## 751        0.64415263    0.62445069
## 386        0.64372403    0.62752170
## 629        0.64353588    0.62389277
## 358        0.64334110    0.62653554
## 422        0.64330085    0.62452935
## 545        0.64282561    0.62228813
## 732        0.63911920    0.61675715
## 533        0.63890996    0.62028055
## 542        0.63800339    0.61687980
## 682        0.63766399    0.61717080
## 626        0.63710145    0.61611337
## 617        0.63604090    0.61721124
## 506        0.63589810    0.61860221
## 673        0.63577337    0.61720530
## 478        0.63564069    0.61767376
## 590        0.63429768    0.61662008
```

```
## 712          0.62801422    0.61686954
## 788          0.61930800    0.60851682
## 572          0.61569202    0.60229388
## 656          0.61367696    0.60142201
## 452          0.61090330    0.59992073
## 570          0.61084899    0.59744790
## 786          0.61063669    0.59855540
## 783          0.60547255    0.59320020
## 767          0.60544649    0.59313349
## 778          0.60293795    0.59219186
## 573          0.60263920    0.59011504
## 489          0.60145406    0.58743484
## 792          0.60073527    0.59103852
## 333          0.60065400    0.58788870
## 790          0.60009394    0.58868138
## 702          0.59879732    0.58681719
## 517          0.59615069    0.58300276
## 442          0.59538521    0.58405869
## 562          0.59504870    0.58134304
## 776          0.59411022    0.58157961
## 458          0.59339903    0.58393819
## 773          0.59329629    0.58070472
## 646          0.59322103    0.58066582
## 667          0.59321158    0.58279839
## 723          0.59249525    0.58232888
## 793          0.59248687    0.58264286
## 463          0.59246017    0.58410170
## 583          0.59231364    0.58111066
## 567          0.59145922    0.57729268
## 718          0.58747454    0.57579131
## 578          0.58603458    0.57235549
## 662          0.58599427    0.57359757
## 378          0.58577578    0.57476578
## 657          0.58574548    0.57454259
## 342          0.58552179    0.57367848
## 461          0.58544227    0.57541579
## 406          0.58543854    0.57471337
## 736          0.58504253    0.57317170
## 553          0.58458360    0.57033732
## 686          0.58453920    0.57285950
## 665          0.58433002    0.57241959
## 610          0.58408133    0.57196282
## 581          0.58381791    0.56995782
## 369          0.58378854    0.57251946
## 721          0.58375846    0.57173361
## 498          0.58369057    0.56957191
## 526          0.58352180    0.57003238
## 654          0.58215477    0.56979347
## 787          0.58126974    0.57011991
## 781          0.58112249    0.56921834
## 426          0.57942907    0.56608526
## 601          0.57814481    0.56592570
## 710          0.57784304    0.56569875
## 755          0.57772050    0.56348385
```

```
## 676        0.57759362   0.56482323
## 630        0.57714884   0.56496130
## 713        0.57703248   0.56641271
## 450        0.57615326   0.56499890
## 651        0.57564652   0.56264885
## 397        0.57550174   0.56484427
## 384        0.57541070   0.56355669
## 453        0.57453219   0.56480103
## 560        0.57373124   0.55913105
## 637        0.57369403   0.56078690
## 563        0.57355515   0.56074684
## 765        0.57351190   0.56075444
## 411        0.57235208   0.55984347
## 784        0.57074904   0.55923864
## 546        0.57002029   0.55808981
## 328        0.56982215   0.55663196
## 768        0.56942937   0.55804078
## 752        0.56896108   0.55305974
## 746        0.56774482   0.55521013
## 707        0.56760904   0.55501217
## 356        0.56715717   0.55440705
## 693        0.56621210   0.55390051
## 447        0.56569057   0.55438279
## 733        0.56524620   0.55150483
## 433        0.56523097   0.55350756
## 771        0.56500617   0.55236740
## 683        0.56465914   0.55066828
## 423        0.56418932   0.54997466
## 484        0.56394017   0.54903452
## 777        0.56363182   0.55212462
## 791        0.56289390   0.55313885
## 557        0.56286636   0.54784220
## 512        0.56196818   0.54773826
## 671        0.56171936   0.54872586
## 726        0.56166824   0.54944995
## 647        0.56147241   0.55016028
## 734        0.56141946   0.54641226
## 576        0.56084850   0.54711640
## 412        0.56080507   0.54608460
## 443        0.56027851   0.55051650
## 456        0.55998081   0.55056310
## 504        0.55980259   0.54639702
## 588        0.55963711   0.54669572
## 727        0.55960697   0.54695999
## 725        0.55959691   0.54576779
## 680        0.55940053   0.54405554
## 544        0.55921037   0.54363545
## 762        0.55908761   0.54582289
## 440        0.55885923   0.54701405
## 320        0.55852636   0.54506947
## 527        0.55846313   0.54621441
## 644        0.55818761   0.54542565
## 703        0.55800979   0.54716135
## 364        0.55784639   0.54614424
```

```
## 357     0.55778471   0.54299436
## 524     0.55772884   0.54312260
## 774     0.55730319   0.54557055
## 582     0.55730093   0.54458801
## 700     0.55701284   0.54390599
## 343     0.55689969   0.54647686
## 749     0.55674034   0.54119502
## 627     0.55660001   0.54197918
## 716     0.55616113   0.54415992
## 424     0.55599649   0.53944011
## 722     0.55539874   0.54458863
## 730     0.55537390   0.54027541
## 543     0.55533631   0.54061489
## 615     0.55528063   0.54224034
## 420     0.55511732   0.53792680
## 321     0.55494709   0.53993382
## 579     0.55489691   0.54215091
## 408     0.55483666   0.54014665
## 416     0.55482433   0.54111583
## 499     0.55470722   0.54167130
## 660     0.55432628   0.54269696
## 628     0.55431071   0.53863638
## 392     0.55429500   0.54302950
## 315     0.55319261   0.54075333
## 340     0.55308467   0.54037976
## 743     0.55265017   0.53864848
## 462     0.55257699   0.54373505
## 750     0.55256443   0.53588088
## 437     0.55253696   0.54089301
## 385     0.55222846   0.53757370
## 731     0.55220675   0.53540440
## 496     0.55209002   0.53788274
## 407     0.55208025   0.54337809
## 684     0.55206018   0.53694533
## 641     0.55197014   0.53853743
## 459     0.55194560   0.54352872
## 666     0.55192241   0.54150533
## 410     0.55190631   0.53700985
## 616     0.55188763   0.53837239
## 611     0.55162721   0.54066506
## 596     0.55153152   0.53849597
## 531     0.55133222   0.53796236
## 337     0.55127080   0.53891189
## 379     0.55111414   0.54189018
## 744     0.55058485   0.53552781
## 307     0.55055183   0.53734122
## 319     0.55039814   0.53502545
## 353     0.54982783   0.53545035
## 404     0.54969329   0.53868934
## 621     0.54946972   0.53598234
## 719     0.54942611   0.53857984
## 663     0.54919819   0.53811677
## 532     0.54888485   0.53534598
## 620     0.54858206   0.53515818
```

```
## 624     0.54855205   0.53244118
## 697     0.54841046   0.53501543
## 608     0.54830606   0.53573570
## 535     0.54755215   0.53278473
## 477     0.54746931   0.53363056
## 625     0.54740747   0.52981093
## 376     0.54732721   0.53675447
## 672     0.54720440   0.53376463
## 352     0.54711596   0.53296688
## 521     0.54681206   0.53204811
## 355     0.54676042   0.53119164
## 351     0.54666166   0.53548830
## 471     0.54660965   0.53166099
## 373     0.54548474   0.53467194
## 300     0.54502778   0.53040078
## 541     0.54494987   0.52747300
## 419     0.54494558   0.52737558
## 476     0.54467237   0.53093078
## 493     0.54464443   0.52953032
## 421     0.54463232   0.52481426
## 589     0.54455929   0.53086880
## 381     0.54453137   0.52976746
## 401     0.54440076   0.53376841
## 383     0.54437599   0.52933331
## 316     0.54351226   0.52866588
## 530     0.54347512   0.52818926
## 612     0.54297133   0.52972091
## 409     0.54260622   0.52491477
## 344     0.54239075   0.52832493
## 724     0.54226407   0.52678281
## 380     0.54223769   0.52782940
## 505     0.54201377   0.52835592
## 677     0.54196086   0.52784625
## 417     0.54185818   0.52564842
## 681     0.54179328   0.52464182
## 729     0.54154503   0.52546661
## 354     0.54114831   0.52282729
## 614     0.54109139   0.52553966
## 605     0.54096293   0.52763898
## 308     0.54048119   0.52600701
## 670     0.54035304   0.52488205
## 415     0.54034450   0.52549867
## 539     0.53962742   0.52276439
## 675     0.53946976   0.52392570
## 619     0.53945745   0.52409234
## 475     0.53927929   0.52353500
## 503     0.53848922   0.52315535
## 540     0.53847925   0.52219928
## 318     0.53617927   0.51768653
## 382     0.53580645   0.51779494
## 537     0.53532022   0.52141997
## 740     0.53527920   0.51968364
## 317     0.53497442   0.51858839
## 741     0.53434417   0.51731090
```

```
## 587        0.53394349    0.51835685
## 623        0.53311965    0.51645073
## 679        0.53257877    0.51613994
## 613        0.53165504    0.51444993
## 618        0.53132749    0.51451566
## 668        0.53087470    0.51678687
## 585        0.52896727    0.51426286
## 529        0.52888171    0.51181937
## 474        0.52757026    0.50981344
## 669        0.52748059    0.51023700
## 739        0.52743934    0.51135814
## 674        0.52533136    0.50796959
## 586        0.52525853    0.50790616
## 536        0.52479233    0.51025894
## 473        0.52432493    0.50962327
## 414        0.52350854    0.50559732
## 502        0.52300312    0.50571825
## 501        0.52064796    0.50557991
## 534        0.52045910    0.50368324
## 528        0.52027290    0.50670004
## 472        0.51991553    0.50514963
## 584        0.51969038    0.50495555
## 464        0.51618961    0.50118210
## 500        0.51330693    0.49842227
## 599        0.40088024    0.38842942
## 395        0.39672953    0.38639046
## 711        0.39569540    0.38535406
## 691        0.38847746    0.37579662
## 515        0.38495607    0.37069401
## 399        0.38031227    0.36888626
## 708        0.37980645    0.36701779
## 705        0.37921914    0.36651162
## 714        0.37842940    0.36645894
## 717        0.37508580    0.36564484
## 609        0.37452899    0.36489600
## 405        0.37383197    0.36551198
## 367        0.37184098    0.35898132
## 349        0.37148701    0.36152348
## 635        0.37148016    0.35805439
## 655        0.37132798    0.35921772
## 377        0.36944847    0.35880063
## 525        0.36695199    0.35520000
## 701        0.36676863    0.35650357
## 720        0.36674689    0.35690843
## 302        0.36445845    0.34967039
## 645        0.36418250    0.35303020
## 313        0.36376018    0.35179619
## 390        0.36268860    0.35211281
## 497        0.36245351    0.34901595
## 402        0.36245330    0.35248871
## 371        0.36157917    0.34803206
## 664        0.36041618    0.34942629
## 305        0.36018460    0.34611776
## 661        0.36012551    0.34834381
```

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## 362      0.35951889   0.34783601
## 603      0.35812403   0.34593565
## 789      0.35735447   0.34474076
## 606      0.35729486   0.34543490
## 487      0.35580471   0.33917618
## 469      0.35572259   0.34094772
## 374      0.35564357   0.34463802
## 594      0.35560828   0.34263925
## 454      0.35461577   0.33997463
## 658      0.35317956   0.33910746
## 652      0.35161713   0.33791925
## 522      0.35110844   0.33676763
## 698      0.35015309   0.33693344
## 769      0.35006644   0.33556330
## 486      0.34984915   0.33640661
## 574      0.34869520   0.33302304
## 695      0.34814171   0.33525602
## 441      0.34791015   0.33610048
## 519      0.34785552   0.33371052
## 775      0.34704151   0.33495386
## 510      0.34605751   0.33083137
## 494      0.34552867   0.33073035
## 642      0.34519704   0.33226497
## 766      0.34503274   0.33308268
## 580      0.34405249   0.33031078
## 488      0.34205257   0.32945724
## 649      0.34173010   0.32721684
## 561      0.33929829   0.32589061
## 482      0.33867248   0.32262088
## 763      0.33817046   0.32458006
## 341      0.33802647   0.32425555
## 639      0.33762322   0.32388006
## 359      0.33691811   0.32524782
## 431      0.33664894   0.32305901
## 438      0.33626843   0.32437764
## 338      0.33551008   0.32205403
## 772      0.33540214   0.32325579
## 491      0.33436776   0.31828160
## 466      0.33379164   0.32012954
## 326      0.33226921   0.31764784
## 558      0.33161429   0.31634534
## 346      0.32902436   0.31861412
## 479      0.32893024   0.31543401
## 568      0.32840874   0.31253317
## 460      0.32822050   0.31595738
## 435      0.32788057   0.31371193
## 514      0.32539585   0.31179218
## 334      0.32529427   0.31110639
## 485      0.32498312   0.30966852
## 550      0.32373598   0.31003847
## 636      0.32207437   0.31225386
## 779      0.32198133   0.30655091
## 785      0.32132371   0.30812324
## 306      0.32064765   0.30866252
```

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## 368      0.31983763    0.30902847
## 634      0.31925154    0.30781779
## 310      0.31846937    0.30434584
## 575      0.31775992    0.30526020
## 304      0.31723069    0.30558471
## 577      0.31668137    0.30258364
## 495      0.31566429    0.30389963
## 451      0.31548047    0.30176221
## 571      0.31513467    0.30005290
## 569      0.31464728    0.30140430
## 366      0.31378277    0.30310650
## 457      0.31360787    0.29792559
## 331      0.31340330    0.29579421
## 330      0.31333476    0.30029762
## 564      0.31252790    0.29720666
## 335      0.31247303    0.29610874
## 448      0.30968600    0.29687612
## 600      0.30955239    0.29980497
## 299      0.30859490    0.29605254
## 490      0.30851400    0.29469860
## 301      0.30812771    0.29421197
## 303      0.30806129    0.29345326
## 551      0.30748705    0.29143910
## 653      0.30743729    0.29704661
## 365      0.30695067    0.29386743
## 598      0.30525844    0.29392203
## 760      0.30510500    0.29112669
## 370      0.30501692    0.29377699
## 591      0.30492302    0.29334373
## 633      0.30465963    0.29199583
## 339      0.30349846    0.29197116
## 555      0.30220941    0.28640868
## 375      0.30181931    0.29341952
## 363      0.30118699    0.29157313
## 492      0.29963547    0.28632007
## 350      0.29934168    0.29124226
## 481      0.29931523    0.28526171
## 468      0.29911332    0.28594204
## 372      0.29806646    0.28696364
## 559      0.29770546    0.28489883
## 518      0.29754539    0.28407142
## 483      0.29735222    0.28468929
## 470      0.29724556    0.28575245
## 523      0.29698125    0.28563890
## 782      0.29693062    0.28366739
## 659      0.29663443    0.28659665
## 554      0.29663233    0.28169608
## 312      0.29662580    0.28516998
## 650      0.29560072    0.28406920
## 361      0.29528661    0.28540223
## 325      0.29503854    0.28239335
## 597      0.29381725    0.28131630
## 643      0.29380672    0.28393178
## 348      0.29347608    0.28477797
```

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## 648       0.29030763   0.27759806
## 607       0.29019162   0.28154718
## 345       0.28996743   0.27972204
## 360       0.28899445   0.27675827
## 516       0.28879354   0.27692836
## 347       0.28871124   0.27777422
## 445       0.28845952   0.27317123
## 314       0.28578084   0.27492702
## 323       0.28514146   0.26778617
## 638       0.28223100   0.26987751
## 640       0.28217506   0.27119511
## 398       0.28191195   0.27088500
## 434       0.28160424   0.26852395
## 509       0.28158102   0.26730074
## 595       0.28020989   0.27095612
## 604       0.27925564   0.26953245
## 602       0.27905000   0.26771936
## 770       0.27833554   0.26689108
## 467       0.27807649   0.26348531
## 480       0.27784914   0.26213477
## 327       0.27755431   0.26391450
## 593       0.27723045   0.26574373
## 764       0.27632089   0.26542601
## 513       0.27570629   0.26123478
## 690       0.27558074   0.26355428
## 565       0.27547015   0.25826179
## 430       0.27214441   0.26116438
## 715       0.27175310   0.26203249
## 309       0.27165489   0.25850952
## 332       0.27141668   0.25419689
## 311       0.27119186   0.25789793
## 387       0.27008564   0.25886870
## 439       0.26900198   0.25861895
## 394       0.26892884   0.25876755
## 465       0.26861742   0.25400178
## 455       0.26809792   0.25572302
## 336       0.26784437   0.25318553
## 759       0.26734522   0.25423310
## 507       0.26689131   0.25350318
## 403       0.26502510   0.25705267
## 699       0.26463770   0.25473321
## 552       0.26461785   0.25280802
## 709       0.26424596   0.25417393
## 389       0.26341178   0.25331081
## 520       0.26205580   0.25048591
## 592       0.26172946   0.24924696
## 704       0.26109428   0.24860926
## 694       0.26052625   0.24807167
## 324       0.25942312   0.24423617
## 396       0.25793957   0.24837816
## 556       0.25707729   0.24375746
## 511       0.25670906   0.24551169
## 549       0.25580406   0.24090297
## 391       0.25539265   0.24662563
```

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## 329      0.25412894   0.23736035
## 444      0.25103489   0.23752014
## 692      0.24991888   0.24090320
## 566      0.24969367   0.23540909
## 780      0.24711151   0.23529738
## 432      0.24651240   0.23366663
## 400      0.24649262   0.23672192
## 393      0.24576790   0.23358546
## 388      0.24109852   0.22988036
## 436      0.24010982   0.22755542
## 508      0.23944169   0.22486311
## 449      0.23881115   0.22808872
## 689      0.23650055   0.22450316
## 696      0.23474787   0.22517591
## 706      0.23145045   0.22114144
## 761      0.23017638   0.21935553
## 429      0.22940785   0.21639292
## 446      0.19455018   0.18165024
## 1559     0.69317848   0.67764130
## 1483     0.69029091   0.67377391
## 1077     0.68268628   0.66668668
## 1557     0.68087916   0.66227136
## 1288     0.67939250   0.66333169
## 1285     0.67862208   0.65942003
## 1287     0.67806909   0.66079030
## 1413     0.67742471   0.66075974
## 1538     0.67639626   0.65845799
## 1563     0.67631683   0.65856293
## 1549     0.67627625   0.65872911
## 1424     0.67580822   0.66001339
## 1554     0.67515882   0.65599547
## 868      0.67391618   0.65722821
## 1088     0.67382396   0.65926647
## 1558     0.67359104   0.65509194
## 1494     0.67355906   0.65736915
## 1298     0.67346297   0.65827541
## 1564     0.67306279   0.65533904
## 1078     0.67072015   0.65478199
## 1414     0.67009989   0.65388061
## 1484     0.66922636   0.65301830
## 1539     0.66758160   0.65003943
## 1555     0.66710931   0.64774863
## 1083     0.66673185   0.64899230
## 1067     0.66661838   0.64845824
## 1561     0.66657869   0.64762133
## 1282     0.66584686   0.64554449
## 1075     0.66576885   0.64738226
## 1218     0.66547154   0.64825516
## 961      0.66515502   0.64863917
## 952      0.66467475   0.64798710
## 1008     0.66460190   0.64798497
## 1162     0.66441138   0.64694147
## 877      0.66387200   0.64797535
## 1481     0.66384035   0.64429792
```

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## 1547    0.66371236    0.64273577
## 1017    0.66371045    0.64686253
## 1086    0.66369575    0.64589714
## 1473    0.66353331    0.64468636
## 1552    0.66340870    0.64384859
## 1536    0.66317340    0.64196296
## 1422    0.66311227    0.64406585
## 1411    0.66292345    0.64361073
## 1403    0.66157151    0.64279558
## 1277    0.66151422    0.64195482
## 1544    0.66148964    0.64013529
## 1353    0.66118602    0.64353944
## 1296    0.66067276    0.64071614
## 1492    0.66056451    0.64122415
## 1058    0.66037240    0.64212629
## 1171    0.66012903    0.64241905
## 1419    0.66005926    0.64020275
## 1227    0.65974573    0.64143186
## 1293    0.65960117    0.63945339
## 1489    0.65954918    0.63993851
## 1072    0.65893915    0.63969518
## 1268    0.65778673    0.63937299
## 1408    0.65691803    0.63654872
## 1478    0.65665891    0.63603504
## 1344    0.65635851    0.63895702
## 1562    0.65573232    0.63652144
## 1493    0.65537543    0.63647455
## 1548    0.65501107    0.63403492
## 1068    0.65487531    0.63686239
## 1278    0.65484140    0.63625507
## 1018    0.65415964    0.63801165
## 1533    0.65400097    0.63169664
## 1423    0.65373810    0.63453735
## 1394    0.65344759    0.63487302
## 878     0.65343993    0.63738405
## 1087    0.65321049    0.63474934
## 1228    0.65296332    0.63619595
## 962     0.65294218    0.63611962
## 1084    0.65291603    0.63402650
## 1464    0.65279599    0.63416970
## 1297    0.65255784    0.63240087
## 1545    0.65176935    0.63005861
## 1474    0.65158194    0.63343678
## 1404    0.65149216    0.63300432
## 1172    0.65135857    0.63373529
## 1490    0.65116926    0.63140528
## 1354    0.65070600    0.63370328
## 1294    0.65054612    0.62990808
## 1420    0.64995547    0.62953145
## 1081    0.64950443    0.63056442
## 863     0.64803802    0.62885342
## 1275    0.64785823    0.62529089
## 1065    0.64760818    0.62663569
## 1015    0.64654846    0.62752461
```

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## 1542      0.64627370      0.62403168
## 1225      0.64571472      0.62495187
## 959       0.64564102      0.62643945
## 1417      0.64551080      0.62511378
## 875       0.64544038      0.62544863
## 1487      0.64523285      0.62486287
## 836       0.64475095      0.62725077
## 1169      0.64467405      0.62373955
## 1401      0.64437698      0.62234014
## 1471      0.64435844      0.62183806
## 1291      0.64432627      0.62299033
## 947       0.64428890      0.62520439
## 1062      0.64415762      0.62257599
## 1003      0.64412480      0.62530149
## 808       0.64383958      0.62560603
## 872       0.64345584      0.62306330
## 1351      0.64344472      0.62324213
## 1012      0.64261185      0.62283531
## 920       0.64258361      0.62489972
## 956       0.64215889      0.62187439
## 1272      0.64121886      0.61767060
## 1222      0.63831684      0.61656708
## 1157      0.63800738      0.61785111
## 1398      0.63799636      0.61488056
## 1213      0.63792822      0.61817150
## 1468      0.63791627      0.61442162
## 1166      0.63726941      0.61490750
## 1348      0.63646970      0.61483003
## 1252      0.63495974      0.62150033
## 1339      0.63495664      0.61512962
## 1130      0.63472596      0.61576848
## 1524      0.63461283      0.62350429
## 1519      0.63165319      0.61937100
## 1328      0.62998720      0.61673990
## 1042      0.62997801      0.61848960
## 1378      0.62802024      0.61561581
## 1503      0.62798201      0.61548969
## 1522      0.62685735      0.61445370
## 1326      0.62475609      0.61037817
## 1581      0.62445555      0.61154878
## 1454      0.62398860      0.61197401
## 902       0.62301903      0.60964921
## 1196      0.62301869      0.60822122
## 1321      0.62096936      0.60699242
## 1583      0.62055225      0.60853839
## 1584      0.61945717      0.60739472
## 1118      0.61942719      0.60826617
## 1574      0.61807268      0.60598335
## 1327      0.61774544      0.60424701
## 986       0.61752204      0.60524241
## 1323      0.61460476      0.59995027
## 1307      0.61447286      0.59972195
## 1197      0.61439087      0.60055533
## 1194      0.61433790      0.59984537
```

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## 819      0.61429099   0.60041482
## 1452     0.61418797   0.60084259
## 900      0.61347007   0.60017556
## 1449     0.61285994   0.59921222
## 1250     0.61269155   0.59834444
## 1433     0.61239079   0.59887990
## 1113     0.61236445   0.60046439
## 1585     0.61219322   0.60130874
## 1116     0.61164639   0.59950897
## 1305     0.61008662   0.59520207
## 1097     0.60964145   0.59727700
## 1572     0.60934443   0.59590888
## 903      0.60912748   0.59668675
## 847      0.60891271   0.59569091
## 1576     0.60856546   0.59498842
## 1253     0.60833855   0.59514894
## 1578     0.60697416   0.59485193
## 1120     0.60651877   0.59581463
## 1141     0.60495357   0.59028706
## 1514     0.60482759   0.59316032
## 1318     0.60450267   0.59099885
## 1569     0.60417714   0.59052809
## 1122     0.60352103   0.59409738
## 1191     0.60318338   0.58769349
## 1324     0.60308907   0.58896939
## 1509     0.60295223   0.58963292
## 1108     0.60207317   0.59062823
## 1444     0.60179266   0.58962323
## 1579     0.60169684   0.58941965
## 1308     0.60159150   0.58761903
## 1456     0.60159049   0.58866214
## 1177     0.60071270   0.58529911
## 1482     0.60052405   0.58834421
## 1537     0.60040317   0.58863541
## 1528     0.60013255   0.58908275
## 897      0.59971149   0.58578246
## 883      0.59958081   0.58524311
## 1458     0.59945779   0.58762989
## 1332     0.59941701   0.58615130
## 1103     0.59920773   0.58712647
## 1032     0.59915469   0.58650906
## 1330     0.59892854   0.58415411
## 1526     0.59883356   0.58594599
## 1242     0.59874797   0.58397351
## 1247     0.59785971   0.58284196
## 1368     0.59764397   0.58425686
## 1512     0.59747459   0.58392450
## 892      0.59740602   0.58338566
## 1233     0.59699022   0.58220230
## 1316     0.59626373   0.58103181
## 1006     0.59515125   0.58290023
## 976      0.59465744   0.58178546
## 1106     0.59442941   0.58172540
## 1313     0.59436876   0.57913259
```

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## 1186    0.59421906    0.57880891
## 1048    0.59395483    0.58299494
## 1439    0.59342943    0.57942855
## 1442    0.59294097    0.57925248
## 908     0.59217148    0.57911312
## 997     0.59208797    0.58094142
## 992     0.59208488    0.58033872
## 1207    0.59206462    0.57828110
## 1389    0.59188361    0.58014145
## 1459    0.59185616    0.58026243
## 1123    0.59152394    0.58132135
## 1053    0.59136603    0.58047736
## 1263    0.59127510    0.57807355
## 1529    0.59120378    0.57955886
## 1333    0.59114647    0.57749597
## 913     0.59113221    0.57902314
## 1462    0.59107445    0.57847177
## 1066    0.59076019    0.57741600
## 1302    0.59048656    0.57473929
## 1582    0.59018149    0.57845868
## 1016    0.58960527    0.57685819
## 987     0.58906895    0.57808958
## 1453    0.58847623    0.57623539
## 1056    0.58780608    0.57490074
## 1546    0.58699583    0.57301122
## 1111    0.58688673    0.57537496
## 1379    0.58681633    0.57483710
## 1384    0.58665484    0.57329837
## 1472    0.58648865    0.57417510
## 1258    0.58624859    0.57161469
## 931     0.58600837    0.57403162
## 1447    0.58520301    0.57218242
## 1560    0.58515980    0.56940551
## 984     0.58506790    0.57295627
## 1202    0.58465544    0.56894940
## 828     0.58463511    0.57027273
## 940     0.58462248    0.57223949
## 1450    0.58447627    0.57171513
## 995     0.58444972    0.57251648
## 1402    0.58441309    0.57199356
## 1434    0.58438639    0.57185036
## 960     0.58434766    0.57069383
## 1491    0.58433615    0.57042113
## 1488    0.58423528    0.56887056
## 856     0.58415429    0.57043826
## 911     0.58414382    0.57032375
## 1051    0.58406323    0.57210037
## 1517    0.58406002    0.57138086
## 1276    0.58395692    0.57095641
## 1543    0.58367360    0.56819162
## 1226    0.58330249    0.57046443
## 1352    0.58327193    0.57099069
## 1205    0.58324111    0.56796813
## 1387    0.58315472    0.56987229
```

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## 1523    0.58312572    0.57109453
## 1311    0.58301726    0.56768324
## 1376    0.58290099    0.56971679
## 1534    0.58278276    0.56971989
## 1150    0.58271820    0.56756301
## 981     0.58251694    0.56997128
## 1261    0.58244624    0.56731767
## 967     0.58241832    0.56971590
## 1412    0.58160771    0.56877982
## 1085    0.58156557    0.56562631
## 1535    0.58133820    0.56705908
## 1479    0.58117104    0.56671643
## 1117    0.58090526    0.56965316
## 1431    0.58080713    0.56700035
## 1342    0.58051124    0.56721964
## 1043    0.58043946    0.57008306
## 876     0.58031080    0.56626510
## 1573    0.57987398    0.56723741
## 1567    0.57972980    0.56626692
## 1040    0.57965230    0.56753867
## 1421    0.57912367    0.56444466
## 1317    0.57885671    0.56442167
## 1082    0.57853859    0.55931138
## 1076    0.57839232    0.56383744
## 1295    0.57832753    0.56334946
## 1373    0.57762916    0.56368441
## 1556    0.57762588    0.56328070
## 1010    0.57746458    0.56086368
## 1359    0.57732859    0.56355395
## 1216    0.57713668    0.56298631
## 1393    0.57693686    0.56406256
## 1057    0.57684470    0.56147459
## 1501    0.57682356    0.56298651
## 1476    0.57626948    0.56038008
## 1001    0.57617055    0.56345629
## 1392    0.57606520    0.56337187
## 1504    0.57604562    0.56385488
## 1170    0.57597067    0.56286576
## 1520    0.57586258    0.56340327
## 942     0.57577717    0.56176493
## 893     0.57577210    0.56298369
## 1418    0.57574113    0.55944977
## 1079    0.57474401    0.55772871
## 1095    0.57474044    0.56201361
## 1023    0.57461013    0.56225081
## 890     0.57459105    0.55987138
## 1013    0.57450185    0.56044968
## 1428    0.57428338    0.55983786
## 918     0.57425639    0.56172703
## 1063    0.57422997    0.56020320
## 1037    0.57415385    0.56182198
## 834     0.57405187    0.56101251
## 950     0.57382513    0.56031942
## 1187    0.57360054    0.55908506
```

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## 1098     0.57313189   0.56188833
## 1114     0.57312178   0.56193389
## 945      0.57290188   0.55996849
## 1577     0.57287592   0.56060655
## 1240     0.57248833   0.55644912
## 1265     0.57244113   0.55828880
## 1184     0.57231859   0.55669216
## 1243     0.57221589   0.55829601
## 1314     0.57219294   0.55744709
## 1055     0.57153092   0.55714898
## 1060     0.57121399   0.55451793
## 861      0.57095270   0.55728020
## 814      0.57034580   0.55547598
## 1284     0.56987451   0.55460820
## 1292     0.56966529   0.55305027
## 1101     0.56962745   0.55746900
## 1570     0.56932174   0.55630626
## 1286     0.56926759   0.55531672
## 1485     0.56914582   0.55376951
## 842      0.56880742   0.55447880
## 1531     0.56879649   0.55423367
## 1540     0.56856343   0.55331309
## 1331     0.56854624   0.55516251
## 887      0.56843647   0.55383635
## 1532     0.56833547   0.55219619
## 957      0.56776791   0.55291187
## 1267     0.56775993   0.55452219
## 1553     0.56756523   0.55150287
## 1498     0.56678965   0.55242873
## 1256     0.56654970   0.55124371
## 906      0.56646922   0.55348634
## 1469     0.56628116   0.55139736
## 951      0.56623603   0.55091679
## 806      0.56621158   0.55247185
## 954      0.56620723   0.54872048
## 873      0.56585480   0.55085929
## 1391     0.56582024   0.55107560
## 858      0.56569520   0.55009844
## 1463     0.56566901   0.55224214
## 1064     0.56553455   0.54906778
## 998      0.56536926   0.55072479
## 1121     0.56520186   0.55604613
## 803      0.56501278   0.54939744
## 1527     0.56497860   0.55342510
## 1262     0.56430632   0.54997980
## 1092     0.56425126   0.55133685
## 874      0.56416185   0.54713561
## 1399     0.56396618   0.54934286
## 1437     0.56383101   0.55029993
## 1273     0.56379854   0.54921515
## 1073     0.56379482   0.54949004
## 1507     0.56367094   0.54975914
## 1181     0.56346260   0.54689169
## 1443     0.56332455   0.55085923
```

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## 1349    0.56322226    0.54859434
## 1223    0.56321575    0.54838835
## 1200    0.56309766    0.54848006
## 1541    0.56309613    0.54648928
## 1107    0.56284974    0.55112635
## 946     0.56284537    0.54780717
## 1274    0.56269899    0.54697974
## 1136    0.56262605    0.54644579
## 977     0.56262123    0.55134922
## 1290    0.56232508    0.54498615
## 1457    0.56226430    0.55103593
## 1513    0.56217727    0.54942440
## 862     0.56212966    0.54662376
## 1237    0.56184321    0.54538807
## 1211    0.56181475    0.54763358
## 1461    0.56174826    0.54668805
## 1161    0.56170893    0.54737782
## 1080    0.56151073    0.54213429
## 865     0.56149429    0.54634334
## 831     0.56137809    0.54582026
## 807     0.56105039    0.54548770
## 1409    0.56075935    0.54587180
## 1410    0.56070586    0.54495310
## 1466    0.56063002    0.54429494
## 1046    0.56058549    0.54926178
## 1266    0.56055726    0.54711006
## 1337    0.56043629    0.54684403
## 1470    0.56043453    0.54493452
## 1400    0.56032269    0.54447530
## 915     0.56021506    0.54574167
## 857     0.56009214    0.54790006
## 1440    0.56002983    0.54702044
## 1369    0.56001069    0.54748973
## 958     0.55998456    0.54287411
## 1061    0.55963686    0.54009237
## 1007    0.55953310    0.54397504
## 1002    0.55950685    0.54424025
## 1033    0.55943498    0.54864878
## 867     0.55916095    0.54213760
## 1530    0.55909153    0.54390270
## 1104    0.55907317    0.54776883
## 974     0.55905725    0.54627907
## 1283    0.55902590    0.54429841
## 1289    0.55898107    0.54265884
## 990     0.55891472    0.54793724
## 1128    0.55885200    0.54478385
## 1168    0.55882751    0.54269967
## 866     0.55858169    0.54317871
## 1220    0.55842394    0.54230634
## 1346    0.55836919    0.54234994
## 1415    0.55834399    0.54233845
## 854     0.55820587    0.54373840
## 1054    0.55819484    0.54081005
## 1480    0.55815539    0.54245386
```

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## 1224    0.55787107    0.54239305
## 1151    0.55784364    0.54340347
## 1390    0.55783993    0.54162898
## 1215    0.55764604    0.54199757
## 1030    0.55752871    0.54431396
## 909     0.55740972    0.54524815
## 870     0.55721776    0.53923128
## 1014    0.55718778    0.54075432
## 1206    0.55711008    0.54311506
## 1259    0.55703227    0.54270155
## 919     0.55702432    0.54201529
## 835     0.55695280    0.54160949
## 1343    0.55685437    0.54272330
## 869     0.55674455    0.53845288
## 971     0.55673091    0.54380492
## 1366    0.55672046    0.54251116
## 912     0.55665023    0.54397364
## 1510    0.55655648    0.54358071
## 926     0.55646546    0.54352197
## 955     0.55635022    0.53620335
## 1396    0.55626950    0.54024984
## 1148    0.55626199    0.54032307
## 1167    0.55621433    0.54105101
## 1159    0.55620121    0.54045302
## 1074    0.55601466    0.53935412
## 1059    0.55583310    0.53835803
## 1550    0.55569173    0.54014409
## 1217    0.55557819    0.54104506
## 829     0.55555947    0.54262802
## 949     0.55504825    0.53918397
## 1416    0.55477437    0.53766587
## 1382    0.55468170    0.54126646
## 1155    0.55452952    0.54039029
## 871     0.55447275    0.53406830
## 1388    0.55445973    0.54225138
## 1052    0.55443890    0.54346683
## 1407    0.55416632    0.53678651
## 1270    0.55407541    0.53811574
## 860     0.55376777    0.53815887
## 1486    0.55367239    0.53685983
## 1070    0.55363503    0.53631033
## 1397    0.55351334    0.53582561
## 1203    0.55341641    0.53866284
## 1005    0.55324383    0.53749524
## 1350    0.55309763    0.53740395
## 1027    0.55296071    0.53999079
## 1406    0.55279329    0.53663883
## 1271    0.55276867    0.53507979
## 801     0.55263224    0.53799497
## 941     0.55260022    0.54176136
## 826     0.55246594    0.53833086
## 1551    0.55208379    0.53536652
## 851     0.55179070    0.53768495
## 1156    0.55170679    0.53730510
```

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## 944    0.55168566  0.53578812
## 993    0.55127530  0.54076087
## 805    0.55118346  0.53514920
## 996    0.55110037  0.54064315
## 1049   0.55109522  0.54073580
## 1011   0.55090814  0.53122580
## 1467   0.55071615  0.53326197
## 1363   0.55062139  0.53563643
## 1338   0.55045261  0.53647475
## 1000   0.55041409  0.53458208
## 1264   0.55031770  0.53430882
## 1165   0.55015041  0.53184406
## 1385   0.55013491  0.53732584
## 823    0.54984161  0.53538948
## 833    0.54980694  0.53427228
## 948    0.54971415  0.53136963
## 1160   0.54953381  0.53446353
## 1152   0.54919314  0.53514514
## 953    0.54908882  0.53117784
## 1281   0.54887138  0.53140861
## 938    0.54882578  0.53642738
## 1279   0.54876271  0.53218194
## 1009   0.54864168  0.53094103
## 1334   0.54810421  0.53391400
## 1460   0.54784579  0.53099199
## 1212   0.54776264  0.53357002
## 802    0.54739367  0.53227467
## 1164   0.54735725  0.53048875
## 1477   0.54706406  0.52924863
## 1129   0.54661909  0.53225140
## 1347   0.54648188  0.52876501
## 1145   0.54626129  0.52942606
## 943    0.54616723  0.52757659
## 917    0.54610891  0.53038157
## 1221   0.54598270  0.52834541
## 1341   0.54584407  0.52967858
## 914    0.54565255  0.53093234
## 935    0.54541050  0.53277421
## 794    0.54449108  0.52955957
## 1069   0.54434839  0.52672201
## 804    0.54422015  0.52506888
## 1004   0.54420068  0.52523894
## 859    0.54391602  0.52522856
## 1269   0.54377195  0.52679733
## 830    0.54331267  0.52804400
## 1158   0.54324611  0.52568241
## 1071   0.54320836  0.52316049
## 1154   0.54219686  0.52612202
## 1210   0.54206638  0.52606641
## 999    0.54192998  0.52316710
## 916    0.54122014  0.52264115
## 1395   0.54046399  0.52386534
## 864    0.54034371  0.52161771
## 1465   0.54001743  0.52306159
```

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## 832     0.53996938   0.52128084
## 1125    0.53988465   0.52446750
## 1336    0.53969217   0.52350090
## 1163    0.53918081   0.52208025
## 1340    0.53910823   0.52141435
## 1475    0.53905805   0.52206328
## 1219    0.53905248   0.52208220
## 1214    0.53859137   0.52090293
## 1208    0.53856882   0.52389864
## 1405    0.53798502   0.52152901
## 1127    0.53796508   0.52201475
## 1280    0.53773041   0.52127995
## 1345    0.53301658   0.51616934
## 1153    0.53122604   0.51317019
## 1335    0.53010242   0.51215116
## 1209    0.52768087   0.50966461
## 1126    0.52674976   0.50875374
## 1124    0.51898838   0.50342747
## 929     0.41842590   0.40678743
## 1035    0.41688734   0.40207265
## 1377    0.41556658   0.40401693
## 1357    0.41010109   0.39646137
## 845     0.40933399   0.39581887
## 1139    0.40911786   0.39367555
## 1515    0.40785934   0.39424446
## 1044    0.40748826   0.39458933
## 1502    0.40713797   0.39536775
## 1021    0.40704335   0.39509815
## 1251    0.40474955   0.39137646
## 1041    0.40439854   0.39394963
## 1518    0.40365884   0.39163820
## 1371    0.40227150   0.38837690
## 1525    0.40161729   0.39067644
## 1374    0.39933606   0.38586981
## 1432    0.39883673   0.38631840
## 965     0.39807044   0.38470390
## 1047    0.39517762   0.38307017
## 1038    0.39471964   0.38233804
## 1521    0.39429734   0.38217706
## 817     0.39354448   0.37680822
## 1231    0.39328603   0.37780971
## 1248    0.39181733   0.37659349
## 1499    0.39086267   0.37668388
## 1496    0.38866452   0.37452715
## 1195    0.38731612   0.37180230
## 933     0.38715778   0.37400478
## 985     0.38466528   0.37128073
## 1245    0.38396348   0.36852565
## 796     0.38359603   0.36946325
## 809     0.38273369   0.36751423
## 988     0.38188851   0.36678403
## 1383    0.38151275   0.37033179
## 1455    0.37995664   0.36673588
## 904     0.37995646   0.36285234
```

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## 939    0.37995368   0.36974917
## 1175   0.37992955   0.36351921
## 1575   0.37989396   0.36614965
## 1429   0.37899065   0.36508369
## 1329   0.37883127   0.36385290
## 991    0.37873567   0.36378644
## 849    0.37836444   0.36313003
## 1025   0.37826541   0.36427083
## 1254   0.37808248   0.36294813
## 1380   0.37787065   0.36448777
## 1099   0.37703065   0.36125543
## 1505   0.37673926   0.36234270
## 1119   0.37666342   0.36031147
## 818    0.37616449   0.36112339
## 816    0.37455763   0.36084969
## 979    0.37431570   0.35818505
## 1192   0.37422027   0.35810329
## 855    0.37352200   0.36135304
## 1508   0.37349840   0.36166582
## 1257   0.37310469   0.35991243
## 1149   0.37307225   0.35946271
## 1367   0.37265028   0.36090586
## 1386   0.37249908   0.36152262
## 827    0.37241497   0.35790615
## 1451   0.37238077   0.35902350
## 1031   0.37233978   0.36157359
## 1050   0.37177062   0.36138085
## 975    0.37157706   0.35939932
## 982    0.37054424   0.35690865
## 799    0.37034086   0.35638117
## 1426   0.37013186   0.35538778
## 1448   0.36985342   0.35584787
## 936    0.36955990   0.35832736
## 924    0.36940844   0.35723370
## 1174   0.36818926   0.35440152
## 994    0.36736612   0.35530572
## 1193   0.36688070   0.35346695
## 1260   0.36636257   0.35279264
## 1511   0.36553965   0.35324107
## 1241   0.36529559   0.35128906
## 969    0.36494636   0.35002495
## 1438   0.36492511   0.35189257
## 821    0.36391932   0.34660695
## 1204   0.36386880   0.34939450
## 1441   0.36369387   0.35129492
## 1185   0.36364157   0.34872042
## 1176   0.36291977   0.35010040
## 815    0.36247992   0.34513496
## 852    0.36208658   0.34829257
## 1138   0.36202384   0.34807923
## 1201   0.36175286   0.34628234
## 840    0.36172023   0.34742949
## 1565   0.36134229   0.34594671
## 1571   0.36092350   0.34739537
```

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## 1028       0.36070086    0.34812024
## 1198       0.36047136    0.34394646
## 812        0.35994561    0.34445345
## 1445       0.35969491    0.34386135
## 1435       0.35968701    0.34465795
## 824        0.35946662    0.34492212
## 1140       0.35903948    0.34620387
## 1096       0.35899209    0.34467442
## 1303       0.35894172    0.34329023
## 972        0.35786704    0.34534922
## 1189       0.35745233    0.33991328
## 1309       0.35641766    0.33961990
## 1361       0.35599422    0.34155744
## 1143       0.35598476    0.33994440
## 1146       0.35593848    0.34026752
## 1580       0.35549648    0.34079772
## 1364       0.35528300    0.34113285
## 1306       0.35480422    0.33987820
## 1319       0.35430617    0.33694977
## 1188       0.35396865    0.33876325
## 1134       0.35359144    0.33678214
## 1109       0.35271125    0.33585569
## 1102       0.35192717    0.33579071
## 1315       0.35141714    0.33638129
## 891        0.35141199    0.33633842
## 881        0.35128697    0.33414645
## 1325       0.35084855    0.33501863
## 1105       0.35065846    0.33722510
## 1093       0.34989074    0.33651107
## 894        0.34947269    0.33207738
## 910        0.34927744    0.33425222
## 1238       0.34923447    0.33259493
## 966        0.34739934    0.33560136
## 1190       0.34716475    0.33202343
## 1182       0.34600841    0.32980862
## 1235       0.34598001    0.32950097
## 844        0.34560708    0.33224070
## 921        0.34540854    0.33370425
## 1173       0.34492661    0.32932284
## 1131       0.34415578    0.32987970
## 898        0.34339692    0.32780234
## 1568       0.34286323    0.32915577
## 1137       0.34234776    0.32683785
## 1304       0.34228717    0.32869329
## 888        0.34227261    0.32738734
## 1244       0.34174134    0.32689084
## 880        0.34081761    0.32712737
## 964        0.34081406    0.32914153
## 1299       0.33957681    0.32422157
## 1249       0.33895376    0.32592289
## 1230       0.33892902    0.32433290
## 1320       0.33874436    0.32389229
## 901        0.33837064    0.32052375
## 905        0.33809635    0.32294406
```

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## 907      0.33765228   0.31925633
## 1312     0.33716786   0.32186028
## 820      0.33677148   0.32214066
## 1179     0.33657645   0.31925245
## 1430     0.33556098   0.32446814
## 930      0.33517520   0.32492740
## 1090     0.33516278   0.31903404
## 963      0.33473337   0.32053154
## 885      0.33150849   0.31410438
## 837      0.33067144   0.31536288
## 846      0.32939850   0.31539147
## 928      0.32918267   0.31809935
## 1358     0.32840635   0.31792416
## 1199     0.32767732   0.31440627
## 927      0.32740112   0.31372404
## 848      0.32705985   0.31275150
## 1115     0.32612431   0.31149327
## 884      0.32519919   0.30924454
## 825      0.32468803   0.31233187
## 899      0.32458338   0.31021758
## 1427     0.32446653   0.31223648
## 1356     0.32384218   0.31158352
## 983      0.32198844   0.31059121
## 978      0.32104036   0.30727022
## 1425     0.31937464   0.30630465
## 822      0.31908780   0.30348946
## 813      0.31844462   0.30452614
## 800      0.31842932   0.30582456
## 1310     0.31835349   0.30409960
## 1375     0.31825213   0.30757633
## 1255     0.31768209   0.30506862
## 980      0.31765618   0.30354802
## 843      0.31657972   0.29990622
## 1300     0.31583507   0.29911302
## 1112     0.31569460   0.29817350
## 989      0.31501282   0.30304301
## 811      0.31496633   0.30135541
## 798      0.31495490   0.30225849
## 1322     0.31494862   0.29818945
## 1183     0.31351301   0.29987440
## 1147     0.31349238   0.30101081
## 1355     0.31174943   0.29835323
## 895      0.31117258   0.29191857
## 1372     0.30962882   0.29768719
## 1446     0.30958179   0.29747429
## 882      0.30876480   0.29162361
## 968      0.30743489   0.29454333
## 1178     0.30660257   0.29107601
## 797      0.30643767   0.29111264
## 1142     0.30641436   0.29176746
## 795      0.30629051   0.29175207
## 810      0.30586548   0.28932111
## 932      0.30576183   0.29406241
## 1370     0.30569920   0.29287866
```

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## 853     0.30447484    0.29260976
## 889     0.30435098    0.29083808
## 1232    0.30434120    0.29182090
## 973     0.30283856    0.29245570
## 937     0.30034934    0.29135103
## 1436    0.30028522    0.28871569
## 970     0.29951490    0.28649063
## 925     0.29906182    0.28890492
## 934     0.29798899    0.28644589
## 1180    0.29772782    0.28257259
## 1144    0.29743421    0.28360125
## 1246    0.29737143    0.28345212
## 1133    0.29698083    0.28183693
## 1234    0.29614094    0.28064700
## 1239    0.29611779    0.28269088
## 1381    0.29601362    0.28556600
## 1135    0.29521331    0.28192111
## 1089    0.29499473    0.28044514
## 839     0.29495630    0.28123675
## 1100    0.29474125    0.28087034
## 1034    0.29342815    0.27986242
## 923     0.29312844    0.28228944
## 1020    0.29192241    0.28031537
## 1045    0.29147142    0.27997282
## 1365    0.29145704    0.28090706
## 1566    0.29123946    0.27884860
## 879     0.29068734    0.27334765
## 1229    0.29025556    0.27487587
## 1500    0.28957676    0.27842116
## 922     0.28778233    0.27479181
## 1301    0.28670897    0.27221782
## 1024    0.28658294    0.27356868
## 1495    0.28497966    0.27168916
## 841     0.28456038    0.27158135
## 1094    0.28348022    0.27148383
## 850     0.28340013    0.26942031
## 1022    0.28163394    0.27053904
## 1360    0.28026723    0.26709446
## 1362    0.27995334    0.26840944
## 1506    0.27968234    0.26826707
## 1516    0.27872080    0.26699692
## 886     0.27606584    0.25968332
## 1132    0.27583983    0.25926461
## 1039    0.27495152    0.26478185
## 896     0.27421030    0.25577358
## 1029    0.27130062    0.26098165
## 838     0.26961185    0.25412446
## 1019    0.26836882    0.25484890
## 1110    0.26612392    0.25164038
## 1236    0.26192599    0.24834735
## 1497    0.25732017    0.24615003
## 1036    0.25549828    0.24283561
## 1026    0.25293249    0.24117374
## 1091    0.24786278    0.23345066
```

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## 2455    0.70187365    0.68581293
## 2273    0.69671450    0.67981401
## 1945    0.69495754    0.67844579
## 2021    0.69451537    0.67839640
## 2491    0.69437046    0.67679796
## 2501    0.69374407    0.67565660
## 2399    0.69347766    0.67727237
## 2500    0.69260789    0.67424414
## 2197    0.69201032    0.67398192
## 2453    0.69008062    0.67128934
## 2450    0.68996087    0.67083859
## 2272    0.68970509    0.67085001
## 2434    0.68935985    0.67095516
## 2323    0.68930403    0.67217012
## 1749    0.68737710    0.67007502
## 2271    0.68673903    0.66711997
## 1750    0.68571482    0.66911969
## 2498    0.68560445    0.66653972
## 1875    0.68423539    0.66751505
## 2000    0.68381296    0.66570572
## 2019    0.68375249    0.66555856
## 1747    0.68286532    0.66417999
## 2128    0.68268884    0.66559173
## 2198    0.68237238    0.66553838
## 2016    0.68219707    0.66370353
## 2266    0.68160291    0.66179342
## 2489    0.68158356    0.66080856
## 2502    0.68137659    0.66321330
## 2269    0.68059394    0.66082938
## 2397    0.68053009    0.66139154
## 2127    0.68022766    0.66202379
## 2195    0.67954789    0.65971241
## 1680    0.67942190    0.66214794
## 2253    0.67940833    0.66129134
## 2025    0.67912396    0.66131350
## 1624    0.67881123    0.66119390
## 2268    0.67842423    0.65816831
## 2125    0.67833178    0.65856979
## 2252    0.67825173    0.65875475
## 2250    0.67811639    0.65671087
## 2378    0.67790524    0.65929208
## 2495    0.67748727    0.65709276
## 2403    0.67674511    0.65780244
## 2394    0.67661776    0.65687194
## 2499    0.67628501    0.65723267
## 2011    0.67623683    0.65788402
## 2389    0.67616455    0.65785868
## 2486    0.67598272    0.65460062
## 1886    0.67575673    0.65912383
## 2277    0.67566557    0.65629181
## 2445    0.67538834    0.65707646
## 2496    0.67525491    0.65494706
## 2459    0.67523799    0.65662632
## 2263    0.67522293    0.65586675
```

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## 2404    0.67515199    0.65672768
## 2334    0.67486046    0.65789807
## 2138    0.67475392    0.65752015
## 2490    0.67465892    0.65393185
## 1876    0.67433643    0.65769638
## 2020    0.67431636    0.65579139
## 2454    0.67395966    0.65495495
## 2398    0.67393129    0.65503710
## 1730    0.67386814    0.65502230
## 1744    0.67371602    0.65403819
## 1946    0.67348313    0.65701447
## 1956    0.67346106    0.65652254
## 2023    0.67312689    0.65496798
## 1760    0.67310187    0.65684930
## 2026    0.67301463    0.65504504
## 2208    0.67261849    0.65492985
## 2460    0.67251541    0.65392312
## 2278    0.67240237    0.65298736
## 2001    0.67225211    0.65406633
## 2324    0.67097998    0.65407535
## 2379    0.67089209    0.65268175
## 2401    0.67029978    0.65082346
## 2395    0.66990953    0.65009424
## 2017    0.66972299    0.65043716
## 2014    0.66966813    0.65076886
## 2192    0.66931821    0.64830831
## 2435    0.66923083    0.65099581
## 2122    0.66902029    0.64799903
## 2451    0.66899406    0.64898329
## 2493    0.66882964    0.64734739
## 2487    0.66837072    0.64673953
## 2058    0.66793377    0.64970557
## 2006    0.66769577    0.64718380
## 1943    0.66769307    0.64868745
## 1873    0.66709990    0.64833147
## 1806    0.66697413    0.64967949
## 1998    0.66676227    0.64612178
## 1935    0.66651659    0.64744401
## 1881    0.66618049    0.64706314
## 1951    0.66601866    0.64723857
## 2009    0.66579895    0.64524381
## 1865    0.66578766    0.64677177
## 1755    0.66577062    0.64634856
## 1739    0.66563925    0.64575790
## 2275    0.66559461    0.64500645
## 2247    0.66555371    0.64290811
## 2457    0.66550359    0.64565510
## 1856    0.66538325    0.64660440
## 2448    0.66482032    0.64463826
## 1884    0.66472934    0.64601256
## 1815    0.66452257    0.64681139
## 2178    0.66438535    0.64512027
## 1926    0.66431509    0.64556650
## 1633    0.66404306    0.64606755
```

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## 2484    0.66404011    0.64216167
## 2108    0.66383392    0.64440496
## 2313    0.66380421    0.64421838
## 1870    0.66370330    0.64401481
## 2432    0.66364350    0.64153725
## 2387    0.66364236    0.64207553
## 2321    0.66359418    0.64367263
## 1940    0.66355096    0.64356918
## 2376    0.66337991    0.64179274
## 2443    0.66323130    0.64131977
## 2392    0.66320614    0.64324282
## 2440    0.66305001    0.64091483
## 1758    0.66277406    0.64324118
## 1689    0.66274804    0.64441557
## 2261    0.66273845    0.64021117
## 1954    0.66267845    0.64378752
## 2187    0.66242157    0.64161742
## 2332    0.66225656    0.64242442
## 2136    0.66199019    0.64154064
## 2117    0.66048043    0.63985768
## 2384    0.66044021    0.63837560
## 2067    0.66043608    0.64126518
## 2258    0.66038357    0.63743372
## 2329    0.66030784    0.63986124
## 1995    0.66017571    0.63859995
## 2206    0.65956128    0.63885851
## 2203    0.65911010    0.63819522
## 2133    0.65899952    0.63770470
## 2318    0.65839994    0.63729109
## 2458    0.65821410    0.63857926
## 2024    0.65818811    0.63913177
## 2402    0.65790761    0.63807195
## 2494    0.65789221    0.63628808
## 2262    0.65741835    0.63531854
## 2373    0.65732983    0.63466449
## 1740    0.65731116    0.63810417
## 2207    0.65712462    0.63699483
## 2429    0.65627322    0.63305120
## 2276    0.65588121    0.63503430
## 2304    0.65573138    0.63629648
## 1690    0.65550195    0.63807138
## 1955    0.65541339    0.63633686
## 2010    0.65526629    0.63427402
## 2444    0.65503482    0.63322602
## 2137    0.65478284    0.63424711
## 2333    0.65457327    0.63500727
## 2388    0.65446539    0.63294975
## 2188    0.65402577    0.63474060
## 1936    0.65396327    0.63524648
## 2007    0.65389249    0.63238214
## 2259    0.65389159    0.63099955
## 2118    0.65373675    0.63394034
## 1866    0.65372212    0.63468776
## 1885    0.65370527    0.63437974
```

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## 1634    0.65352800    0.63528377
## 1952    0.65306124    0.63332703
## 1816    0.65300538    0.63545408
## 1756    0.65298041    0.63246136
## 1759    0.65290959    0.63273359
## 2204    0.65229072    0.63132691
## 1882    0.65201887    0.63168867
## 2068    0.65181907    0.63357973
## 2004    0.65155851    0.63012366
## 2441    0.65087361    0.62824693
## 2385    0.65060547    0.62817838
## 1879    0.65056151    0.63085689
## 2314    0.65050208    0.63126852
## 1737    0.65046261    0.62838135
## 2134    0.65036998    0.62857627
## 1949    0.65029310    0.63065126
## 1753    0.65009334    0.62950987
## 2330    0.65000389    0.62914401
## 2256    0.64997185    0.62665824
## 1687    0.64811173    0.62780744
## 2131    0.64802838    0.62658572
## 2115    0.64792213    0.62492223
## 2185    0.64761397    0.62415203
## 2201    0.64744374    0.62587512
## 1734    0.64687459    0.62413942
## 1675    0.64686823    0.62688657
## 1619    0.64686629    0.62647777
## 1933    0.64675498    0.62474194
## 1631    0.64669810    0.62614723
## 1863    0.64664138    0.62505499
## 2382    0.64602984    0.62344386
## 2065    0.64561835    0.62429421
## 1813    0.64560090    0.62583367
## 2438    0.64545455    0.62212003
## 2327    0.64504631    0.62404380
## 1684    0.64362676    0.62259161
## 1592    0.64356553    0.62459591
## 2479    0.64340339    0.63143295
## 2311    0.64338675    0.62032515
## 1860    0.64312047    0.62078304
## 1801    0.64309924    0.62318785
## 2238    0.64304065    0.62960253
## 1930    0.64298120    0.62028403
## 2477    0.64272791    0.63003328
## 1628    0.64264951    0.62097503
## 1981    0.64208328    0.62995160
## 1810    0.64144770    0.62051079
## 2182    0.64007353    0.61548073
## 2112    0.64002078    0.61566127
## 2295    0.63954301    0.62475160
## 1714    0.63926672    0.62568217
## 2509    0.63813493    0.62557947
## 2062    0.63712495    0.61424731
## 2053    0.63686066    0.61573113
```

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## 2308      0.63679974    0.61247814
## 2233      0.63613812    0.62172705
## 2217      0.63571590    0.62091968
## 2236      0.63535319    0.62075721
## 2092      0.63533980    0.62058606
## 2168      0.63488776    0.62032568
## 2364      0.63437314    0.62206020
## 1986      0.63431267    0.62270167
## 2470      0.63421692    0.62182628
## 2480      0.63356938    0.62128898
## 2298      0.63325530    0.61884724
## 2465      0.63207144    0.61830592
## 2043      0.63197325    0.61948168
## 1790      0.63181535    0.61841557
## 2359      0.63174813    0.61814205
## 2296      0.63133575    0.61745540
## 1783      0.63059771    0.61686550
## 1840      0.63007459    0.61734645
## 1658      0.62997604    0.61523126
## 1965      0.62975005    0.61678553
## 2297      0.62964813    0.61524768
## 1984      0.62899011    0.61649759
## 2288      0.62880174    0.61429873
## 2343      0.62788976    0.61411099
## 2166      0.62706193    0.61149147
## 2362      0.62677700    0.61328835
## 2468      0.62677314    0.61291805
## 1788      0.62675769    0.61239255
## 2423      0.62641359    0.61317279
## 2421      0.62461302    0.61056137
## 1916      0.62420429    0.61180999
## 2045      0.62385082    0.61188699
## 2286      0.62369540    0.60804650
## 2504      0.62320774    0.60901306
## 1785      0.62316773    0.60880451
## 2424      0.62287750    0.60967277
## 2231      0.62277535    0.60811858
## 2414      0.62273197    0.60953018
## 2147      0.62194792    0.60593176
## 1769      0.62181734    0.60708990
## 2163      0.62175912    0.60572567
## 2161      0.62154269    0.60661843
## 2167      0.62119424    0.60666806
## 1911      0.62100990    0.60778938
## 2508      0.62086843    0.60786585
## 1659      0.62033436    0.60667180
## 2281      0.62029287    0.60483791
## 2506      0.61933715    0.60606657
## 2046      0.61883538    0.60633468
## 2237      0.61865992    0.60435833
## 1656      0.61837421    0.60410105
## 1789      0.61832098    0.60477289
## 2507      0.61820570    0.60487064
## 2036      0.61819694    0.60573190
```

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## 2287    0.61692471   0.60202905
## 1603    0.61675509   0.60226532
## 1914    0.61638485   0.60315732
## 1895    0.61624307   0.60269670
## 1712    0.61588712   0.60161558
## 2093    0.61564317   0.60112478
## 2433    0.61561239   0.60365330
## 2047    0.61540588   0.60482997
## 2038    0.61486424   0.60186288
## 2090    0.61480619   0.59949962
## 2425    0.61468924   0.60236212
## 1715    0.61447207   0.60152088
## 2474    0.61415928   0.60149506
## 2145    0.61371626   0.59782415
## 2148    0.61360429   0.59847851
## 1639    0.61349353   0.59820772
## 2164    0.61345660   0.59809542
## 2283    0.61338938   0.59742259
## 2472    0.61313066   0.59892079
## 1653    0.61309028   0.59787225
## 2215    0.61290300   0.59696296
## 2412    0.61289975   0.59829099
## 1767    0.61262713   0.59780734
## 2409    0.61156603   0.59666987
## 2290    0.61130649   0.59538808
## 2031    0.61113429   0.59788383
## 2299    0.61098366   0.59673195
## 2481    0.61089879   0.59869604
## 2034    0.61036481   0.59688132
## 1971    0.61010260   0.59730252
## 2040    0.60963417   0.59775175
## 1999    0.60940452   0.59561619
## 1695    0.60939620   0.59452576
## 1924    0.60876907   0.59640623
## 2218    0.60860231   0.59388780
## 1770    0.60806480   0.59416685
## 1786    0.60782025   0.59387004
## 2292    0.60778718   0.59301926
## 1918    0.60771342   0.59542202
## 1709    0.60769020   0.59280059
## 2377    0.60767806   0.59552519
## 1944    0.60764648   0.59467905
## 2416    0.60756372   0.59310709
## 2234    0.60752081   0.59261491
## 2488    0.60680887   0.59338788
## 2418    0.60644793   0.59307490
## 1792    0.60550602   0.59141939
## 2073    0.60548042   0.58928946
## 1988    0.60538445   0.59326469
## 2228    0.60528238   0.59081114
## 2087    0.60524607   0.58892948
## 1780    0.60390563   0.58982418
## 2475    0.60381918   0.59069033
## 2354    0.60380267   0.59077276
```

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## 1976    0.60373852    0.59115910
## 2293    0.60348369    0.58845645
## 1990    0.60322882    0.59253017
## 2158    0.60321001    0.58816102
## 2142    0.60247524    0.58556262
## 1794    0.60224626    0.58924628
## 1920    0.60220849    0.59063991
## 2366    0.60217402    0.58845448
## 2322    0.60208243    0.58941182
## 2284    0.60207832    0.58650184
## 2223    0.60200561    0.58605589
## 2349    0.60178312    0.58702180
## 2170    0.60148911    0.58589508
## 2196    0.60103816    0.58740835
## 1906    0.60089813    0.58801713
## 2041    0.60074365    0.58793628
## 1775    0.60074205    0.58599863
## 2449    0.60061560    0.58468891
## 2419    0.60047837    0.58711666
## 2452    0.60019721    0.58584650
## 2251    0.60014521    0.58706441
## 1901    0.59962356    0.58618368
## 1704    0.59960472    0.58430548
## 2368    0.59956891    0.58690122
## 2485    0.59952654    0.58448117
## 1938    0.59909976    0.58142481
## 1854    0.59896916    0.58599413
## 2242    0.59889641    0.58487753
## 1764    0.59865456    0.58315359
## 2212    0.59843356    0.58171362
## 2172    0.59815578    0.58300540
## 1974    0.59802213    0.58423040
## 1830    0.59799700    0.58392087
## 1804    0.59776603    0.58496501
## 2226    0.59763253    0.58134659
## 2082    0.59763104    0.58142139
## 2240    0.59759331    0.58194540
## 1678    0.59702222    0.58318243
## 1778    0.59677768    0.58134635
## 2352    0.59634835    0.58169856
## 1648    0.59632165    0.58065657
## 2430    0.59581337    0.58154278
## 2022    0.59492619    0.57611275
## 2156    0.59491344    0.57854792
## 1950    0.59449995    0.57648515
## 2492    0.59446162    0.57896156
## 2249    0.59405709    0.57943500
## 1941    0.59397876    0.57935507
## 2153    0.59394252    0.57720746
## 2422    0.59369156    0.58093251
## 1996    0.59357189    0.57995745
## 2302    0.59346859    0.58039334
## 1904    0.59340717    0.57956605
## 2044    0.59318497    0.58182049
```

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## 1846    0.59312319    0.58043388
## 2456    0.59286157    0.57753313
## 1720    0.59269623    0.57874134
## 1909    0.59194950    0.57936353
## 2005    0.59192985    0.57333035
## 1855    0.59188895    0.57698601
## 2478    0.59187932    0.57938613
## 1874    0.59138712    0.57696542
## 1934    0.59115665    0.57755174
## 2291    0.59112283    0.57612070
## 1669    0.59097215    0.57647247
## 1979    0.59083137    0.57849864
## 1664    0.59081693    0.57573572
## 1921    0.59077667    0.57871314
## 1851    0.59073613    0.57826492
## 2173    0.59070502    0.57563881
## 2103    0.59070110    0.57589296
## 2369    0.59052445    0.57760032
## 1991    0.59021541    0.57817620
## 1725    0.59018885    0.57631838
## 1795    0.59018407    0.57616207
## 2008    0.59011609    0.57447813
## 2427    0.59003775    0.57425620
## 2176    0.59003298    0.57609694
## 1841    0.59002801    0.57836362
## 2243    0.58993242    0.57511669
## 1864    0.58982355    0.57599829
## 1738    0.58946294    0.57493293
## 1915    0.58926576    0.57719271
## 1773    0.58920477    0.57437194
## 1728    0.58885096    0.57442585
## 2505    0.58881093    0.57563634
## 2363    0.58848213    0.57547558
## 1912    0.58834945    0.57598678
## 1814    0.58831648    0.57492700
## 1953    0.58825821    0.57298551
## 1688    0.58823993    0.57429720
## 1729    0.58790960    0.57163309
## 1896    0.58770442    0.57536697
## 2413    0.58712378    0.57351901
## 1947    0.58699337    0.57037950
## 2375    0.58661359    0.57152359
## 1997    0.58661346    0.57050747
## 2374    0.58661293    0.57255197
## 2442    0.58652672    0.57180207
## 2446    0.58651339    0.57073615
## 1993    0.58644636    0.56983731
## 2357    0.58633445    0.57255831
## 2274    0.58626427    0.56974424
## 1838    0.58611853    0.57317663
## 1614    0.58605020    0.57085365
## 2439    0.58592879    0.56969645
## 2186    0.58588717    0.57233867
## 2344    0.58575280    0.57230452
```

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## 1727    0.58572291    0.57092983
## 2260    0.58567684    0.57080478
## 2482    0.58565163    0.57117417
## 2386    0.58562902    0.57091651
## 2029    0.58550720    0.57245288
## 2360    0.58543530    0.57174577
## 1880    0.58542803    0.56614948
## 2098    0.58538875    0.56906443
## 2248    0.58531954    0.57154520
## 1835    0.58527447    0.57173813
## 2312    0.58510702    0.57227001
## 1821    0.58501503    0.57144730
## 2400    0.58501005    0.56895467
## 2497    0.58499435    0.56911998
## 2107    0.58476976    0.57104118
## 2002    0.58453256    0.56779794
## 2396    0.58439767    0.56933949
## 2407    0.58385004    0.56938476
## 2126    0.58378313    0.56930380
## 1893    0.58370272    0.57014154
## 1883    0.58348325    0.56713090
## 2116    0.58343544    0.56985786
## 1632    0.58340247    0.56876964
## 1612    0.58336145    0.56796292
## 1667    0.58335331    0.56798076
## 2270    0.58331394    0.56820236
## 1849    0.58324348    0.56989035
## 2202    0.58323771    0.56706723
## 1985    0.58319808    0.57116780
## 2383    0.58313318    0.56695855
## 2410    0.58310956    0.56900300
## 2463    0.58305651    0.56867032
## 2328    0.58297688    0.56700540
## 2331    0.58295489    0.56846158
## 2205    0.58295101    0.56815459
## 2193    0.58292986    0.56778295
## 2483    0.58278077    0.56700857
## 1723    0.58276352    0.56764350
## 2257    0.58259686    0.56624075
## 1748    0.58228793    0.56610886
## 1757    0.58226555    0.56558650
## 2151    0.58219943    0.56616647
## 2319    0.58218765    0.56701466
## 2066    0.58204239    0.56860450
## 2469    0.58197661    0.56833898
## 2101    0.58191882    0.56556115
## 2018    0.58189332    0.56573530
## 2341    0.58187357    0.56706963
## 2221    0.58183150    0.56518053
## 1925    0.58179935    0.56638136
## 1623    0.58169026    0.56516326
## 2431    0.58160991    0.56653381
## 1890    0.58113589    0.56715520
## 2056    0.58042031    0.56556316
```

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## 2372    0.58041699    0.56371326
## 2393    0.58038933    0.56397120
## 1853    0.58028070    0.56477600
## 1754    0.57956662    0.55961648
## 2035    0.57950464    0.56676473
## 1982    0.57946546    0.56737340
## 1966    0.57938310    0.56744378
## 2316    0.57914057    0.56272400
## 2371    0.57911778    0.56379090
## 1963    0.57859594    0.56475222
## 1796    0.57845903    0.56404598
## 1622    0.57845677    0.56297366
## 2135    0.57841496    0.56306624
## 1779    0.57834208    0.56368734
## 2227    0.57800220    0.56227906
## 2303    0.57769507    0.56418368
## 1928    0.57765973    0.55985018
## 2157    0.57744947    0.56200680
## 2124    0.57736392    0.56121616
## 2015    0.57731285    0.55780577
## 2246    0.57730177    0.56063308
## 1751    0.57730033    0.55943491
## 2105    0.57725283    0.56209193
## 1670    0.57722104    0.56164408
## 1994    0.57692036    0.55749451
## 2338    0.57673040    0.56114541
## 1746    0.57651772    0.55956003
## 1679    0.57648578    0.56017599
## 2241    0.57643627    0.56161828
## 1682    0.57641136    0.55893009
## 1808    0.57635084    0.55905740
## 2194    0.57632163    0.56056853
## 1877    0.57605469    0.55868906
## 2190    0.57600576    0.55941406
## 1587    0.57562334    0.56001261
## 1931    0.57546339    0.56033015
## 2106    0.57544935    0.56127685
## 1649    0.57544578    0.56098070
## 1992    0.57536869    0.55833071
## 1852    0.57533427    0.55728296
## 1673    0.57518098    0.56122279
## 2039    0.57508631    0.56329853
## 1776    0.57498822    0.56069866
## 2466    0.57484215    0.56072759
## 1799    0.57482813    0.56151969
## 1871    0.57466760    0.55925375
## 2175    0.57464283    0.55926986
## 2177    0.57460596    0.56055982
## 2132    0.57455882    0.55747043
## 1923    0.57453488    0.55893483
## 2012    0.57439783    0.55719380
## 1705    0.57436463    0.56051217
## 2265    0.57405508    0.55692045
## 2244    0.57330996    0.55749353
```

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## 1702    0.57330413    0.55714509
## 1960    0.57327132    0.55917609
## 1861    0.57326216    0.55823455
## 1646    0.57323204    0.55745480
## 1811    0.57319947    0.55842177
## 1685    0.57308093    0.55807762
## 1621    0.57304505    0.55668074
## 1677    0.57293776    0.55694577
## 1590    0.57290384    0.55919085
## 1735    0.57281054    0.55781737
## 1805    0.57260893    0.55730756
## 1868    0.57258561    0.55475193
## 1858    0.57232393    0.55478352
## 2083    0.57224097    0.55654451
## 2154    0.57218074    0.55597934
## 1752    0.57207137    0.55204769
## 1718    0.57190092    0.55732062
## 2032    0.57171122    0.55902022
## 2171    0.57160986    0.55734741
## 1617    0.57158218    0.55745181
## 1793    0.57157301    0.55880467
## 2417    0.57156986    0.55847230
## 1745    0.57151539    0.55633813
## 2473    0.57144885    0.55799931
## 2080    0.57111364    0.55397852
## 2003    0.57090547    0.55170567
## 2224    0.57081212    0.55479755
## 2428    0.57076938    0.55368520
## 2436    0.57034706    0.55397132
## 2267    0.56995588    0.55302741
## 1741    0.56989877    0.55136266
## 1732    0.56981644    0.55210683
## 2057    0.56934066    0.55446453
## 1643    0.56930192    0.55320435
## 1726    0.56893718    0.55068965
## 1598    0.56891027    0.55281294
## 2245    0.56882660    0.55356304
## 1872    0.56860971    0.55114824
## 1899    0.56858250    0.55555750
## 1662    0.56854873    0.55459013
## 1969    0.56839135    0.55500112
## 2325    0.56803597    0.55229910
## 2199    0.56770562    0.55151195
## 1699    0.56757394    0.55157457
## 1629    0.56725335    0.55170593
## 2254    0.56713202    0.55098168
## 2121    0.56712350    0.54900811
## 2380    0.56712329    0.55144159
## 1736    0.56703092    0.54983170
## 1989    0.56685246    0.55578169
## 2123    0.56618661    0.55043387
## 2301    0.56618506    0.55045727
## 2096    0.56602703    0.54967971
## 2104    0.56540499    0.54846701
```

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## 1922    0.56534415    0.54656998
## 2255    0.56529695    0.54779671
## 1626    0.56520794    0.54683609
## 2183    0.56513029    0.54950562
## 1942    0.56502846    0.54803178
## 1869    0.56497702    0.54475669
## 2309    0.56487489    0.54934652
## 1620    0.56485346    0.54534807
## 1862    0.56477149    0.54739156
## 2370    0.56452547    0.54888941
## 1919    0.56439953    0.55371913
## 1932    0.56438035    0.54717126
## 2320    0.56431676    0.54804120
## 1630    0.56415579    0.54653981
## 1878    0.56380613    0.54416585
## 2367    0.56352430    0.55061993
## 1724    0.56341080    0.54886859
## 1618    0.56322131    0.54720273
## 1686    0.56286896    0.54592595
## 2102    0.56284971    0.54719953
## 2264    0.56284026    0.54651750
## 1948    0.56283393    0.54350752
## 1905    0.56277526    0.55020240
## 2113    0.56252280    0.54723710
## 2347    0.56239936    0.54739213
## 1902    0.56228170    0.54977949
## 2184    0.56216519    0.54611614
## 2437    0.56210179    0.54498029
## 2055    0.56209813    0.54562485
## 1803    0.56203570    0.54549654
## 2353    0.56201851    0.54820389
## 2077    0.56201619    0.54389199
## 2063    0.56177247    0.54639125
## 2381    0.56170199    0.54468001
## 1800    0.56159655    0.54595838
## 2013    0.56157096    0.54197570
## 1975    0.56139093    0.54841868
## 1859    0.56138359    0.54104881
## 2390    0.56132558    0.54525638
## 2426    0.56130640    0.54492329
## 2114    0.56130234    0.54485870
## 2191    0.56127929    0.54320998
## 1831    0.56116627    0.54872758
## 2130    0.56115967    0.54359596
## 2200    0.56093081    0.54368526
## 1676    0.56092661    0.54124653
## 1733    0.56084827    0.54031062
## 1674    0.56069707    0.54458222
## 2051    0.56053569    0.54576592
## 2180    0.56047015    0.54343907
## 1743    0.56025157    0.53938013
## 2391    0.56024372    0.54330574
## 2310    0.55974698    0.54358165
## 1591    0.55971019    0.54382842
```

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## 2447    0.55962520    0.54221539
## 1627    0.55959269    0.53860623
## 2306    0.55931340    0.54235797
## 1613    0.55930193    0.54495567
## 1731    0.55923216    0.54073588
## 1721    0.55918460    0.54530315
## 1844    0.55911890    0.54638766
## 2317    0.55898877    0.54092615
## 2189    0.55896674    0.54164178
## 2300    0.55893777    0.54167415
## 1802    0.55886942    0.53960760
## 1812    0.55873877    0.54161782
## 2129    0.55862671    0.54212778
## 1972    0.55858384    0.54609485
## 2350    0.55855975    0.54410188
## 1939    0.55827415    0.53773763
## 1929    0.55822618    0.53785759
## 1937    0.55785076    0.53925297
## 1742    0.55778130    0.53933418
## 1828    0.55758746    0.54337555
## 2060    0.55744535    0.54066915
## 2064    0.55736274    0.54128734
## 1610    0.55673085    0.54089493
## 2174    0.55655848    0.53916216
## 2099    0.55636857    0.54004911
## 1668    0.55625452    0.54213680
## 1867    0.55618122    0.53817813
## 1625    0.55607922    0.53760313
## 1681    0.55600644    0.53765320
## 1665    0.55593022    0.54172585
## 2119    0.55561216    0.53853946
## 1683    0.55559625    0.53523731
## 1809    0.55554284    0.53530446
## 2120    0.55547122    0.53823986
## 1825    0.55546181    0.54101864
## 2048    0.55521124    0.54022843
## 2110    0.55520241    0.53837189
## 1857    0.55489401    0.53691020
## 1927    0.55436174    0.53591445
## 2326    0.55376176    0.53660476
## 1850    0.55360459    0.54128602
## 2111    0.55338252    0.53481060
## 1616    0.55284521    0.53633534
## 2307    0.55244522    0.53433345
## 1672    0.55234085    0.53589848
## 1847    0.55196604    0.53965014
## 1607    0.55133525    0.53518891
## 2181    0.55129178    0.53307874
## 2054    0.55117476    0.53285898
## 1798    0.55031684    0.53370521
## 2052    0.55030679    0.53547374
## 1589    0.54978477    0.53355821
## 1807    0.54898158    0.53091421
## 2061    0.54874111    0.53040564
```

```
## 1615    0.54640416    0.52680716
## 1586    0.54589649    0.53020693
## 1797    0.54465055    0.52522892
## 2315    0.54452366    0.52733902
## 1588    0.54335227    0.52398259
## 1671    0.54291078    0.52324027
## 2179    0.54235687    0.52466734
## 2109    0.54228471    0.52501448
## 2050    0.54093322    0.52427662
## 2305    0.53900170    0.52166425
## 2059    0.53797162    0.52067766
## 2049    0.52968415    0.51093721
## 1977    0.44408509    0.42850263
## 1833    0.43928015    0.42338227
## 1601    0.43288092    0.41793792
## 2476    0.43038365    0.41754223
## 1980    0.43008693    0.41455231
## 1819    0.42779670    0.41473573
## 2091    0.42610307    0.41145297
## 2342    0.42597540    0.41318433
## 1958    0.42486641    0.40839015
## 1839    0.42434531    0.41254414
## 1707    0.42395809    0.40611223
## 2358    0.42368208    0.41043955
## 1987    0.42104477    0.40754310
## 2229    0.42053637    0.40492801
## 1836    0.41836478    0.40502349
## 1713    0.41768195    0.40402291
## 2461    0.41764410    0.40273125
## 1693    0.41721825    0.40225933
## 2071    0.41639070    0.39993020
## 1964    0.41564154    0.40341170
## 2355    0.41546695    0.40082052
## 2216    0.41406199    0.39945492
## 2464    0.41382739    0.40038547
## 2361    0.41373509    0.40088236
## 1637    0.41368917    0.39687579
## 2336    0.41073135    0.39560606
## 1894    0.41061888    0.39658548
## 2088    0.41029584    0.39425981
## 2146    0.40970256    0.39418693
## 2339    0.40895246    0.39424641
## 2232    0.40875115    0.39389651
## 1710    0.40845453    0.39337811
## 2085    0.40831775    0.39174049
## 1716    0.40743326    0.39127137
## 1842    0.40658350    0.39230084
## 1657    0.40656554    0.38939843
## 2235    0.40638322    0.39164400
## 2467    0.40610821    0.39254038
## 1967    0.40553756    0.39016502
## 1961    0.40509834    0.39109962
## 1983    0.40262568    0.38991276
## 2239    0.40144427    0.38733256
```

```
## 1888    0.40137468    0.38455946
## 1845    0.40090130    0.38709942
## 2213    0.40076296    0.38433991
## 2365    0.40059981    0.38832364
## 2471    0.40014693    0.38687632
## 2411    0.39925993    0.38556066
## 1791    0.39868470    0.38015566
## 1917    0.39845918    0.38213843
## 2408    0.39789994    0.38356162
## 1891    0.39661821    0.38243580
## 2037    0.39646781    0.37925237
## 1654    0.39547923    0.37908204
## 2143    0.39493274    0.37884192
## 1638    0.39416578    0.37861954
## 2165    0.39406709    0.37804855
## 1651    0.39379597    0.37414682
## 2503    0.39331442    0.37844595
## 1719    0.39330579    0.37739253
## 1970    0.39324564    0.37863211
## 1593    0.39261252    0.37738774
## 2210    0.39203798    0.37535817
## 1907    0.39154875    0.37417334
## 1636    0.39151525    0.37717125
## 1910    0.39135772    0.37367466
## 1650    0.39128716    0.37398697
## 2027    0.39071574    0.37333702
## 1602    0.39067875    0.37646486
## 1781    0.39001277    0.37056241
## 1660    0.38985660    0.37214810
## 2405    0.38801310    0.37225772
## 1600    0.38751392    0.37338170
## 2420    0.38699791    0.37187966
## 2169    0.38676811    0.37099154
## 1897    0.38650555    0.37036755
## 2294    0.38632911    0.36956158
## 2415    0.38612163    0.37196648
## 2162    0.38526702    0.36812337
## 1823    0.38520716    0.36975348
## 2289    0.38514515    0.36906735
## 1605    0.38512537    0.36808285
## 2144    0.38486497    0.37108761
## 1771    0.38484660    0.36669473
## 2159    0.38420932    0.36647763
## 2279    0.38344074    0.36648236
## 1655    0.38281478    0.36803905
## 1913    0.38266950    0.36782541
## 1900    0.38217555    0.36591286
## 1599    0.38208151    0.36443363
## 1706    0.38146045    0.36435587
## 1663    0.38081234    0.36211154
## 1635    0.38071345    0.36275191
## 2285    0.38068024    0.36496845
## 2140    0.38027728    0.36289822
## 2348    0.37951063    0.36617431
```

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## 2097    0.37945668    0.36443498
## 1611    0.37914825    0.36492775
## 1848    0.37860658    0.36693669
## 1829    0.37799333    0.36560578
## 2094    0.37708584    0.36054207
## 1697    0.37628844    0.35867975
## 2219    0.37609645    0.35880222
## 2345    0.37596579    0.36043786
## 2089    0.37560720    0.36205655
## 2160    0.37529337    0.36034757
## 2042    0.37460748    0.35606865
## 1761    0.37460209    0.35677808
## 1652    0.37416453    0.35542960
## 1768    0.37396389    0.35628696
## 1765    0.37302595    0.35731563
## 2070    0.37285055    0.35808308
## 2139    0.37255129    0.35725460
## 1647    0.37205651    0.35611032
## 1703    0.37162499    0.35715129
## 1722    0.37146936    0.35717986
## 2222    0.37142695    0.35600639
## 2100    0.37123810    0.35633320
## 2081    0.37104900    0.35544816
## 2351    0.37062952    0.35741708
## 1666    0.37061700    0.35493254
## 2072    0.37046809    0.35702974
## 1973    0.37025096    0.35725648
## 1903    0.36947957    0.35592464
## 1608    0.36825052    0.35296834
## 1596    0.36824937    0.35223668
## 1826    0.36745750    0.35386722
## 2084    0.36735480    0.35203793
## 2141    0.36671354    0.35129917
## 2033    0.36556930    0.35029571
## 2280    0.36474005    0.34979186
## 2225    0.36466673    0.34884857
## 1641    0.36458891    0.34603643
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## 2155    0.36411638    0.34827013
## 2152    0.36385649    0.34723654
## 2149    0.36208551    0.34448572
## 2230    0.36127994    0.34697059
## 2030    0.36076296    0.34230379
## 2086    0.36019820    0.34503198
## 1700    0.36003995    0.34387369
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## 1692    0.35798305    0.34332979
## 1787    0.35788324    0.34052675
## 1777    0.35558750    0.33922399
## 1774    0.35467947    0.33542242
## 2209    0.35450975    0.33889086
## 2075    0.35384038    0.33575035
## 2078    0.35381214    0.33605369
## 2214    0.35332592    0.33932023
```

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## 2282     0.35329304     0.33685030
## 2069     0.35306168     0.33676382
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## 1711     0.35182048     0.33814244
## 1766     0.35170030     0.33666483
## 1762     0.34920251     0.32996629
## 1892     0.34898247     0.33650757
## 1887     0.34878859     0.33420143
## 1661     0.34720695     0.33166402
## 1818     0.34621415     0.33383401
## 1889     0.34545019     0.33014913
## 1817     0.34362014     0.32869633
## 1694     0.34261044     0.32730159
## 1832     0.33851177     0.32453435
## 2406     0.33840293     0.32587978
## 1717     0.33804219     0.32301055
## 2340     0.33781901     0.32623583
## 1772     0.33762123     0.32075816
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## 1834     0.33444625     0.32019048
## 1837     0.33439563     0.32311064
## 1908     0.33124567     0.31659932
## 1691     0.32894010     0.31110477
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## 1708     0.32715824     0.30970691
## 2150     0.32569682     0.31078157
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## 1696     0.32504866     0.30866523
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## 1609     0.32256229     0.30931920
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## 2356     0.32115905     0.30897793
## 1898     0.31740152     0.30383048
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## 2220     0.31656348     0.30203991
## 1597     0.31617884     0.30162025
## 1957     0.31537811     0.30061750
## 1843     0.31462949     0.30239974
## 2211     0.31280816     0.29809832
## 1595     0.31267694     0.29792498
## 2079     0.31151592     0.29712394
## 1763     0.30967594     0.29063389
## 2028     0.30937126     0.29373311
## 1822     0.30575745     0.29211388
## 2074     0.30432253     0.28782698
## 1594     0.30411931     0.28676999
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## 1701     0.30309278     0.28896228
## 1978     0.30194350     0.28794300
## 1827     0.30050808     0.28933465
## 1962     0.29902411     0.28718483
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## 2346      0.29796693   0.28581191
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## 1698      0.28216774   0.26603336
## 1959      0.27930310   0.26513865
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## 3127      0.70453290   0.68700119
## 2917      0.70271416   0.68623183
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## 3275      0.70127924   0.68334602
## 3285      0.70087524   0.68272952
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## 3282      0.69619797   0.67720865
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## 3172      0.69578867   0.67633144
## 3171      0.69505779   0.67576083
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## 3247      0.69440007   0.67626472
## 2896      0.69417390   0.67571989
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## 2915      0.69394044   0.67559824
## 3297      0.69383299   0.67340316
## 3257      0.69329841   0.67473659
## 3125      0.69323958   0.67337626
## 3256      0.69318055   0.67429189
## 2960      0.69311529   0.67473156
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## 3122      0.69120239   0.67096417
## 2995      0.69109082   0.67240762
## 2734      0.69108817   0.67221589
## 3106      0.69098697   0.67089745
## 2728      0.69051416   0.67130371
## 2733      0.69034974   0.67116875
## 3126      0.68975020   0.67045815
## 3162      0.68942425   0.66846720
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## 2589      0.68923405   0.67105590
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## 3206      0.68898379   0.66924014
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## 3190      0.68836978   0.66932059
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## 2714    0.68765140    0.66812606
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## 3085    0.62050418    0.60466201
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## 3791    0.70375510    0.68326565
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## 3770    0.70354929    0.68467367
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## 3562    0.46249355  0.44526669
## 3547    0.45931189  0.44129464
## 3360    0.45870030  0.43892867
## 3550    0.45806935  0.43984952
## 3338    0.45331861  0.43311346
## 3737    0.45160371  0.43555125
## 3682    0.44856409  0.43239966
## 3344    0.44699119  0.43045305
## 3773    0.44626975  0.43120248
## 3466    0.44428670  0.42403631
## 3407    0.44000734  0.42005113
## 3363    0.43793326  0.42124496
## 3341    0.43789184  0.42038751
## 3670    0.43766701  0.42060596
## 3505    0.43641315  0.41514819
## 3422    0.43579646  0.41446670
## 3589    0.43503142  0.41574885
## 3553    0.43491256  0.41959480
## 3667    0.43445423  0.41667271
## 3673    0.43317252  0.41648177
## 3709    0.43206402  0.41506767
## 3410    0.43107420  0.40953165
## 3413    0.42568844  0.40765973
## 3469    0.42496611  0.40785639
## 3367    0.41958040  0.40143845
## 3408    0.41927616  0.40020917
## 3473    0.41913722  0.40018858
## 3557    0.41795239  0.40095237
## 3337    0.41558969  0.39713426
## 3358    0.41457379  0.39619798
## 3417    0.40630325  0.38630192
## 3347    0.40422065  0.38468396
## 3342    0.40323613  0.38740597
## 3464    0.40226522  0.38328154
## 3339    0.39971635  0.38008505
## 3677    0.39813814  0.38081814
## 3350    0.39693320  0.37722095
## 3668    0.39645846  0.38099460
## 3353    0.37526625  0.35739290
## 3548    0.36344994  0.34767770
## 3348    0.34285132  0.32483846
## 3959    0.71580879  0.69765161
## 4004    0.71394295  0.69480070
## 3915    0.71311589  0.69376063
```

```
## 3899      0.71194280    0.69247693
## 3897      0.71080292    0.69136664
## 4013      0.71013972    0.69164035
## 4016      0.70950701    0.68915367
## 3956      0.70921927    0.68874355
## 3935      0.70904097    0.69013711
## 4006      0.70813964    0.68696559
## 3996      0.70722094    0.68766790
## 3961      0.70673693    0.68632243
## 3890      0.70557618    0.68573889
## 3933      0.70545565    0.68666492
## 3826      0.70543536    0.68701497
## 3900      0.70539783    0.68606585
## 3954      0.70511925    0.68450506
## 4001      0.70499188    0.68332584
## 3980      0.70493358    0.68490714
## 3951      0.70457015    0.68578075
## 4002      0.70315994    0.68161622
## 3981      0.70297538    0.68322129
## 4010      0.70275874    0.68163834
## 3971      0.70271415    0.68252591
## 4015      0.70178393    0.68121046
## 3957      0.70138033    0.68088954
## 3910      0.70125610    0.67985414
## 3926      0.70120133    0.68218072
## 3871      0.70105518    0.68076981
## 3936      0.70097981    0.68224756
## 3821      0.70091293    0.68053201
## 3898      0.70072548    0.68098834
## 3885      0.70068396    0.67869565
## 3912      0.70044931    0.67869465
## 3869      0.70043148    0.68057450
## 3913      0.70018482    0.67875892
## 3862      0.70001505    0.67976900
## 3911      0.69982235    0.67845192
## 3872      0.69963802    0.67977207
## 3978      0.69957277    0.67925991
## 3870      0.69927820    0.67950962
## 4011      0.69927148    0.67836384
## 3999      0.69887513    0.67651812
## 3994      0.69856242    0.67684432
## 3948      0.69807873    0.67701341
## 3921      0.69786200    0.67643568
## 3824      0.69666899    0.67669799
## 3888      0.69665550    0.67488286
## 3993      0.69660865    0.67451045
## 3805      0.69655360    0.67591420
## 3949      0.69497564    0.67413833
## 4008      0.69485720    0.67309739
## 4000      0.69429084    0.67225174
## 3979      0.69401564    0.67384977
## 3992      0.69363328    0.67190493
## 3946      0.69312167    0.67225362
## 3924      0.69218981    0.67102266
```

```
## 3883     0.69132174     0.66915420
## 3819     0.69127681     0.67095818
## 3969     0.69121017     0.66844429
## 3825     0.69115090     0.67140929
## 3991     0.69092448     0.66842704
## 3861     0.69086104     0.66940141
## 3889     0.69084587     0.66924439
## 3860     0.69016444     0.66830054
## 3855     0.68931334     0.66753184
## 3966     0.68924142     0.66589319
## 3937     0.68915719     0.67021362
## 3950     0.68905437     0.66839058
## 3806     0.68887869     0.66883106
## 3857     0.68885102     0.66642644
## 3822     0.68884496     0.66782031
## 3873     0.68840438     0.66854078
## 3970     0.68840175     0.66628484
## 4012     0.68765788     0.66639226
## 3858     0.68749237     0.66490844
## 3886     0.68671604     0.66404216
## 3958     0.68628048     0.66522911
## 3995     0.68606059     0.66416093
## 3914     0.68594458     0.66399059
## 3982     0.68526739     0.66522234
## 3803     0.68318406     0.66100197
## 3901     0.68255774     0.66234225
## 3967     0.68254769     0.65918102
## 4003     0.68196747     0.65940512
## 3930     0.68157067     0.66001929
## 3955     0.68055011     0.65864806
## 3964     0.68050451     0.65719815
## 3947     0.68015593     0.65867690
## 3894     0.67991830     0.65756575
## 3934     0.67960215     0.65978182
## 3928     0.67950544     0.65792724
## 3800     0.67925325     0.65573269
## 3830     0.67861666     0.65788536
## 3866     0.67844626     0.65584391
## 3975     0.67744598     0.65430204
## 3864     0.67659260     0.65443042
## 4009     0.67602777     0.65370420
## 3828     0.67589533     0.65553365
## 3925     0.67560093     0.65388919
## 3816     0.67499483     0.65353614
## 3931     0.67493688     0.65301607
## 3892     0.67472414     0.65192225
## 3922     0.67436806     0.65160899
## 3867     0.67436327     0.65165606
## 3976     0.67421098     0.65122813
## 3895     0.67317832     0.65038441
## 3831     0.67260085     0.65176506
## 3973     0.67188569     0.64821829
## 3919     0.67121014     0.64883305
## 3908     0.67096737     0.65669752
```

```
## 3811    0.66896247    0.64546039
## 3865    0.66646627    0.64397215
## 3893    0.66513128    0.64191087
## 3814    0.66484425    0.64130927
## 3829    0.66469281    0.64356654
## 3903    0.66453796    0.64875451
## 4005    0.66348704    0.64798798
## 3974    0.66344195    0.63987894
## 3848    0.66272697    0.64730945
## 3989    0.66214757    0.64700720
## 3960    0.66020816    0.64664327
## 3929    0.65962167    0.63684221
## 3944    0.65933297    0.64604056
## 3880    0.65819354    0.64269579
## 3815    0.65777948    0.63431170
## 3916    0.65766569    0.64204620
## 3809    0.65621840    0.63250667
## 3905    0.65607199    0.64058055
## 3850    0.65586778    0.64038171
## 3812    0.65454866    0.63009729
## 4014    0.65262652    0.63791199
## 3939    0.65205428    0.63707050
## 3984    0.65141224    0.63451791
## 3997    0.65110096    0.63461640
## 3941    0.64979589    0.63524162
## 3836    0.64936918    0.63225439
## 3986    0.64869045    0.63190412
## 3875    0.64816152    0.63145570
## 3841    0.64448291    0.62823035
## 3851    0.64320233    0.62748051
## 3906    0.64310820    0.62699507
## 3987    0.64222092    0.62529066
## 3952    0.64099701    0.62633598
## 3877    0.63991102    0.62314555
## 3839    0.63905050    0.62186614
## 3904    0.63897906    0.62316496
## 3849    0.63884746    0.62352746
## 3876    0.63733583    0.62136008
## 3953    0.63717548    0.61823744
## 3878    0.63516571    0.61835239
## 3942    0.63381534    0.61890564
## 3834    0.63366473    0.61664186
## 3985    0.63159556    0.61464971
## 3943    0.62985297    0.61592439
## 3920    0.62948779    0.60984399
## 3907    0.62838377    0.61283811
## 3909    0.62811452    0.60863634
## 3884    0.62781551    0.60768588
## 3896    0.62746880    0.60762914
## 3988    0.62719876    0.61065023
## 3879    0.62711856    0.61142564
## 3998    0.62546833    0.60925524
## 3945    0.62504174    0.60622407
## 3804    0.62492769    0.60952154
```

```
## 3881    0.62390279    0.60522486
## 3843    0.62333848    0.60657742
## 4007    0.62326634    0.60749659
## 3932    0.62308480    0.60392678
## 3840    0.62270616    0.60612909
## 3923    0.62249653    0.60583621
## 3887    0.62241246    0.60575428
## 3837    0.62152712    0.60411925
## 3917    0.62083196    0.60277421
## 3856    0.61835229    0.59794377
## 3859    0.61792638    0.60054557
## 3820    0.61789972    0.59725353
## 3852    0.61714892    0.60182066
## 3990    0.61696170    0.60094047
## 3968    0.61678562    0.60114847
## 3845    0.61615580    0.59978635
## 3965    0.61586912    0.59887269
## 3798    0.61417409    0.59469404
## 3817    0.61242451    0.59327287
## 3854    0.61237305    0.59201862
## 3977    0.61103921    0.59410826
## 3801    0.61099701    0.59436675
## 3882    0.61097172    0.59021778
## 3853    0.61087520    0.59264041
## 3823    0.61069482    0.59310069
## 3868    0.60734166    0.58663686
## 3802    0.60582615    0.58764819
## 3927    0.60381018    0.58446874
## 3891    0.60258845    0.58258290
## 3846    0.60216503    0.58456522
## 3799    0.60201866    0.58023856
## 3827    0.60125060    0.58213725
## 3863    0.60069462    0.58105306
## 3962    0.60049439    0.58379238
## 3963    0.59918550    0.58181331
## 3797    0.59910170    0.57941212
## 3818    0.59764851    0.57640094
## 3940    0.59723068    0.58260148
## 3918    0.59650955    0.57652031
## 3810    0.59341485    0.57285184
## 3972    0.59321393    0.57621046
## 3844    0.59282884    0.57626023
## 3813    0.58735160    0.56948257
## 3807    0.58526583    0.56640006
## 3808    0.57182350    0.55071454
## 3902    0.47836733    0.45813157
## 3847    0.47712758    0.45716014
## 3832    0.47213857    0.45173965
## 3938    0.47084523    0.45205050
## 3835    0.46487087    0.44372898
## 3983    0.45637941    0.43924878
## 3874    0.45549381    0.43398149
## 3838    0.44539557    0.42728450
## 3833    0.42421486    0.40484725
```

```
## 3842    0.41763056    0.39754950
## 4059    0.72041776    0.70116064
## 4068    0.71553912    0.69699010
## 4071    0.71511574    0.69475209
## 4078    0.71396550    0.69451091
## 4061    0.71321727    0.69184497
## 4081    0.71305346    0.69168343
## 4051    0.71214511    0.69237339
## 4035    0.71105143    0.69090187
## 4056    0.71103802    0.68932981
## 4033    0.71033328    0.69048940
## 4054    0.70982801    0.68813270
## 4082    0.70942015    0.68868011
## 4065    0.70826772    0.68713357
## 4080    0.70723232    0.68573853
## 4070    0.70574481    0.68496644
## 4026    0.70462802    0.68412458
## 4057    0.70459319    0.68297265
## 4063    0.70456551    0.68349216
## 4036    0.70443901    0.68457260
## 4075    0.70401722    0.68170210
## 4076    0.70215375    0.68010424
## 4048    0.70135187    0.67902034
## 4066    0.70040752    0.67940943
## 4046    0.70027222    0.67841621
## 4055    0.69997068    0.67793379
## 4021    0.69990528    0.67720043
## 4049    0.69973306    0.67780474
## 4034    0.69972613    0.67950954
## 4047    0.69892019    0.67712648
## 4073    0.69855685    0.67582290
## 4024    0.69570725    0.67339099
## 4074    0.69325462    0.67077794
## 4067    0.69078907    0.66963663
## 4025    0.69047997    0.66840318
## 4019    0.69033543    0.66766777
## 4050    0.68892207    0.66701232
## 4037    0.68812754    0.66801700
## 4022    0.68807944    0.66471770
## 4077    0.68685895    0.66437206
## 4058    0.68531201    0.66285889
## 4030    0.68052239    0.65748227
## 4064    0.67986920    0.65762188
## 4028    0.67879622    0.65595972
## 4031    0.67390224    0.65055892
## 4060    0.67135781    0.65585627
## 4044    0.66993050    0.65468086
## 4029    0.66601245    0.64254472
## 4039    0.66343747    0.64661101
## 4079    0.66253821    0.64605672
## 4069    0.65909714    0.64446514
## 4052    0.65713484    0.64058049
## 4041    0.65637777    0.63958950
## 4042    0.64336385    0.62627032
```

```
## 4053    0.63934214    0.61938086
## 4040    0.63881044    0.62204663
## 4062    0.63620566    0.61692721
## 4043    0.63120450    0.61499404
## 4020    0.62964629    0.60888894
## 4045    0.62899389    0.60904265
## 4032    0.62663836    0.60629473
## 4072    0.62435126    0.60779031
## 4023    0.62367232    0.60599786
## 4017    0.62317589    0.60400012
## 4018    0.61260199    0.59150752
## 4027    0.60249932    0.58239650
## 4038    0.48344007    0.46215737
## 4089    0.72023295    0.70061350
## 4092    0.71953567    0.69808061
## 4093    0.71483651    0.69405464
## 4094    0.71306772    0.69135216
## 4091    0.71225420    0.69050700
## 4086    0.71014180    0.68773802
## 4084    0.70935227    0.68721524
## 4087    0.70362789    0.68147363
## 4085    0.69896503    0.67645082
## 4088    0.69007704    0.66768080
## 4090    0.67033803    0.65381409
## 4083    0.63835780    0.61796280
## 4095    0.71934302    0.69749711
```

When looking at the statistics for the different models, we are only allowed to currently look at a few statistics, but in part e, I'll look into more statistics. For the models with one to two predictors, I'm not going to go into much detail about them as their R^2, R^2_{adj} are significantly lower than the models with a higher number of predictors (and consequently this means their MSE is much higher). Additionally, all of their Mallow's CP values are astronomically higher than the value they should be around (value they should be around is p where p represents the number of predictors in the model). Moving on to the 3 variable models, it seems that the model with the predictors X_2, X_3, and X_4 has the highest R^2 value of around 87.4% and a R^2_{adj} value of 85.9%. It seems that for this model the Mallow's CP value has become much closer to the desired value (it is around 7.596), which for the case of a model with 3 predictors would be 3. Fortunately, for the 4 predictor models, the best model based on R^2 has an R^2 value of around 89.1% and an R^2_{adj} value of around 87.3% (MSE of 1945.334), with the predictors X_1, X_2, X_3, and X_4 in the model. Now, the Mallow's CP value is pretty close to its target value of p=4 for this model, but still is around 1.79 higher than 4. In comparison to the full model with all the predictors present, the full model has a Mallow's CP value closer to the desired value of p=5, coming in at exactly 1 above the desired value. In terms of R^2 and R^2_{adj}, it seems that these values are barely higher than the 4 predictor model, indicating that adding X_5 to the model doesn't add much predictive power (MSE of 1887.116 and R^2_{adj} value of around 87.7%). Even though the Mallow's CP value is closer to its desired value for the full model with 5 predictors, I think the benefit of having one less variable with approximately the same R^2_{adj} value outweighs the disadvantage. So, if favoring simplicity, I would choose the 4 predictor model with predictors X_1, X_2, X_3, and X_4, but if wanting the best absolute R^2_{adj} value and closest Mallow's CP value to the line, then the full model with 5 predictors would be a better choice. I have to further analyze the significance of adding X_5 to the best 4 predictor model, such as using the partial F-test to determine whether it should be added. I can also see the values for AIC and SBC even though technically we aren't allowed to look at them yet, and they further indicate that the best 4 predictor model without X_5 as a predictor is as good if not better than the full model. But using just this information of R^2, R^2_{adj}, and Mallow's CP, at first glance it seems the five predictor model is better (but we will show it is probably not).

```
full_model=lm(train_set_dataset$MEDV ~ .,data=train_set_dataset)

anova(full_model)
```

```
## Analysis of Variance Table
##
## Response: train_set_dataset$MEDV
##            Df Sum Sq Mean Sq  F value    Pr(>F)
## CRIM        1 3620.7  3620.7 160.0139 < 2.2e-16 ***
## ZN          1 2510.3  2510.3 110.9414 < 2.2e-16 ***
## INDUS       1 1666.5  1666.5  73.6500 5.549e-16 ***
## NX          1   13.8    13.8   0.6099 0.4354431
## RM          1 5761.3  5761.3 254.6178 < 2.2e-16 ***
## AGE         1   70.6    70.6   3.1203 0.0783650 .
## DIS         1 1082.9  1082.9  47.8604 2.881e-11 ***
## RAD         1    5.0     5.0   0.2193 0.6399534
## TAX         1  291.6   291.6  12.8882 0.0003875 ***
## PTRATIO     1  604.9   604.9  26.7329 4.334e-07 ***
## B           1  390.2   390.2  17.2463 4.311e-05 ***
## LSTAT       1 1942.2  1942.2  85.8354 < 2.2e-16 ***
## Residuals 293 6629.8    22.6
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
summary(full_model)
```

```
##
## Call:
## lm(formula = train_set_dataset$MEDV ~ ., data = train_set_dataset)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -11.0346  -2.6668  -0.7731   1.5473  25.7176
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  32.044484   6.856733   4.673 4.52e-06 ***
## CRIM         -0.121517   0.044156  -2.752 0.006292 **
## ZN            0.042545   0.017788   2.392 0.017396 *
## INDUS         0.066926   0.074910   0.893 0.372368
## NX          -13.994681   4.821217  -2.903 0.003980 **
## RM            4.021977   0.555961   7.234 4.11e-12 ***
## AGE          -0.004531   0.017408  -0.260 0.794815
## DIS          -1.469667   0.261205  -5.626 4.30e-08 ***
## RAD           0.343192   0.082127   4.179 3.87e-05 ***
## TAX          -0.014404   0.004416  -3.262 0.001238 **
## PTRATIO      -0.855679   0.181010  -4.727 3.54e-06 ***
## B             0.011628   0.003434   3.386 0.000806 ***
## LSTAT        -0.629198   0.067913  -9.265  < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 4.757 on 293 degrees of freedom
## Multiple R-squared:  0.7304, Adjusted R-squared:  0.7193
```

```
## F-statistic: 66.14 on 12 and 293 DF,  p-value: < 2.2e-16
RSS <- residuals(full_model)^2

training_MSE <- mean(RSS)

cat("Training MSE:", training_MSE, "\n")

## Training MSE: 21.66596
test_MSE <- mean((test_set_dataset$MEDV - predict(full_model, newdata=test_set_dataset))^2)

cat("Test MSE:", test_MSE)

## Test MSE: 24.70457
```

First off, we can see that the test for significance of regression would allow us to reject the null hypothesis that all predictors in the model don't have a linear relationship in the current model with the response variable, indicating significance of this model in explaining/predicting the response Y. We can see that for the t-tests that each coefficient of the predictor is 0 and that the predictor doesn't add significantly to the current model, we can note that X_1, X_3, and X_4 have small p-values for this test where we would reject the null hypothesises at a significance level of 5% that their coefficients are equal to 0 and that they don't significantly improve the model given the other predictors present in the model. Now, X_2's t-test's p-value would not allow us to reject the null hypothesis that it does not significantly improve the model, but I still believe that it has some statistical power, but it is toeing the line. On the other hand, X_5 has a very large p-value of 19.4% for the t-test, indicating that it does not improve the model significantly. As forward and backwards stepwise regression both use a p-value of 30% to add or remove a variable from the model using the partial F test/t-test for the predictor, they tend to add too many variables, at least in this case. Now, the models that I chose for part c. and d. were the 4 predictor model with the predictors X_1, X_2, X_3, and X_4. We will look at the summary of the model below:

```
#reduced_model = lm(y~x1+x2+x3+x4,data=thermalData)

#anova(reduced_model)

#summary(reduced_model)

#cat("MSE: ",  mean((thermalData$y - predict(reduced_model, newdata=thermalData))^2))
```

Strangely enough, in this 4 predictor model, we get that X_1 does not significantly improve the model given the other predictors in the model (using a significance level of 5% based on the t-tests), while the other predictors do. We can note that the model with 1 predictor with X_1 alone had a very large R^2 value, so this predictor alone did have a lot of predictive power on Y. I won't go over again my discussion about the other statistics such as Mallow's CP as I did in part d., but we concluded then that the model with 4 predictors is probably better. I still stick with this statement as when looking at the t-test for the significance of X_5 in the full model, we pretty resoundingly don't reject the null hypothesis that it has no predictive/explanative power on Y in the model given the other predictors already in it.

Using the information given here, I would choose the best model as the one with 4 predictors. For the 4 predictor models, the best model based on R^2 has an R^2 value of around 89.1% and an R^2_{adj} value of around 87.3%, with the predictors X_1, X_2, X_3, and X_4 in the model. Now, the Mallow's CP value is pretty close to its target value of p=4 for this model, but still is around 1.79 higher than 4. In comparison to the full model with all the predictors present, the full model has a Mallow's CP value closer to the desiired value of p=5, coming in at exactly 1 above the desired value. In terms of R^2 and R^2_{adj}, it seems that these values are barely higher than the 4 predictor model, indicating that adding X_5 to the model doesn't add much predictive power. Even though the Mallow's CP value is closer to its desired value for the full model with 5 predictors, I think the benefit of having one less variable with approximately the same R^2_{adj} value outweighs

the disadvantage. Looking at the AIC and SBC values, which are somewhat similar metrics, the 4 predictor model has a slightly higher AIC value than the 5 predictor model, but a lower SBIC value. This indicates it is probably the better model to pick. So I would pick this 4 predictor model.

Note that the 4 and 5 predictor models both have issues with the residuals that estimate the error terms indicating that normality is violated in both models.

Bayesian Linear Regression Model

```python
import numpy as np
import pandas as pd
from matplotlib import pyplot as plt
from matplotlib.colors import LinearSegmentedColormap
from tabulate import tabulate

#Load the data from a text file mak ethe fist row the header and use tab as the separator
data = pd.read_csv('~/Downloads/Boston.csv', header=0, sep=',')

training_indices = pd.read_csv('train_set_indices.csv', header=0, sep=',')['Resample1'].tolist()

print(len(training_indices))

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# data = pd.read_csv('Boston.csv', header=0, sep=',')

#Delete rows with missing values
data = data.dropna()

data.insert(0, 'Intercept', 1)

num_predictors = len(data.columns) - 1

#Set sampling size
sampling_size = 10000

#Set the parameters for the prior distribution for sigma2 (inverse gamma) (non-informative)
a = 0.001
b = 0.001

#Set the parameters for the prior distribution for mu (normal) (non-informative)


#Create the matrix for V
V = np.eye(num_predictors)
m = np.zeros(num_predictors)

X_training_set = data.iloc[training_indices, 0:num_predictors].to_numpy()
y_training_set = data.iloc[training_indices, num_predictors].to_numpy()

X_test_set = data.drop(training_indices, axis=0).iloc[:, 0:num_predictors].to_numpy()
y_test_set = data.drop(training_indices, axis=0).iloc[:, num_predictors].to_numpy()

#Compute the inverse of V
V_inv = np.linalg.inv(V)
```

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```python
#Compute the mean of the posterior distribution of beta given sigma2 (normal)
mu_post = np.linalg.inv(X_training_set.T @ X_training_set + V_inv) @ (X_training_set.T @ y_training_set

#Compute the lambda matrix of the posterior distribution of beta given sigma2 (normal)
lambda_post = np.linalg.inv(X_training_set.T @ X_training_set + V_inv)

#Compute alpha paramater of sigma2 posterior distribution (inverse gamma)
alpha_post = a + len(y_training_set) / 2
r_post = (m.T @ V_inv @ m - mu_post.T @ np.linalg.inv(lambda_post) @ mu_post + 2*b + y_training_set.T @

# Step 4: Drawing sigma2 from the inverse gamma distribution
sigma2 = 1 / np.random.gamma(shape=alpha_post, scale=1/r_post, size=sampling_size)

#Create the vector for beta_hat
beta_hat = np.zeros((sampling_size, num_predictors))

for i in range(sampling_size):
    beta_hat[i, :] = np.random.multivariate_normal(mu_post, lambda_post * sigma2[i])

plt.hist(sigma2, bins=int(sampling_size/1000), alpha=0.5, color='orange', label='Posterior of sigma^2')
plt.xlabel('sigma^2')
plt.ylabel('Frequency')
plt.title('Histogram of Simulated Posterior Distribution for Sigma^2')
plt.legend()
plt.show()
```


Histogram of Simulated Posterior Distribution for Sigma^2
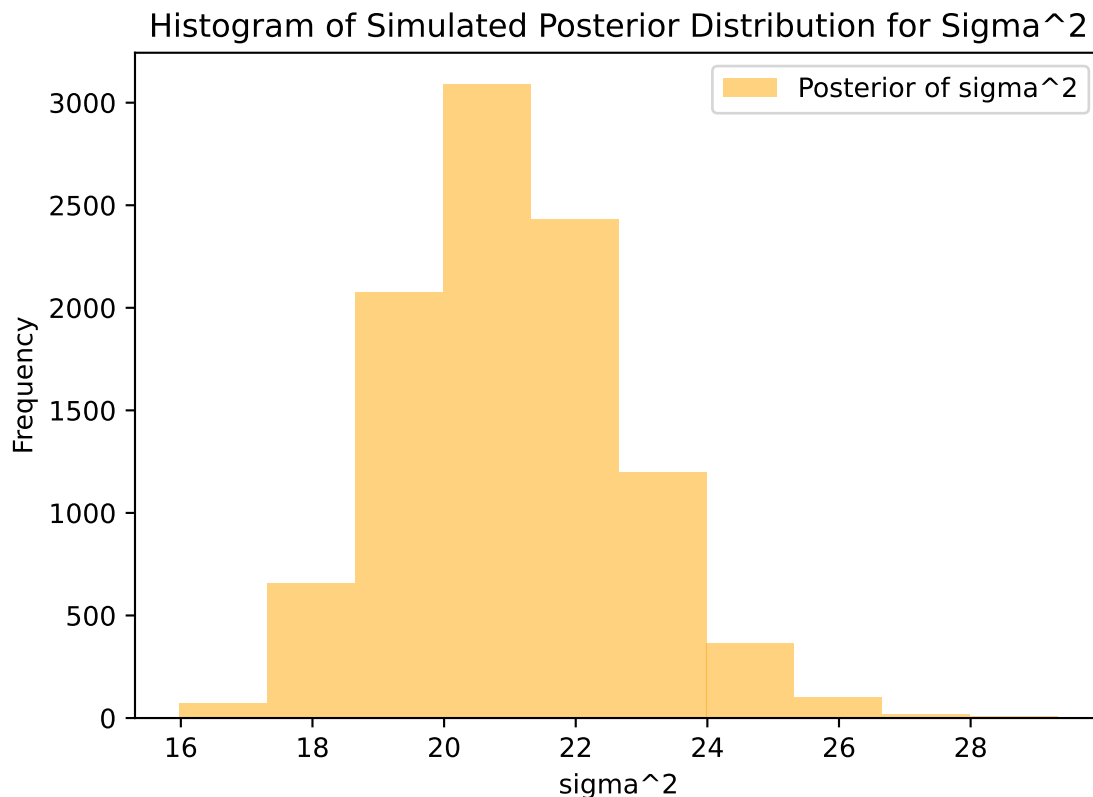
```python
colors = LinearSegmentedColormap.from_list("gradient", ["red", "purple", "blue"], N=num_predictors)
print(len(data.columns[1:num_predictors]))
```

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```python
#Create new dataframe
beta_estimates = pd.DataFrame(index=data.columns[0:num_predictors], columns=["Beta Estimate", "Estimate

for i in range(num_predictors):

    sorted_beta_hat_i = np.sort(beta_hat[:, i])

    value_at_975 = sorted_beta_hat_i[np.floor(0.975 * sampling_size).astype(int)]
    value_at_25 = sorted_beta_hat_i[np.floor(0.025 * sampling_size).astype(int)]
    beta_estimates.iloc[i, 0] = mu_post[i]
    beta_estimates.iloc[i, 1] = lambda_post[i][i] * sigma2[i]
    beta_estimates.iloc[i, 2] = f"[{value_at_25}, {value_at_975}]"

    # print(f"Best Estimate for Beta (Beta Hat) (mean/mode/median of posterior normal distribution for
    # print(f"Best Estimate for Standard Deviation of Beta {i}: {lambda_post[i][i] * sigma2[i]}")
    # #Print the 95% credible region for beta_hat_i
    # print(f"95% credible region for Beta Hat {i}: ({value_at_25}, {value_at_975})")

    #Create histograms for beta_hat_i
    plt.hist(beta_hat[:, i], bins=int(sampling_size/1000), color=colors(i), alpha=0.5, label=f'Density
    plt.axvline(x=value_at_25, color='r', linestyle='--', label='Lower 95% CR Bound for Estimate')
    plt.axvline(x=value_at_975, color='darkred', linestyle='--', label='Upper 95% CR Bound for Estimate
    plt.axvline(x=mu_post[i], color='b', linestyle='--', label='Posterior Predictor Estimate')

    plt.xlabel(f'idk what to put here')
    plt.ylabel('Frequency')
    plt.title(f'Histogram of Simulated Marginal Posterior Distribution and Confidence Regions for {data
    plt.legend()
    plt.figure(figsize=(4, 3))
    plt.show()
```

```
# Get the headers of the DataFrame slice

print(tabulate(beta_estimates, headers='keys', tablefmt='grid'))
```

```
## +-----------+-----------------+--------------------------------------------+-------------------------
## |           |  Beta Estimate  |  Estimate for Standard Deviation of Beta   | 95% Credible Region
## +===========+=================+============================================+=========================
## | Intercept |    11.0318      |                                   14.5646  | [3.9466606878115984, 18.
## +-----------+-----------------+--------------------------------------------+-------------------------
## | CRIM      |   -0.0616056    |                                0.00232129  | [-0.15469116697487056, 0
## +-----------+-----------------+--------------------------------------------+-------------------------
## | ZN        |    0.0572568    |                               0.000257963  | [0.02658596700236457, 0.0
## +-----------+-----------------+--------------------------------------------+-------------------------
## | INDUS     |   -0.0330521    |                                0.00560885  | [-0.17237520424679378, 0
## +-----------+-----------------+--------------------------------------------+-------------------------
## | CHAS      |    3.16254      |                                    1.2687  | [1.1610155251465355, 5.14
## +-----------+-----------------+--------------------------------------------+-------------------------
```

```
## | NX      |    -4.93118   |                                          8.25029    | [-11.037363333844056, 0.9
## +----------+---------------+------------------------------------------+---------------------------
## | RM      |     5.182     |                                          0.196751   | [4.2951391579171645, 6.00
## +----------+---------------+------------------------------------------+---------------------------
## | AGE     |   -0.019571   |                                          0.000284923 | [-0.05263182751846913, 0
## +----------+---------------+------------------------------------------+---------------------------
## | DIS     |    -1.05709   |                                          0.0478072  | [-1.5104479693881239, -0
## +----------+---------------+------------------------------------------+---------------------------
## | RAD     |    0.139306   |                                          0.00636567 | [-0.010205753441058563,
## +----------+---------------+------------------------------------------+---------------------------
## | TAX     |  -0.00899644  |                                          1.92853e-05 | [-0.01744135271660876, -
## +----------+---------------+------------------------------------------+---------------------------
## | PTRATIO |   -0.60559    |                                          0.0223151  | [-0.8946582982063351, -0
## +----------+---------------+------------------------------------------+---------------------------
## | B       |   0.0123797   |                                          1.35205e-05 | [0.0059724981710368216,
## +----------+---------------+------------------------------------------+---------------------------
## | LSTAT   |   -0.344678   |                                          0.00383218 | [-0.4655930900479551, -0
## +----------+---------------+------------------------------------------+---------------------------
```

```python
#Compute MSE
training_MSE = np.mean((y_training_set - X_training_set @ mu_post)**2)

print(f"Training Set Bayesian MSE: {training_MSE}")
```

```
## Training Set Bayesian MSE: 20.272572236526727
```

```python
test_MSE = np.mean((y_test_set - X_test_set @ mu_post)**2)

print(f"Test Set Bayesian MSE: {test_MSE}")
```

```
## Test Set Bayesian MSE: 28.81188423445606
```

gram of Simulated Marginal Posterior Distribution and Confidence Regions for

Legend:
- Lower 95% CR Bound for Estimate
- Upper 95% CR Bound for Estimate
- Posterior Predictor Estimate
- Density of Posterior Distribution
- Lower 95% CR Bound for Estimate
- Upper 95% CR Bound for Estimate
- Posterior Predictor Estimate
- Density of Posterior Distribution
- Lower 95% CR Bound for Estimate
- Upper 95% CR Bound for Estimate
- Posterior Predictor Estimate
- Density of Posterior Distribution
- Lower 95% CR Bound for Estimate
- Upper 95% CR Bound for Estimate
- Posterior Predictor Estimate
- Density of Posterior Distribution
- Lower 95% CR Bound for Estimate
- Upper 95% CR Bound for Estimate
- Posterior Predictor Estimate

Comparison Between Models

Conclusion

References

Note: These are not cited in proper format yet.

https://en.wikipedia.org/wiki/Bayesian_linear_regression

https://gregorygundersen.com/blog/2020/02/04/bayesian-linear-regression/

https://www.researchgate.net/publication/333917874_Bayesian_Linear_Regression#pf18