AMES Housing Prices Analysis

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Introduction

Load library

```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)
library(MASS)
```

```
##
## Attaching package: 'MASS'

## The following object is masked from 'package:dplyr':
##
##     select
```

```
library(caret)
```

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

```
library(reshape2)
library(car)
```

```
## Loading required package: carData
```

```
##
## Attaching package: 'car'

## The following object is masked from 'package:dplyr':
##
##     recode
```

```
library(GGally)
```

```
## Registered S3 method overwritten by 'GGally':
##   method from
##   +.gg   ggplot2
```

```
library(caTools)
library(randomForest)
```

```
## randomForest 4.7-1.2

## Type rfNews() to see new features/changes/bug fixes.

##
## Attaching package: 'randomForest'

## The following object is masked from 'package:ggplot2':
##
##     margin

## The following object is masked from 'package:dplyr':
##
##     combine
```

```
library(onehot)
```

Loading Data

```
path <- "C://Users//User NA//OneDrive//Documents//Master//Statistics in Practice Seminar//Data Analysis/

path2 <- "C://Users//User NA//OneDrive//Documents//Master//Statistics in Practice Seminar//Data Analysis
```

```
#train
train <- read.csv(path)
head(train)
```

```
##   Id MSSubClass MSZoning LotFrontage LotArea Street Alley LotShape LandContour
## 1  1         60       RL          65    8450   Pave  <NA>      Reg         Lvl
## 2  2         20       RL          80    9600   Pave  <NA>      Reg         Lvl
## 3  3         60       RL          68   11250   Pave  <NA>      IR1         Lvl
## 4  4         70       RL          60    9550   Pave  <NA>      IR1         Lvl
```

```
## 5  5         60       RL          84   14260   Pave  <NA>      IR1         Lvl
## 6  6         50       RL          85   14115   Pave  <NA>      IR1         Lvl
##   Utilities LotConfig LandSlope Neighborhood Condition1 Condition2 BldgType
## 1    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 2    AllPub       FR2       Gtl      Veenker      Feedr       Norm     1Fam
## 3    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 4    AllPub    Corner       Gtl      Crawfor       Norm       Norm     1Fam
## 5    AllPub       FR2       Gtl      NoRidge       Norm       Norm     1Fam
## 6    AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
##   HouseStyle OverallQual OverallCond YearBuilt YearRemodAdd RoofStyle RoofMatl
## 1     2Story           7           5      2003         2003     Gable  CompShg
## 2     1Story           6           8      1976         1976     Gable  CompShg
## 3     2Story           7           5      2001         2002     Gable  CompShg
## 4     2Story           7           5      1915         1970     Gable  CompShg
## 5     2Story           8           5      2000         2000     Gable  CompShg
## 6     1.5Fin           5           5      1993         1995     Gable  CompShg
##   Exterior1st Exterior2nd MasVnrType MasVnrArea ExterQual ExterCond Foundation
## 1     VinylSd     VinylSd    BrkFace        196        Gd        TA      PConc
## 2     MetalSd     MetalSd       None          0        TA        TA     CBlock
## 3     VinylSd     VinylSd    BrkFace        162        Gd        TA      PConc
## 4     Wd Sdng     Wd Shng       None          0        TA        TA     BrkTil
## 5     VinylSd     VinylSd    BrkFace        350        Gd        TA      PConc
## 6     VinylSd     VinylSd       None          0        TA        TA       Wood
##   BsmtQual BsmtCond BsmtExposure BsmtFinType1 BsmtFinSF1 BsmtFinType2
## 1       Gd       TA           No          GLQ        706          Unf
## 2       Gd       TA           Gd          ALQ        978          Unf
## 3       Gd       TA           Mn          GLQ        486          Unf
## 4       TA       Gd           No          ALQ        216          Unf
## 5       Gd       TA           Av          GLQ        655          Unf
## 6       Gd       TA           No          GLQ        732          Unf
##   BsmtFinSF2 BsmtUnfSF TotalBsmtSF Heating HeatingQC CentralAir Electrical
## 1          0       150         856    GasA        Ex          Y      SBrkr
## 2          0       284        1262    GasA        Ex          Y      SBrkr
## 3          0       434         920    GasA        Ex          Y      SBrkr
## 4          0       540         756    GasA        Gd          Y      SBrkr
## 5          0       490        1145    GasA        Ex          Y      SBrkr
## 6          0        64         796    GasA        Ex          Y      SBrkr
##   X1stFlrSF X2ndFlrSF LowQualFinSF GrLivArea BsmtFullBath BsmtHalfBath FullBath
## 1       856       854            0      1710            1            0        2
## 2      1262         0            0      1262            0            1        2
## 3       920       866            0      1786            1            0        2
## 4       961       756            0      1717            1            0        1
## 5      1145      1053            0      2198            1            0        2
## 6       796       566            0      1362            1            0        1
##   HalfBath BedroomAbvGr KitchenAbvGr KitchenQual TotRmsAbvGrd Functional
## 1        1            3            1          Gd            8        Typ
## 2        0            3            1          TA            6        Typ
## 3        1            3            1          Gd            6        Typ
## 4        0            3            1          Gd            7        Typ
## 5        1            4            1          Gd            9        Typ
## 6        1            1            1          TA            5        Typ
##   Fireplaces FireplaceQu GarageType GarageYrBlt GarageFinish GarageCars
## 1          0       <NA>     Attchd        2003          RFn          2
## 2          1         TA     Attchd        1976          RFn          2
```

```
## 3          1          TA     Attchd        2001          RFn          2
## 4          1          Gd     Detchd        1998          Unf          3
## 5          1          TA     Attchd        2000          RFn          3
## 6          0        <NA>     Attchd        1993          Unf          2
##   GarageArea GarageQual GarageCond PavedDrive WoodDeckSF OpenPorchSF
## 1        548         TA         TA          Y          0          61
## 2        460         TA         TA          Y        298           0
## 3        608         TA         TA          Y          0          42
## 4        642         TA         TA          Y          0          35
## 5        836         TA         TA          Y        192          84
## 6        480         TA         TA          Y         40          30
##   EnclosedPorch X3SsnPorch ScreenPorch PoolArea PoolQC Fence MiscFeature
## 1             0          0           0        0   <NA>  <NA>        <NA>
## 2             0          0           0        0   <NA>  <NA>        <NA>
## 3             0          0           0        0   <NA>  <NA>        <NA>
## 4           272          0           0        0   <NA>  <NA>        <NA>
## 5             0          0           0        0   <NA>  <NA>        <NA>
## 6             0        320           0        0   <NA> MnPrv        Shed
##   MiscVal MoSold YrSold SaleType SaleCondition SalePrice
## 1       0      2   2008       WD        Normal    208500
## 2       0      5   2007       WD        Normal    181500
## 3       0      9   2008       WD        Normal    223500
## 4       0      2   2006       WD       Abnorml    140000
## 5       0     12   2008       WD        Normal    250000
## 6     700     10   2009       WD        Normal    143000
```

```
#check for no. of rows and no. of columns
dim(train)
```

```
## [1] 1460   81
```

Our data has 1460 observations and 81 variables.

```
test <- read.csv(path2)
head(test)
```

```
##     Id MSSubClass MSZoning LotFrontage LotArea Street Alley LotShape
## 1 1461         20       RH          80   11622   Pave  <NA>      Reg
## 2 1462         20       RL          81   14267   Pave  <NA>      IR1
## 3 1463         60       RL          74   13830   Pave  <NA>      IR1
## 4 1464         60       RL          78    9978   Pave  <NA>      IR1
## 5 1465        120       RL          43    5005   Pave  <NA>      IR1
## 6 1466         60       RL          75   10000   Pave  <NA>      IR1
##   LandContour Utilities LotConfig LandSlope Neighborhood Condition1 Condition2
## 1         Lvl    AllPub    Inside       Gtl        NAmes      Feedr       Norm
## 2         Lvl    AllPub    Corner       Gtl        NAmes       Norm       Norm
## 3         Lvl    AllPub    Inside       Gtl      Gilbert       Norm       Norm
## 4         Lvl    AllPub    Inside       Gtl      Gilbert       Norm       Norm
## 5         HLS    AllPub    Inside       Gtl      StoneBr       Norm       Norm
## 6         Lvl    AllPub    Corner       Gtl      Gilbert       Norm       Norm
##   BldgType HouseStyle OverallQual OverallCond YearBuilt YearRemodAdd RoofStyle
## 1     1Fam     1Story           5           6      1961         1961     Gable
## 2     1Fam     1Story           6           6      1958         1958       Hip
```

```
## 3     1Fam     2Story           5           5      1997         1998     Gable
## 4     1Fam     2Story           6           6      1998         1998     Gable
## 5   TwnhsE     1Story           8           5      1992         1992     Gable
## 6     1Fam     2Story           6           5      1993         1994     Gable
##   RoofMatl Exterior1st Exterior2nd MasVnrType MasVnrArea ExterQual ExterCond
## 1  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 2  CompShg     Wd Sdng     Wd Sdng    BrkFace        108        TA        TA
## 3  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 4  CompShg     VinylSd     VinylSd    BrkFace         20        TA        TA
## 5  CompShg     HdBoard     HdBoard       None          0        Gd        TA
## 6  CompShg     HdBoard     HdBoard       None          0        TA        TA
##   Foundation BsmtQual BsmtCond BsmtExposure BsmtFinType1 BsmtFinSF1
## 1     CBlock       TA       TA           No          Rec        468
## 2     CBlock       TA       TA           No          ALQ        923
## 3      PConc       Gd       TA           No          GLQ        791
## 4      PConc       TA       TA           No          GLQ        602
## 5      PConc       Gd       TA           No          ALQ        263
## 6      PConc       Gd       TA           No          Unf          0
##   BsmtFinType2 BsmtFinSF2 BsmtUnfSF TotalBsmtSF Heating HeatingQC CentralAir
## 1          LwQ        144       270         882    GasA        TA          Y
## 2          Unf          0       406        1329    GasA        TA          Y
## 3          Unf          0       137         928    GasA        Gd          Y
## 4          Unf          0       324         926    GasA        Ex          Y
## 5          Unf          0      1017        1280    GasA        Ex          Y
## 6          Unf          0       763         763    GasA        Gd          Y
##   Electrical X1stFlrSF X2ndFlrSF LowQualFinSF GrLivArea BsmtFullBath
## 1      SBrkr       896         0            0       896            0
## 2      SBrkr      1329         0            0      1329            0
## 3      SBrkr       928       701            0      1629            0
## 4      SBrkr       926       678            0      1604            0
## 5      SBrkr      1280         0            0      1280            0
## 6      SBrkr       763       892            0      1655            0
##   BsmtHalfBath FullBath HalfBath BedroomAbvGr KitchenAbvGr KitchenQual
## 1            0        1        0            2            1          TA
## 2            0        1        1            3            1          Gd
## 3            0        2        1            3            1          TA
## 4            0        2        1            3            1          Gd
## 5            0        2        0            2            1          Gd
## 6            0        2        1            3            1          TA
##   TotRmsAbvGrd Functional Fireplaces FireplaceQu GarageType GarageYrBlt
## 1            5        Typ          0       <NA>     Attchd        1961
## 2            6        Typ          0       <NA>     Attchd        1958
## 3            6        Typ          1         TA     Attchd        1997
## 4            7        Typ          1         Gd     Attchd        1998
## 5            5        Typ          0       <NA>     Attchd        1992
## 6            7        Typ          1         TA     Attchd        1993
##   GarageFinish GarageCars GarageArea GarageQual GarageCond PavedDrive
## 1          Unf          1        730         TA         TA          Y
## 2          Unf          1        312         TA         TA          Y
## 3          Fin          2        482         TA         TA          Y
## 4          Fin          2        470         TA         TA          Y
## 5          RFn          2        506         TA         TA          Y
## 6          Fin          2        440         TA         TA          Y
##   WoodDeckSF OpenPorchSF EnclosedPorch X3SsnPorch ScreenPorch PoolArea PoolQC
```

```
## 1        140           0             0          0         120        0   <NA>
## 2        393          36             0          0           0        0   <NA>
## 3        212          34             0          0           0        0   <NA>
## 4        360          36             0          0           0        0   <NA>
## 5          0          82             0          0         144        0   <NA>
## 6        157          84             0          0           0        0   <NA>
##   Fence MiscFeature MiscVal MoSold YrSold SaleType SaleCondition
## 1 MnPrv        <NA>       0      6   2010       WD        Normal
## 2  <NA>        Gar2   12500      6   2010       WD        Normal
## 3 MnPrv        <NA>       0      3   2010       WD        Normal
## 4  <NA>        <NA>       0      6   2010       WD        Normal
## 5  <NA>        <NA>       0      1   2010       WD        Normal
## 6  <NA>        <NA>       0      4   2010       WD        Normal
```

```
dim(test)
```

```
## [1] 1459   80
```

Exploratory Data Analysis

TRAIN

```
colnames(train)
```

```
##  [1] "Id"            "MSSubClass"    "MSZoning"      "LotFrontage"
##  [5] "LotArea"       "Street"        "Alley"         "LotShape"
##  [9] "LandContour"   "Utilities"     "LotConfig"     "LandSlope"
## [13] "Neighborhood"  "Condition1"    "Condition2"    "BldgType"
## [17] "HouseStyle"    "OverallQual"   "OverallCond"   "YearBuilt"
## [21] "YearRemodAdd"  "RoofStyle"     "RoofMatl"      "Exterior1st"
## [25] "Exterior2nd"   "MasVnrType"    "MasVnrArea"    "ExterQual"
## [29] "ExterCond"     "Foundation"    "BsmtQual"      "BsmtCond"
## [33] "BsmtExposure"  "BsmtFinType1"  "BsmtFinSF1"    "BsmtFinType2"
## [37] "BsmtFinSF2"    "BsmtUnfSF"     "TotalBsmtSF"   "Heating"
## [41] "HeatingQC"     "CentralAir"    "Electrical"    "X1stFlrSF"
## [45] "X2ndFlrSF"     "LowQualFinSF"  "GrLivArea"     "BsmtFullBath"
## [49] "BsmtHalfBath"  "FullBath"      "HalfBath"      "BedroomAbvGr"
## [53] "KitchenAbvGr"  "KitchenQual"   "TotRmsAbvGrd"  "Functional"
## [57] "Fireplaces"    "FireplaceQu"   "GarageType"    "GarageYrBlt"
## [61] "GarageFinish"  "GarageCars"    "GarageArea"    "GarageQual"
## [65] "GarageCond"    "PavedDrive"    "WoodDeckSF"    "OpenPorchSF"
## [69] "EnclosedPorch" "X3SsnPorch"    "ScreenPorch"   "PoolArea"
## [73] "PoolQC"        "Fence"         "MiscFeature"   "MiscVal"
## [77] "MoSold"        "YrSold"        "SaleType"      "SaleCondition"
## [81] "SalePrice"
```

```
#drop ID column

train <- train[,-c(1)]
head(train)
```

```
##   MSSubClass MSZoning LotFrontage LotArea Street Alley LotShape LandContour
## 1         60       RL          65    8450   Pave  <NA>      Reg         Lvl
## 2         20       RL          80    9600   Pave  <NA>      Reg         Lvl
## 3         60       RL          68   11250   Pave  <NA>      IR1         Lvl
## 4         70       RL          60    9550   Pave  <NA>      IR1         Lvl
## 5         60       RL          84   14260   Pave  <NA>      IR1         Lvl
## 6         50       RL          85   14115   Pave  <NA>      IR1         Lvl
##   Utilities LotConfig LandSlope Neighborhood Condition1 Condition2 BldgType
## 1    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 2    AllPub       FR2       Gtl      Veenker      Feedr       Norm     1Fam
## 3    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 4    AllPub    Corner       Gtl      Crawfor       Norm       Norm     1Fam
## 5    AllPub       FR2       Gtl      NoRidge       Norm       Norm     1Fam
## 6    AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
##   HouseStyle OverallQual OverallCond YearBuilt YearRemodAdd RoofStyle RoofMatl
## 1     2Story           7           5      2003         2003     Gable  CompShg
## 2     1Story           6           8      1976         1976     Gable  CompShg
## 3     2Story           7           5      2001         2002     Gable  CompShg
## 4     2Story           7           5      1915         1970     Gable  CompShg
## 5     2Story           8           5      2000         2000     Gable  CompShg
## 6     1.5Fin           5           5      1993         1995     Gable  CompShg
##   Exterior1st Exterior2nd MasVnrType MasVnrArea ExterQual ExterCond Foundation
## 1     VinylSd     VinylSd    BrkFace        196        Gd        TA      PConc
## 2     MetalSd     MetalSd       None          0        TA        TA     CBlock
## 3     VinylSd     VinylSd    BrkFace        162        Gd        TA      PConc
## 4     Wd Sdng     Wd Shng       None          0        TA        TA     BrkTil
## 5     VinylSd     VinylSd    BrkFace        350        Gd        TA      PConc
## 6     VinylSd     VinylSd       None          0        TA        TA       Wood
##   BsmtQual BsmtCond BsmtExposure BsmtFinType1 BsmtFinSF1 BsmtFinType2
## 1       Gd       TA           No          GLQ        706          Unf
## 2       Gd       TA           Gd          ALQ        978          Unf
## 3       Gd       TA           Mn          GLQ        486          Unf
## 4       TA       Gd           No          ALQ        216          Unf
## 5       Gd       TA           Av          GLQ        655          Unf
## 6       Gd       TA           No          GLQ        732          Unf
##   BsmtFinSF2 BsmtUnfSF TotalBsmtSF Heating HeatingQC CentralAir Electrical
## 1          0       150         856    GasA        Ex          Y      SBrkr
## 2          0       284        1262    GasA        Ex          Y      SBrkr
## 3          0       434         920    GasA        Ex          Y      SBrkr
## 4          0       540         756    GasA        Gd          Y      SBrkr
## 5          0       490        1145    GasA        Ex          Y      SBrkr
## 6          0        64         796    GasA        Ex          Y      SBrkr
##   X1stFlrSF X2ndFlrSF LowQualFinSF GrLivArea BsmtFullBath BsmtHalfBath FullBath
## 1       856       854            0      1710            1            0        2
## 2      1262         0            0      1262            0            1        2
## 3       920       866            0      1786            1            0        2
## 4       961       756            0      1717            1            0        1
## 5      1145      1053            0      2198            1            0        2
## 6       796       566            0      1362            1            0        1
##   HalfBath BedroomAbvGr KitchenAbvGr KitchenQual TotRmsAbvGrd Functional
## 1        1            3            1          Gd            8        Typ
## 2        0            3            1          TA            6        Typ
## 3        1            3            1          Gd            6        Typ
## 4        0            3            1          Gd            7        Typ
```

```
## 5        1            4            1          Gd            9        Typ
## 6        1            1            1          TA            5        Typ
##   Fireplaces FireplaceQu GarageType GarageYrBlt GarageFinish GarageCars
## 1          0        <NA>     Attchd        2003          RFn          2
## 2          1          TA     Attchd        1976          RFn          2
## 3          1          TA     Attchd        2001          RFn          2
## 4          1          Gd     Detchd        1998          Unf          3
## 5          1          TA     Attchd        2000          RFn          3
## 6          0        <NA>     Attchd        1993          Unf          2
##   GarageArea GarageQual GarageCond PavedDrive WoodDeckSF OpenPorchSF
## 1        548         TA         TA          Y          0          61
## 2        460         TA         TA          Y        298           0
## 3        608         TA         TA          Y          0          42
## 4        642         TA         TA          Y          0          35
## 5        836         TA         TA          Y        192          84
## 6        480         TA         TA          Y         40          30
##   EnclosedPorch X3SsnPorch ScreenPorch PoolArea PoolQC Fence MiscFeature
## 1             0          0           0        0   <NA>  <NA>        <NA>
## 2             0          0           0        0   <NA>  <NA>        <NA>
## 3             0          0           0        0   <NA>  <NA>        <NA>
## 4           272          0           0        0   <NA>  <NA>        <NA>
## 5             0          0           0        0   <NA>  <NA>        <NA>
## 6             0        320           0        0   <NA> MnPrv        Shed
##   MiscVal MoSold YrSold SaleType SaleCondition SalePrice
## 1       0      2   2008       WD        Normal    208500
## 2       0      5   2007       WD        Normal    181500
## 3       0      9   2008       WD        Normal    223500
## 4       0      2   2006       WD       Abnorml    140000
## 5       0     12   2008       WD        Normal    250000
## 6     700     10   2009       WD        Normal    143000
```

```
colnames(train)
```

```
##  [1] "MSSubClass"    "MSZoning"      "LotFrontage"   "LotArea"
##  [5] "Street"        "Alley"         "LotShape"      "LandContour"
##  [9] "Utilities"     "LotConfig"     "LandSlope"     "Neighborhood"
## [13] "Condition1"    "Condition2"    "BldgType"      "HouseStyle"
## [17] "OverallQual"   "OverallCond"   "YearBuilt"     "YearRemodAdd"
## [21] "RoofStyle"     "RoofMatl"      "Exterior1st"   "Exterior2nd"
## [25] "MasVnrType"    "MasVnrArea"    "ExterQual"     "ExterCond"
## [29] "Foundation"    "BsmtQual"      "BsmtCond"      "BsmtExposure"
## [33] "BsmtFinType1"  "BsmtFinSF1"    "BsmtFinType2"  "BsmtFinSF2"
## [37] "BsmtUnfSF"     "TotalBsmtSF"   "Heating"       "HeatingQC"
## [41] "CentralAir"    "Electrical"    "X1stFlrSF"     "X2ndFlrSF"
## [45] "LowQualFinSF"  "GrLivArea"     "BsmtFullBath"  "BsmtHalfBath"
## [49] "FullBath"      "HalfBath"      "BedroomAbvGr"  "KitchenAbvGr"
## [53] "KitchenQual"   "TotRmsAbvGrd"  "Functional"    "Fireplaces"
## [57] "FireplaceQu"   "GarageType"    "GarageYrBlt"   "GarageFinish"
## [61] "GarageCars"    "GarageArea"    "GarageQual"    "GarageCond"
## [65] "PavedDrive"    "WoodDeckSF"    "OpenPorchSF"   "EnclosedPorch"
## [69] "X3SsnPorch"    "ScreenPorch"   "PoolArea"      "PoolQC"
## [73] "Fence"         "MiscFeature"   "MiscVal"       "MoSold"
## [77] "YrSold"        "SaleType"      "SaleCondition" "SalePrice"
```

- Missing Value

```
#Check for missing values
colSums(is.na(train))
```

```
##    MSSubClass      MSZoning   LotFrontage       LotArea        Street
##             0             0           259             0             0
##         Alley      LotShape   LandContour     Utilities     LotConfig
##          1369             0             0             0             0
##     LandSlope  Neighborhood    Condition1    Condition2      BldgType
##             0             0             0             0             0
##    HouseStyle   OverallQual   OverallCond     YearBuilt  YearRemodAdd
##             0             0             0             0             0
##     RoofStyle      RoofMatl   Exterior1st   Exterior2nd    MasVnrType
##             0             0             0             0             8
##    MasVnrArea     ExterQual     ExterCond    Foundation      BsmtQual
##             8             0             0             0            37
##      BsmtCond  BsmtExposure  BsmtFinType1    BsmtFinSF1  BsmtFinType2
##            37            38            37             0            38
##    BsmtFinSF2     BsmtUnfSF   TotalBsmtSF       Heating     HeatingQC
##             0             0             0             0             0
##    CentralAir    Electrical     X1stFlrSF     X2ndFlrSF  LowQualFinSF
##             0             1             0             0             0
##     GrLivArea  BsmtFullBath  BsmtHalfBath      FullBath      HalfBath
##             0             0             0             0             0
##  BedroomAbvGr  KitchenAbvGr   KitchenQual  TotRmsAbvGrd    Functional
##             0             0             0             0             0
##    Fireplaces   FireplaceQu    GarageType   GarageYrBlt  GarageFinish
##             0           690            81            81            81
##    GarageCars    GarageArea    GarageQual    GarageCond    PavedDrive
##             0             0            81            81             0
##    WoodDeckSF   OpenPorchSF EnclosedPorch    X3SsnPorch   ScreenPorch
##             0             0             0             0             0
##      PoolArea        PoolQC         Fence   MiscFeature       MiscVal
##             0          1453          1179          1406             0
##        MoSold        YrSold      SaleType SaleCondition     SalePrice
##             0             0             0             0             0
```

```
#Check null rows in the basement columns

cols_to_check <- c("BsmtQual","BsmtCond","BsmtExposure",  "BsmtFinType1","BsmtFinType2")

# Check for NA in those specific columns
na_in_columns <- apply(train[cols_to_check], 1, function(row) any(is.na(row)))

# Display rows where any of the specified columns have NA values
train[na_in_columns, ]
```

```
##      MSSubClass MSZoning LotFrontage LotArea Street Alley LotShape LandContour
## 18           90       RL          72   10791   Pave  <NA>      Reg         Lvl
## 40           90       RL          65    6040   Pave  <NA>      Reg         Lvl
## 91           20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 103          90       RL          64    7018   Pave  <NA>      Reg         Bnk
```

```
## 157          20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 183          20       RL          60    9060   Pave  <NA>      Reg         Lvl
## 260          20       RM          70   12702   Pave  <NA>      Reg         Lvl
## 333          20       RL          85   10655   Pave  <NA>      IR1         Lvl
## 343          90       RL          NA    8544   Pave  <NA>      Reg         Lvl
## 363          85       RL          64    7301   Pave  <NA>      Reg         Lvl
## 372          50       RL          80   17120   Pave  <NA>      Reg         Lvl
## 393          20       RL          NA    8339   Pave  <NA>      IR1         Lvl
## 521         190       RL          60   10800   Pave  Grvl      Reg         Lvl
## 533          20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 534          20       RL          50    5000   Pave  <NA>      Reg         Low
## 554          20       RL          67    8777   Pave  <NA>      Reg         Lvl
## 647          20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 706         190       RM          70    5600   Pave  <NA>      Reg         Lvl
## 737          90       RL          60    8544   Pave  <NA>      Reg         Lvl
## 750          50       RL          50    8405   Pave  <NA>      Reg         Lvl
## 779          90       RH          60    8400   Pave  <NA>      Reg         Lvl
## 869          60       RL          NA   14762   Pave  <NA>      IR2         Lvl
## 895          90       RL          64    7018   Pave  <NA>      Reg         Bnk
## 898          90       RL          64    7018   Pave  <NA>      Reg         Lvl
## 949          60       RL          65   14006   Pave  <NA>      IR1         Lvl
## 985          90       RL          75   10125   Pave  <NA>      Reg         Lvl
## 1001         20       RL          74   10206   Pave  <NA>      Reg         Lvl
## 1012         90       RL          75    9825   Pave  <NA>      Reg         Lvl
## 1036         20       RL          NA   11500   Pave  <NA>      IR1         Lvl
## 1046         20       RL          NA   13680   Pave  <NA>      IR1         Lvl
## 1049         20       RL         100   21750   Pave  <NA>      Reg         Lvl
## 1050         20       RL          60   11100   Pave  <NA>      Reg         Low
## 1091         90       RL          60    8544   Pave  <NA>      Reg         Lvl
## 1180         20       RL          77    8335   Pave  <NA>      Reg         Lvl
## 1217         90       RM          68    8930   Pave  <NA>      Reg         Lvl
## 1219         50       RM          52    6240   Pave  <NA>      Reg         Lvl
## 1233         90       RL          70    9842   Pave  <NA>      Reg         Lvl
## 1322         20       RL          NA    6627   Pave  <NA>      IR1         Lvl
## 1413         90       RL          60    7200   Pave  <NA>      Reg         Lvl
##      Utilities LotConfig LandSlope Neighborhood Condition1 Condition2 BldgType
## 18      AllPub    Inside       Gtl       Sawyer       Norm       Norm   Duplex
## 40      AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 91      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 103     AllPub    Inside       Gtl      SawyerW       Norm       Norm   Duplex
## 157     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 183     AllPub    Inside       Gtl      Edwards     Artery       Norm     1Fam
## 260     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 333     AllPub    Inside       Gtl      NridgHt       Norm       Norm     1Fam
## 343     AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 363     AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 372     AllPub    Inside       Gtl      ClearCr      Feedr       Norm     1Fam
## 393     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 521     AllPub    Inside       Gtl      OldTown       Norm       Norm   2fmCon
## 533     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 534     AllPub    Inside       Mod      BrkSide       Norm       Norm     1Fam
## 554     AllPub    Inside       Gtl      Edwards      Feedr       Norm     1Fam
## 647     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 706     AllPub    Inside       Gtl       IDOTRR       Norm       Norm   2fmCon
```

```
## 737     AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 750     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 779     AllPub    Inside       Gtl      SawyerW      Feedr       Norm   Duplex
## 869     AllPub    Corner       Gtl      Gilbert      Feedr       Norm     1Fam
## 895     AllPub    Inside       Gtl      SawyerW       Norm       Norm   Duplex
## 898     AllPub    Inside       Gtl      SawyerW      Feedr       Norm   Duplex
## 949     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 985     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 1001    AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 1012    AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 1036    AllPub   CulDSac       Gtl      Edwards       Norm       Norm     1Fam
## 1046    AllPub   CulDSac       Gtl      Edwards       Norm       Norm     1Fam
## 1049    AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 1050    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1091    AllPub    Corner       Gtl        NAmes       Norm       Norm   Duplex
## 1180    AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 1217    AllPub    Inside       Gtl       Sawyer       RRAe       Norm   Duplex
## 1219    AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 1233    AllPub       FR2       Gtl        NAmes       Norm       Norm   Duplex
## 1322    AllPub    Corner       Gtl      BrkSide      Feedr       Norm     1Fam
## 1413    AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
##      HouseStyle OverallQual OverallCond YearBuilt YearRemodAdd RoofStyle
## 18       1Story           4           5      1967         1967     Gable
## 40       1Story           4           5      1955         1955     Gable
## 91       1Story           4           5      1950         1950     Gable
## 103      1Story           5           5      1979         1979     Gable
## 157      1Story           5           7      1950         1950       Hip
## 183      1Story           5           6      1957         2006       Hip
## 260      1Story           5           5      1956         1956     Gable
## 333      1Story           8           5      2003         2004     Gable
## 343      1Story           3           4      1949         1950     Gable
## 363      SFoyer           7           5      2003         2003     Gable
## 372      1.5Fin           4           4      1959         1959     Gable
## 393      1Story           5           7      1959         1959     Gable
## 521      2Story           4           7      1900         2000     Gable
## 533      1Story           5           7      1955         2007     Gable
## 534      1Story           1           3      1946         1950     Gable
## 554      1Story           4           5      1949         2003     Gable
## 647      1Story           5           5      1950         1950       Hip
## 706      2Story           4           5      1930         1950       Hip
## 737      1Story           3           4      1950         1950     Gable
## 750      1.5Fin           4           3      1945         1950     Gable
## 779      1Story           5           5      1977         1977     Gable
## 869      2Story           5           6      1948         1950     Gable
## 895      1Story           5           5      1979         1979     Gable
## 898      2Story           5           5      1979         1979     Gable
## 949      2Story           7           5      2002         2002     Gable
## 985      1.5Fin           5           5      1977         1977     Gable
## 1001     1Story           3           3      1952         1952      Flat
## 1012     1Story           5           5      1965         1965       Hip
## 1036     1Story           4           3      1957         1957     Gable
## 1046     1Story           3           5      1955         1955       Hip
## 1049     1Story           5           4      1960         2006       Hip
## 1050     1Story           4           7      1946         2006     Gable
```

```
## 1091     1Story           3           4      1950         1950     Gable
## 1180     1Story           5           5      1954         1954     Gable
## 1217     1.5Fin           6           5      1978         1978     Gable
## 1219     1.5Fin           4           5      1947         1950     Gable
## 1233     1Story           4           5      1962         1962     Gable
## 1322     1Story           3           6      1949         1950       Hip
## 1413     1Story           4           5      1949         1950     Gable
##      RoofMatl Exterior1st Exterior2nd MasVnrType MasVnrArea ExterQual ExterCond
## 18    CompShg     MetalSd     MetalSd       None          0        TA        TA
## 40    CompShg     AsbShng     Plywood       None          0        TA        TA
## 91    CompShg     BrkFace     Wd Sdng       None          0        TA        TA
## 103   CompShg     HdBoard     HdBoard       None          0        TA        Fa
## 157   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 183   CompShg     Wd Sdng     Wd Sdng    BrkFace         98        TA        TA
## 260   CompShg     BrkFace     BrkFace       None          0        TA        TA
## 333   CompShg     VinylSd     VinylSd    BrkFace        296        Gd        TA
## 343   CompShg      Stucco      Stucco    BrkFace        340        TA        TA
## 363   CompShg     HdBoard     HdBoard    BrkFace        500        Gd        TA
## 372   CompShg     WdShing     Plywood       None          0        TA        TA
## 393   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 521   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 533   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 534   CompShg     VinylSd     VinylSd       None          0        Fa        Fa
## 554   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 647   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 706   CompShg     VinylSd     Wd Shng       None          0        Fa        Fa
## 737   CompShg      Stucco       Stone       None          0        TA        TA
## 750   CompShg     WdShing     Wd Shng       None          0        TA        TA
## 779   CompShg     Plywood     Plywood    BrkFace        320        TA        TA
## 869   CompShg     Plywood     Plywood       None          0        TA        TA
## 895   CompShg     Plywood     Plywood       None          0        TA        TA
## 898   CompShg     Plywood     Plywood       None          0        TA        TA
## 949   CompShg     VinylSd     VinylSd    BrkFace        144        Gd        TA
## 985   CompShg     Plywood     Plywood       None          0        TA        TA
## 1001  Tar&Grv     BrkComm     Brk Cmn       None          0        TA        TA
## 1012  CompShg     AsphShn     AsphShn       None          0        TA        TA
## 1036  CompShg     Wd Sdng     Wd Sdng       None          0        TA        Gd
## 1046  CompShg     BrkFace     Wd Sdng       None          0        TA        TA
## 1049  CompShg     HdBoard     HdBoard    BrkFace         75        TA        Fa
## 1050  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1091  CompShg     BrkFace     BrkFace       None          0        TA        TA
## 1180  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1217  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1219  CompShg     AsbShng     AsbShng       None          0        TA        TA
## 1233  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1322  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1413  CompShg     BrkFace       Stone       None          0        TA        TA
##      Foundation BsmtQual BsmtCond BsmtExposure BsmtFinType1 BsmtFinSF1
## 18         Slab     <NA>     <NA>         <NA>         <NA>          0
## 40        PConc     <NA>     <NA>         <NA>         <NA>          0
## 91         Slab     <NA>     <NA>         <NA>         <NA>          0
## 103        Slab     <NA>     <NA>         <NA>         <NA>          0
## 157      CBlock     <NA>     <NA>         <NA>         <NA>          0
## 183       PConc     <NA>     <NA>         <NA>         <NA>          0
```

```
## 260       PConc     <NA>     <NA>         <NA>         <NA>          0
## 333       PConc       Gd       TA           No          GLQ       1124
## 343        Slab     <NA>     <NA>         <NA>         <NA>          0
## 363        Slab     <NA>     <NA>         <NA>         <NA>          0
## 372      CBlock     <NA>     <NA>         <NA>         <NA>          0
## 393        Slab     <NA>     <NA>         <NA>         <NA>          0
## 521      BrkTil     <NA>     <NA>         <NA>         <NA>          0
## 533        Slab     <NA>     <NA>         <NA>         <NA>          0
## 534        Slab     <NA>     <NA>         <NA>         <NA>          0
## 554      CBlock     <NA>     <NA>         <NA>         <NA>          0
## 647      CBlock     <NA>     <NA>         <NA>         <NA>          0
## 706        Slab     <NA>     <NA>         <NA>         <NA>          0
## 737      CBlock     <NA>     <NA>         <NA>         <NA>          0
## 750        Slab     <NA>     <NA>         <NA>         <NA>          0
## 779        Slab     <NA>     <NA>         <NA>         <NA>          0
## 869        Slab     <NA>     <NA>         <NA>         <NA>          0
## 895        Slab     <NA>     <NA>         <NA>         <NA>          0
## 898        Slab     <NA>     <NA>         <NA>         <NA>          0
## 949       PConc       Gd       TA         <NA>          Unf          0
## 985      CBlock     <NA>     <NA>         <NA>         <NA>          0
## 1001       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1012     CBlock     <NA>     <NA>         <NA>         <NA>          0
## 1036       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1046       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1049       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1050     CBlock     <NA>     <NA>         <NA>         <NA>          0
## 1091       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1180       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1217       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1219       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1233       Slab     <NA>     <NA>         <NA>         <NA>          0
## 1322     CBlock     <NA>     <NA>         <NA>         <NA>          0
## 1413       Slab     <NA>     <NA>         <NA>         <NA>          0
##      BsmtFinType2 BsmtFinSF2 BsmtUnfSF TotalBsmtSF Heating HeatingQC CentralAir
## 18           <NA>          0         0           0    GasA        TA          Y
## 40           <NA>          0         0           0    GasA        TA          N
## 91           <NA>          0         0           0    GasA        TA          Y
## 103          <NA>          0         0           0    GasA        TA          Y
## 157          <NA>          0         0           0    GasA        TA          Y
## 183          <NA>          0         0           0    GasA        Ex          Y
## 260          <NA>          0         0           0    GasA        Gd          Y
## 333          <NA>        479      1603        3206    GasA        Ex          Y
## 343          <NA>          0         0           0    Wall        Fa          N
## 363          <NA>          0         0           0    GasA        Ex          Y
## 372          <NA>          0         0           0    GasA        TA          Y
## 393          <NA>          0         0           0    GasA        TA          Y
## 521          <NA>          0         0           0    GasA        TA          N
## 533          <NA>          0         0           0    GasA        Ex          Y
## 534          <NA>          0         0           0    GasA        Fa          N
## 554          <NA>          0         0           0    GasA        Ex          Y
## 647          <NA>          0         0           0    GasA        Gd          Y
## 706          <NA>          0         0           0    GasA        Fa          N
## 737          <NA>          0         0           0    GasA        Gd          N
## 750          <NA>          0         0           0    Wall        TA          N
```

```
## 779          <NA>          0         0           0    GasA        TA          Y
## 869          <NA>          0         0           0    GasA        Gd          Y
## 895          <NA>          0         0           0    GasA        TA          Y
## 898          <NA>          0         0           0    GasA        TA          Y
## 949           Unf          0       936         936    GasA        Ex          Y
## 985          <NA>          0         0           0    GasA        TA          Y
## 1001         <NA>          0         0           0    GasW        Fa          N
## 1012         <NA>          0         0           0    GasA        TA          N
## 1036         <NA>          0         0           0    GasA        Ex          N
## 1046         <NA>          0         0           0    GasA        Ex          Y
## 1049         <NA>          0         0           0    GasA        TA          Y
## 1050         <NA>          0         0           0    GasA        Ex          Y
## 1091         <NA>          0         0           0    Wall        Fa          N
## 1180         <NA>          0         0           0    GasA        Gd          Y
## 1217         <NA>          0         0           0    GasA        TA          Y
## 1219         <NA>          0         0           0    GasA        Gd          N
## 1233         <NA>          0         0           0    GasA        TA          Y
## 1322         <NA>          0         0           0   Floor        TA          N
## 1413         <NA>          0         0           0    Wall        Fa          N
##      Electrical X1stFlrSF X2ndFlrSF LowQualFinSF GrLivArea BsmtFullBath
## 18        SBrkr      1296         0            0      1296            0
## 40        FuseP      1152         0            0      1152            0
## 91        FuseA      1040         0            0      1040            0
## 103       SBrkr      1535         0            0      1535            0
## 157       FuseF      1040         0            0      1040            0
## 183       SBrkr      1340         0            0      1340            0
## 260       FuseA       882         0            0       882            0
## 333       SBrkr      1629         0            0      1629            1
## 343       FuseA      1040         0            0      1040            0
## 363       SBrkr       495      1427            0      1922            0
## 372       SBrkr      1120       468            0      1588            0
## 393       SBrkr       882         0            0       882            0
## 521       FuseA       694       600            0      1294            0
## 533       SBrkr       827         0            0       827            0
## 534       FuseF       334         0            0       334            0
## 554       SBrkr      1126         0            0      1126            0
## 647       SBrkr      1048         0            0      1048            0
## 706       SBrkr       372       720            0      1092            0
## 737       FuseF      1040         0            0      1040            0
## 750       FuseF      1088       441            0      1529            0
## 779       SBrkr      2020         0            0      2020            0
## 869       SBrkr      1547       720           53      2320            0
## 895       SBrkr      1535         0            0      1535            0
## 898       SBrkr      1120      1120            0      2240            0
## 949       SBrkr       936       840            0      1776            0
## 985       SBrkr      1302       432            0      1734            0
## 1001      FuseF       944         0            0       944            0
## 1012      SBrkr      1664         0            0      1664            0
## 1036      SBrkr       845         0            0       845            0
## 1046      FuseA      1733         0            0      1733            0
## 1049      SBrkr      1771         0            0      1771            0
## 1050      SBrkr       930         0            0       930            0
## 1091      FuseA      1040         0            0      1040            0
## 1180      SBrkr      1124         0            0      1124            0
```

```
## 1217      SBrkr      1318       584            0      1902            0
## 1219      SBrkr       672       240            0       912            0
## 1233      SBrkr      1224         0            0      1224            0
## 1322      SBrkr       720         0            0       720            0
## 1413      FuseF      1040         0            0      1040            0
##      BsmtHalfBath FullBath HalfBath BedroomAbvGr KitchenAbvGr KitchenQual
## 18              0        2        0            2            2          TA
## 40              0        2        0            2            2          Fa
## 91              0        1        0            2            1          TA
## 103             0        2        0            4            2          TA
## 157             0        1        0            2            1          TA
## 183             0        1        0            3            1          TA
## 260             0        1        0            2            1          TA
## 333             0        2        0            3            1          Gd
## 343             0        2        0            2            2          TA
## 363             0        3        0            4            1          Gd
## 372             0        2        0            4            1          TA
## 393             0        1        0            3            1          TA
## 521             0        2        0            3            2          TA
## 533             0        1        0            2            1          TA
## 534             0        1        0            1            1          Fa
## 554             0        2        0            2            1          Gd
## 647             0        1        0            3            1          TA
## 706             0        2        0            3            2          Fa
## 737             0        2        0            2            2          TA
## 750             0        2        0            4            1          TA
## 779             0        2        0            4            2          TA
## 869             0        2        0            2            1          TA
## 895             0        2        0            4            2          TA
## 898             0        2        0            6            2          TA
## 949             0        2        1            3            1          Gd
## 985             0        2        0            4            2          Gd
## 1001            0        1        0            2            1          Fa
## 1012            0        2        0            4            2          TA
## 1036            0        1        0            3            1          TA
## 1046            0        2        0            4            1          TA
## 1049            0        1        0            3            1          TA
## 1050            0        1        0            2            1          Gd
## 1091            0        2        0            2            2          TA
## 1180            0        1        0            3            1          TA
## 1217            0        2        0            4            2          TA
## 1219            0        1        0            2            1          TA
## 1233            0        2        0            2            2          TA
## 1322            0        1        0            2            1          TA
## 1413            0        2        0            2            2          TA
##      TotRmsAbvGrd Functional Fireplaces FireplaceQu GarageType GarageYrBlt
## 18              6        Typ          0        <NA>    CarPort        1967
## 40              6        Typ          0        <NA>       <NA>          NA
## 91              4        Typ          0        <NA>     Detchd        1950
## 103             8        Typ          0        <NA>     Attchd        1979
## 157             5        Typ          0        <NA>     Detchd        1950
## 183             7        Typ          1          Gd     Attchd        1957
## 260             4        Typ          0        <NA>     Detchd        1956
## 333             7        Typ          1          Gd     Attchd        2003
```

```
## 343              6        Typ           0        <NA>     Detchd        1949
## 363              7        Typ           1          Ex    BuiltIn        2003
## 372              7       Min2           1          Gd     Detchd        1991
## 393              5        Typ           0        <NA>     Attchd        1959
## 521              7        Typ           0        <NA>       <NA>          NA
## 533              5        Mod           1          Po     Detchd        1967
## 534              2        Typ           0        <NA>       <NA>          NA
## 554              5        Typ           0        <NA>     Detchd        2002
## 647              7       Min1           0        <NA>     Detchd        1950
## 706              7        Mod           0        <NA>       <NA>          NA
## 737              6        Typ           0        <NA>     Detchd        1949
## 750              9        Mod           0        <NA>     Detchd        1945
## 779             10        Typ           2          TA     Detchd        1977
## 869              7        Typ           1          TA     Attchd        1979
## 895              8        Typ           0        <NA>     Attchd        1979
## 898             12        Typ           0        <NA>     Detchd        1979
## 949              7        Typ           1          TA     Attchd        2002
## 985              8        Typ           0        <NA>     Attchd        1977
## 1001             4       Min1           0        <NA>     Detchd        1956
## 1012             8        Typ           0        <NA>       <NA>          NA
## 1036             5        Typ           0        <NA>     Detchd        1957
## 1046             8       Min2           1          Gd     Attchd        1955
## 1049             9       Min1           1          TA     Attchd        1960
## 1050             6        Typ           0        <NA>     Detchd        1946
## 1091             6        Typ           0        <NA>     Detchd        1987
## 1180             5       Min2           1          Gd       <NA>          NA
## 1217             8        Typ           0        <NA>     Attchd        1978
## 1219             3        Typ           0        <NA>       <NA>          NA
## 1233             6        Typ           0        <NA>    CarPort        1962
## 1322             4        Typ           0        <NA>     Detchd        1955
## 1413             6        Typ           0        <NA>     Detchd        1956
##      GarageFinish GarageCars GarageArea GarageQual GarageCond PavedDrive
## 18            Unf          2        516         TA         TA          Y
## 40           <NA>          0          0       <NA>       <NA>          N
## 91            Unf          2        420         TA         TA          Y
## 103           Unf          2        410         TA         TA          Y
## 157           Unf          2        625         TA         TA          Y
## 183           RFn          1        252         TA         TA          Y
## 260           Unf          1        308         TA         TA          Y
## 333           RFn          3        880         TA         TA          Y
## 343           Unf          2        400         TA         TA          Y
## 363           RFn          2        672         TA         TA          Y
## 372           Fin          2        680         TA         TA          N
## 393           RFn          1        294         TA         TA          Y
## 521          <NA>          0          0       <NA>       <NA>          N
## 533           Unf          1        392         TA         TA          Y
## 534          <NA>          0          0       <NA>       <NA>          N
## 554           Fin          2        520         TA         TA          N
## 647           Unf          2        420         TA         TA          Y
## 706          <NA>          0          0       <NA>       <NA>          N
## 737           Unf          2        400         TA         TA          Y
## 750           Unf          1        240         TA         TA          N
## 779           Unf          2        630         TA         TA          Y
## 869           Unf          2        672         TA         TA          P
```

```
## 895          Unf          2        400         TA         TA          Y
## 898          Unf          2        528         TA         TA          Y
## 949          RFn          2        474         TA         TA          Y
## 985          Unf          2        539         TA         TA          Y
## 1001         Unf          2        528         TA         Fa          Y
## 1012        <NA>          0          0       <NA>       <NA>          Y
## 1036         Unf          1        290         TA         TA          N
## 1046         Unf          2        452         TA         TA          Y
## 1049         Unf          2        336         TA         TA          Y
## 1050         Unf          1        308         TA         TA          Y
## 1091         Unf          2        400         TA         TA          Y
## 1180        <NA>          0          0       <NA>       <NA>          N
## 1217         Unf          2        539         TA         TA          Y
## 1219        <NA>          0          0       <NA>       <NA>          N
## 1233         Unf          2        462         TA         TA          Y
## 1322         Unf          1        287         TA         Fa          Y
## 1413         Unf          2        420         TA         TA          Y
##      WoodDeckSF OpenPorchSF EnclosedPorch X3SsnPorch ScreenPorch PoolArea
## 18            0          0             0          0           0        0
## 40            0          0             0          0           0        0
## 91            0         29             0          0           0        0
## 103           0          0             0          0           0        0
## 157           0          0             0          0           0        0
## 183         116          0             0        180           0        0
## 260           0         45             0          0           0        0
## 333           0          0             0          0           0        0
## 343           0          0             0          0           0        0
## 363           0          0           177          0           0        0
## 372           0         59             0          0           0        0
## 393           0          0             0          0           0        0
## 521         220        114           210          0           0        0
## 533           0          0             0          0           0        0
## 534           0          0             0          0           0        0
## 554           0         96             0          0           0        0
## 647           0         27             0          0           0        0
## 706           0          0             0          0           0        0
## 737           0          0             0          0           0        0
## 750          92          0           185          0           0        0
## 779           0          0             0          0           0        0
## 869         120        144             0          0           0        0
## 895           0          0             0          0           0        0
## 898         154          0             0          0           0        0
## 949         144         96             0          0           0        0
## 985           0          0             0          0           0        0
## 1001          0          0             0          0           0        0
## 1012          0          0             0          0           0        0
## 1036        186          0             0          0           0        0
## 1046          0          0             0          0           0        0
## 1049          0          0             0          0           0        0
## 1050          0          0             0          0           0        0
## 1091          0          0             0          0           0        0
## 1180          0         36           190          0           0        0
## 1217          0          0             0          0           0        0
## 1219          0          0             0          0           0        0
```

```
## 1233          0           0            0          0           0        0
## 1322          0           0            0          0           0        0
## 1413          0           0            0          0           0        0
##      PoolQC Fence MiscFeature MiscVal MoSold YrSold SaleType SaleCondition
## 18     <NA>  <NA>        Shed     500     10   2006       WD        Normal
## 40     <NA>  <NA>        <NA>       0      6   2008       WD       AdjLand
## 91     <NA>  <NA>        <NA>       0      7   2006       WD        Normal
## 103    <NA>  <NA>        <NA>       0      6   2009       WD        Alloca
## 157    <NA>  <NA>        <NA>       0      6   2006       WD        Normal
## 183    <NA> MnPrv        <NA>       0      6   2007       WD        Normal
## 260    <NA>  <NA>        <NA>       0     12   2008       WD        Normal
## 333    <NA>  <NA>        <NA>       0     10   2009       WD        Normal
## 343    <NA>  <NA>        <NA>       0      5   2006       WD        Normal
## 363    <NA>  <NA>        <NA>       0      7   2009    ConLD        Normal
## 372    <NA>  <NA>        <NA>       0      7   2008       WD        Normal
## 393    <NA> MnPrv        Shed    1200      7   2007       WD        Normal
## 521    <NA>  <NA>        <NA>       0      8   2008       WD        Normal
## 533    <NA>  <NA>        <NA>       0      4   2010       WD        Normal
## 534    <NA>  <NA>        <NA>       0      1   2007       WD        Normal
## 554    <NA> MnPrv        <NA>       0      5   2009       WD        Normal
## 647    <NA>  <NA>        <NA>       0      7   2008       WD        Normal
## 706    <NA>  <NA>        Othr    3500      7   2010       WD        Normal
## 737    <NA>  <NA>        <NA>       0      7   2006       WD        Normal
## 750    <NA>  <NA>        <NA>       0      4   2009       WD        Normal
## 779    <NA>  <NA>        <NA>       0     10   2007       WD        Normal
## 869    <NA>  <NA>        <NA>       0      5   2006       WD        Normal
## 895    <NA>  <NA>        <NA>       0      6   2009       WD        Alloca
## 898    <NA>  <NA>        <NA>       0      6   2009       WD        Alloca
## 949    <NA>  <NA>        <NA>       0      2   2006       WD        Normal
## 985    <NA>  <NA>        <NA>       0      8   2009      COD        Normal
## 1001   <NA>  <NA>        <NA>       0      7   2009       WD        Normal
## 1012   <NA>  <NA>        <NA>       0      5   2010       WD        Normal
## 1036   <NA>  <NA>        <NA>       0      1   2009       WD        Normal
## 1046   <NA>  <NA>        <NA>       0      6   2009       WD        Normal
## 1049   <NA> GdPrv        <NA>       0     11   2009       WD        Normal
## 1050   <NA>  <NA>        <NA>       0      4   2010       WD       Abnorml
## 1091   <NA>  <NA>        <NA>       0      6   2009       WD        Normal
## 1180   <NA>  <NA>        <NA>       0      4   2006       WD        Normal
## 1217   <NA>  <NA>        <NA>       0      4   2010       WD        Normal
## 1219   <NA>  <NA>        <NA>       0      7   2006       WD        Normal
## 1233   <NA>  <NA>        <NA>       0      3   2007       WD        Normal
## 1322   <NA>  <NA>        <NA>       0      7   2008       WD        Normal
## 1413   <NA>  <NA>        <NA>       0      6   2009       WD        Normal
##      SalePrice
## 18       90000
## 40       82000
## 91      109900
## 103     118964
## 157     109500
## 183     120000
## 260      97000
## 333     284000
## 343      87500
## 363     198500
```

```
## 372     134432
## 393     106500
## 521     106250
## 533     107500
## 534      39300
## 554     108000
## 647      98300
## 706      55000
## 737      93500
## 750      98000
## 779     144000
## 869     169000
## 895     118858
## 898     142953
## 949     192500
## 985     126000
## 1001     82000
## 1012    100000
## 1036     84000
## 1046    139600
## 1049    115000
## 1050     84900
## 1091     92900
## 1180     93000
## 1217    112000
## 1219     80500
## 1233    101800
## 1322     72500
## 1413     90000
```

```r
#Handle missing data for the basement value.

#Most have the same number of missing values except BSMT exposure and BSMT FinType2.For BSMT FintType2 

# Change the value from NA to "No" in bsmt Exposure
train[949, 32] <- "No"

# Replace NA with "No basement" in the specified columns
train[, cols_to_check] <- lapply(train[, cols_to_check], function(col) {
  col[is.na(col)] <- "No basement"
  return(col)
})

colSums(is.na(train[30:35]))
```

```
##     BsmtQual     BsmtCond BsmtExposure BsmtFinType1   BsmtFinSF1 BsmtFinType2 
##            0            0            0            0            0            0
```

```r
#Fireplace
#Check null rows in the fireplace columns

cols_2 <- c("Fireplaces","FireplaceQu")
```

```r
# Check for NA in those specific columns
na_cols2 <- apply(train[cols_2], 1, function(row) any(is.na(row)))

# Display rows where any of the specified columns have NA values
train[na_cols2, ]
```

```
##      MSSubClass MSZoning LotFrontage LotArea Street Alley LotShape LandContour
## 1            60       RL          65    8450   Pave  <NA>      Reg         Lvl
## 6            50       RL          85   14115   Pave  <NA>      IR1         Lvl
## 11           20       RL          70   11200   Pave  <NA>      Reg         Lvl
## 13           20       RL          NA   12968   Pave  <NA>      IR2         Lvl
## 16           45       RM          51    6120   Pave  <NA>      Reg         Lvl
## 18           90       RL          72   10791   Pave  <NA>      Reg         Lvl
## 19           20       RL          66   13695   Pave  <NA>      Reg         Lvl
## 20           20       RL          70    7560   Pave  <NA>      Reg         Lvl
## 27           20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 30           30       RM          60    6324   Pave  <NA>      IR1         Lvl
## 31           70  C (all)          50    8500   Pave  Pave      Reg         Lvl
## 32           20       RL          NA    8544   Pave  <NA>      IR1         Lvl
## 33           20       RL          85   11049   Pave  <NA>      Reg         Lvl
## 37           20       RL         112   10859   Pave  <NA>      Reg         Lvl
## 39           20       RL          68    7922   Pave  <NA>      Reg         Lvl
## 40           90       RL          65    6040   Pave  <NA>      Reg         Lvl
## 43           85       RL          NA    9180   Pave  <NA>      IR1         Lvl
## 44           20       RL          NA    9200   Pave  <NA>      IR1         Lvl
## 45           20       RL          70    7945   Pave  <NA>      Reg         Lvl
## 48           20       FV          84   11096   Pave  <NA>      Reg         Lvl
## 49          190       RM          33    4456   Pave  <NA>      Reg         Lvl
## 50           20       RL          66    7742   Pave  <NA>      Reg         Lvl
## 51           60       RL          NA   13869   Pave  <NA>      IR2         Lvl
## 53           90       RM         110    8472   Grvl  <NA>      IR2         Bnk
## 57          160       FV          24    2645   Pave  Pave      Reg         Lvl
## 58           60       RL          89   11645   Pave  <NA>      IR1         Lvl
## 60           20       RL          60    7200   Pave  <NA>      Reg         Bnk
## 61           20       RL          63   13072   Pave  <NA>      Reg         Lvl
## 62           75       RM          60    7200   Pave  <NA>      Reg         Lvl
## 64           70       RM          50   10300   Pave  <NA>      IR1         Bnk
## 65           60       RL          NA    9375   Pave  <NA>      Reg         Lvl
## 68           20       RL          72   10665   Pave  <NA>      IR1         Lvl
## 69           30       RM          47    4608   Pave  <NA>      Reg         Lvl
## 72           20       RL          69    7599   Pave  <NA>      Reg         Lvl
## 74           20       RL          85   10200   Pave  <NA>      Reg         Lvl
## 75           50       RM          60    5790   Pave  <NA>      Reg         Lvl
## 76          180       RM          21    1596   Pave  <NA>      Reg         Lvl
## 77           20       RL          NA    8475   Pave  <NA>      IR1         Lvl
## 78           50       RM          50    8635   Pave  <NA>      Reg         Lvl
## 79           90       RL          72   10778   Pave  <NA>      Reg         Lvl
## 80           50       RM          60   10440   Pave  Grvl      Reg         Lvl
## 82          120       RM          32    4500   Pave  <NA>      Reg         Lvl
## 84           20       RL          80    8892   Pave  <NA>      IR1         Lvl
## 88          160       FV          40    3951   Pave  Pave      Reg         Lvl
## 89           50  C (all)         105    8470   Pave  <NA>      IR1         Lvl
## 90           20       RL          60    8070   Pave  <NA>      Reg         Lvl
```

```
## 91          20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 92          20       RL          85    8500   Pave  <NA>      Reg         Lvl
## 93          30       RL          80   13360   Pave  Grvl      IR1         HLS
## 95          60       RL          69    9337   Pave  <NA>      IR1         Lvl
## 97          20       RL          78   10264   Pave  <NA>      IR1         Lvl
## 98          20       RL          73   10921   Pave  <NA>      Reg         HLS
## 99          30       RL          85   10625   Pave  <NA>      Reg         Lvl
## 100         20       RL          77    9320   Pave  <NA>      IR1         Lvl
## 103         90       RL          64    7018   Pave  <NA>      Reg         Bnk
## 104         20       RL          94   10402   Pave  <NA>      IR1         Lvl
## 107         30       RM          60   10800   Pave  Grvl      Reg         Lvl
## 108         20       RM          50    6000   Pave  <NA>      Reg         Lvl
## 109         50       RM          85    8500   Pave  <NA>      Reg         Lvl
## 111         50       RL          75    9525   Pave  <NA>      Reg         Lvl
## 118         20       RL          74    8536   Pave  <NA>      Reg         Lvl
## 122         50       RM          50    6060   Pave  <NA>      Reg         Lvl
## 123         20       RL          75    9464   Pave  <NA>      Reg         Lvl
## 124        120       RL          55    7892   Pave  <NA>      Reg         Lvl
## 126        190       RM          60    6780   Pave  <NA>      Reg         Lvl
## 130         20       RL          69    8973   Pave  <NA>      Reg         Lvl
## 133         20       RL          75    7388   Pave  <NA>      Reg         Lvl
## 134         20       RL          NA    6853   Pave  <NA>      IR1         Lvl
## 138         90       RL          82   11070   Pave  <NA>      Reg         Lvl
## 140         60       RL          65   15426   Pave  <NA>      IR1         Lvl
## 142         20       RL          78   11645   Pave  <NA>      Reg         Lvl
## 143         50       RL          71    8520   Pave  <NA>      Reg         Lvl
## 144         20       RL          78   10335   Pave  <NA>      IR1         Lvl
## 145         90       RM          70    9100   Pave  <NA>      Reg         Lvl
## 146        160       RM          24    2522   Pave  <NA>      Reg         Lvl
## 147         30       RM          51    6120   Pave  <NA>      Reg         Lvl
## 149         20       RL          63    7500   Pave  <NA>      Reg         Lvl
## 150         50       RM          NA    6240   Pave  <NA>      Reg         Lvl
## 151         20       RL         120   10356   Pave  <NA>      Reg         Lvl
## 155         30       RM          84   11340   Pave  <NA>      Reg         Lvl
## 156         50       RL          60    9600   Pave  <NA>      Reg         Lvl
## 157         20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 161         20       RL          NA   11120   Pave  <NA>      IR1         Lvl
## 164         45       RL          55    5500   Pave  <NA>      Reg         Lvl
## 165         40       RM          40    5400   Pave  Pave      Reg         Lvl
## 166        190       RL          62   10106   Pave  <NA>      Reg         Lvl
## 171         50       RM          NA   12358   Pave  <NA>      IR1         Lvl
## 180         30       RM          60    8520   Pave  <NA>      Reg         Lvl
## 184         50       RM          63   11426   Pave  <NA>      Reg         Lvl
## 185         50       RL          92    7438   Pave  <NA>      IR1         Lvl
## 187         80       RL          NA    9947   Pave  <NA>      IR1         Lvl
## 188         50       RL          60   10410   Pave  <NA>      Reg         Lvl
## 192         60       RL          NA    7472   Pave  <NA>      IR1         Lvl
## 193         20       RL          68    9017   Pave  <NA>      IR1         Lvl
## 194        160       RM          24    2522   Pave  <NA>      Reg         Lvl
## 195         20       RL          60    7180   Pave  <NA>      IR1         Lvl
## 199         75       RM          92    5520   Pave  <NA>      Reg         Lvl
## 201         20       RM          80    8546   Pave  <NA>      Reg         Lvl
## 203         50       RL          50    7000   Pave  <NA>      Reg         Lvl
## 205         50       RM          50    3500   Pave  Grvl      Reg         Lvl
```

```
## 206          20       RL          99    11851   Pave  <NA>      Reg         Lvl
## 210          20       RL          75     8250   Pave  <NA>      Reg         Lvl
## 211          30       RL          67     5604   Pave  <NA>      Reg         Lvl
## 212          20       RL          83    10420   Pave  <NA>      Reg         Lvl
## 214          20       RL          43    13568   Pave  <NA>      IR2         Lvl
## 215          60       RL          NA    10900   Pave  <NA>      IR1         Lvl
## 217          20       RL          65     8450   Pave  <NA>      Reg         Lvl
## 218          70       RM          57     9906   Pave  Grvl      Reg         Lvl
## 220         120       RL          43     3010   Pave  <NA>      Reg         Lvl
## 221          20       RL          73     8990   Pave  <NA>      IR1         Lvl
## 224          20       RL          70    10500   Pave  <NA>      Reg         Lvl
## 226         160       RM          21     1680   Pave  <NA>      Reg         Lvl
## 228         160       RM          21     1869   Pave  <NA>      Reg         Lvl
## 231          20       RL          73     8760   Pave  <NA>      Reg         Lvl
## 234          20       RL          75    10650   Pave  <NA>      Reg         Lvl
## 236         160       RM          21     1680   Pave  <NA>      Reg         Lvl
## 237          20       RL          65     8773   Pave  <NA>      Reg         Lvl
## 238          60       RL          NA     9453   Pave  <NA>      IR1         Lvl
## 239          20       RL          93    12030   Pave  <NA>      Reg         Lvl
## 241          20       FV          75     9000   Pave  <NA>      Reg         Lvl
## 242          30       RM          40     3880   Pave  <NA>      Reg         Lvl
## 243          50       RM          63     5000   Pave  <NA>      Reg         Lvl
## 247         190       RM          69     9142   Pave  Grvl      Reg         Lvl
## 249          60       RL          72    11317   Pave  <NA>      Reg         Lvl
## 251          30       RL          55     5350   Pave  <NA>      IR1         Lvl
## 253          60       RL          65     8366   Pave  <NA>      IR1         Lvl
## 254          80       RL          85     9350   Pave  <NA>      Reg         Lvl
## 255          20       RL          70     8400   Pave  <NA>      Reg         Lvl
## 257          60       FV          64     8791   Pave  <NA>      IR1         Lvl
## 260          20       RM          70    12702   Pave  <NA>      Reg         Lvl
## 264          50       RM          50     5500   Pave  <NA>      Reg         Lvl
## 265          30       RM          30     5232   Pave  Grvl      IR3         Bnk
## 275          20       RL          76     8314   Pave  <NA>      Reg         Lvl
## 276          50       RL          55     7264   Pave  <NA>      Reg         Lvl
## 277          20       RL         129     9196   Pave  <NA>      IR1         Lvl
## 278          20       RL         140    19138   Pave  <NA>      Reg         Lvl
## 282          20       FV          60     7200   Pave  Pave      Reg         Lvl
## 285         120       RL          50     8012   Pave  <NA>      Reg         Lvl
## 286         160       FV          35     4251   Pave  Pave      IR1         Lvl
## 288          20       RL          NA     8125   Pave  <NA>      IR1         Lvl
## 289          20       RL          NA     9819   Pave  <NA>      IR1         Lvl
## 290          70       RL          60     8730   Pave  <NA>      Reg         Lvl
## 292         190       RL          55     5687   Pave  Grvl      Reg         Bnk
## 296          80       RL          37     7937   Pave  <NA>      IR1         Lvl
## 297          50       RM          75    13710   Pave  <NA>      Reg         Lvl
## 304          20       RL          70     9800   Pave  <NA>      Reg         Lvl
## 306          20       RL          80    10386   Pave  <NA>      Reg         Lvl
## 308          50       RM          NA     7920   Pave  Grvl      IR1         Lvl
## 309          30       RL          NA    12342   Pave  <NA>      IR1         Lvl
## 321          60       RL         111    16259   Pave  <NA>      Reg         Lvl
## 324          20       RM          49     5820   Pave  <NA>      Reg         Lvl
## 326          45       RM          50     5000   Pave  <NA>      Reg         Lvl
## 328          20       RL          80    11600   Pave  <NA>      Reg         Lvl
## 329          75       RL          NA    11888   Pave  Pave      IR1         Bnk
```

```
## 330          70       RM          60    6402   Pave  <NA>      Reg         Lvl
## 331          90       RL          NA   10624   Pave  <NA>      IR1         Lvl
## 332          20       RL          70    8176   Pave  <NA>      Reg         Lvl
## 338          20       RL          70    9135   Pave  <NA>      Reg         Lvl
## 339          20       RL          91   14145   Pave  <NA>      Reg         Lvl
## 340          20       RL          66   12400   Pave  <NA>      IR1         Lvl
## 341          60       RL          85   14191   Pave  <NA>      Reg         Lvl
## 342          20       RH          60    8400   Pave  <NA>      Reg         Lvl
## 343          90       RL          NA    8544   Pave  <NA>      Reg         Lvl
## 345         160       RM          36    2592   Pave  <NA>      Reg         Lvl
## 347          20       RL          NA   12772   Pave  <NA>      IR1         Lvl
## 349         160       RL          36    2448   Pave  <NA>      Reg         Lvl
## 353          50       RL          60    9084   Pave  <NA>      Reg         Lvl
## 354          30       RM          60    8520   Pave  <NA>      Reg         Lvl
## 356          20       RL         105   11249   Pave  <NA>      IR2         Lvl
## 357          20       RL          NA    9248   Pave  <NA>      IR1         Lvl
## 359          80       RL          92    6930   Pave  <NA>      IR1         Lvl
## 362          50       RL          NA    9144   Pave  Pave      Reg         Lvl
## 364         160       RM          21    1680   Pave  <NA>      Reg         Lvl
## 366          70       RM          59   10690   Pave  <NA>      Reg         Lvl
## 373         120       RL          50    7175   Pave  <NA>      Reg         Lvl
## 374          20       RL          79   10634   Pave  <NA>      Reg         Lvl
## 376          30       RL          NA   10020   Pave  <NA>      IR1         Low
## 377          85       RL          57    8846   Pave  <NA>      IR1         Lvl
## 383          60       RL          79    9245   Pave  <NA>      IR1         Lvl
## 384          45       RH          60    9000   Pave  <NA>      Reg         Lvl
## 387          50       RL          58    8410   Pave  <NA>      Reg         Lvl
## 389          20       RL          93    9382   Pave  <NA>      IR1         Lvl
## 391          50       RL          50    8405   Pave  Grvl      Reg         Lvl
## 393          20       RL          NA    8339   Pave  <NA>      IR1         Lvl
## 395          50       RL          60   10134   Pave  <NA>      Reg         Lvl
## 396          20       RL          68    9571   Pave  <NA>      Reg         Lvl
## 397          20       RL          60    7200   Pave  <NA>      Reg         Low
## 399          30       RM          60    8967   Pave  <NA>      Reg         Lvl
## 400          60       FV          65    8125   Pave  <NA>      Reg         Lvl
## 403          30       RL          60   10200   Pave  <NA>      Reg         Lvl
## 407          50       RL          51   10480   Pave  <NA>      Reg         Lvl
## 408          70       RL          63   15576   Pave  <NA>      Reg         Lvl
## 411          20       RL          68    9571   Pave  <NA>      Reg         Lvl
## 412         190       RL         100   34650   Pave  <NA>      Reg         Bnk
## 416          20       RL          73    8899   Pave  <NA>      IR1         Lvl
## 419          50       RL          60    8160   Pave  <NA>      Reg         Lvl
## 421          90       RM          78    7060   Pave  <NA>      Reg         Lvl
## 423          20       RL         100   21750   Pave  <NA>      Reg         HLS
## 428          20       RL          77    8593   Pave  <NA>      IR1         Lvl
## 429          20       RL          64    6762   Pave  <NA>      Reg         Lvl
## 431         160       RM          21    1680   Pave  <NA>      Reg         Lvl
## 432          50       RM          60    5586   Pave  <NA>      IR1         Bnk
## 433         160       RM          24    1920   Pave  <NA>      Reg         Lvl
## 435         180       RM          21    1890   Pave  <NA>      Reg         Lvl
## 437          50       RM          40    4400   Pave  <NA>      Reg         Lvl
## 438          45       RM          50    6000   Pave  <NA>      Reg         Lvl
## 440          50       RL          67   12354   Pave  Grvl      Reg         Lvl
## 442          90       RL          92   12108   Pave  <NA>      Reg         Lvl
```

```
## 450          50       RM          50    6000   Pave  <NA>      Reg         Lvl
## 451          30       RM          70    5684   Pave  <NA>      Reg         Lvl
## 453          60       RL          NA    9303   Pave  <NA>      IR1         Lvl
## 454          60       FV          75    9000   Pave  <NA>      Reg         Lvl
## 455          90       RL          63    9297   Pave  <NA>      Reg         Lvl
## 457          70       RM          34    4571   Pave  Grvl      Reg         Lvl
## 461          60       FV          75    8004   Pave  <NA>      IR1         Lvl
## 462          70       RL          60    7200   Pave  <NA>      Reg         Lvl
## 465          20       RL          60    8430   Pave  <NA>      Reg         HLS
## 470          60       RL          76    9291   Pave  <NA>      IR1         Lvl
## 471         120       RL          NA    6820   Pave  <NA>      IR1         Lvl
## 473         180       RM          35    3675   Pave  <NA>      Reg         Lvl
## 475         120       RL          41    5330   Pave  <NA>      Reg         Lvl
## 476          20       RL          80    8480   Pave  <NA>      Reg         Lvl
## 480          30       RM          50    5925   Pave  <NA>      Reg         Bnk
## 484         120       RM          32    4500   Pave  <NA>      Reg         Lvl
## 485          20       RL          NA    7758   Pave  <NA>      IR1         Lvl
## 487          20       RL          79   10289   Pave  <NA>      Reg         Lvl
## 490         180       RM          21    1526   Pave  <NA>      Reg         Lvl
## 493          60       RL         105   15578   Pave  <NA>      IR1         Lvl
## 495          30       RM          50    5784   Pave  <NA>      Reg         Lvl
## 496          30  C (all)          60    7879   Pave  <NA>      Reg         Lvl
## 498          50       RL          60    9120   Pave  Pave      Reg         Lvl
## 499          20       RL          65    7800   Pave  <NA>      Reg         Lvl
## 500          20       RL          70    7535   Pave  <NA>      IR1         Lvl
## 501         160       RM          21    1890   Pave  <NA>      Reg         Lvl
## 502          60       FV          75    9803   Pave  <NA>      Reg         Lvl
## 503          20       RL          70    9170   Pave  <NA>      Reg         Lvl
## 506          90       RM          60    7596   Pave  Grvl      Reg         Lvl
## 508          20       FV          75    7862   Pave  <NA>      IR1         Lvl
## 510          20       RL          80    9600   Pave  <NA>      Reg         Lvl
## 513          20       RL          70    9100   Pave  <NA>      Reg         Lvl
## 514          20       RL          71    9187   Pave  <NA>      Reg         Bnk
## 515          45       RL          55   10594   Pave  <NA>      Reg         Lvl
## 519          60       RL          NA    9531   Pave  <NA>      IR1         Lvl
## 521         190       RL          60   10800   Pave  Grvl      Reg         Lvl
## 527          20       RL          70   13300   Pave  <NA>      Reg         Lvl
## 529          30       RL          58    9098   Pave  <NA>      IR1         Lvl
## 532          70       RM          60    6155   Pave  <NA>      IR1         Lvl
## 534          20       RL          50    5000   Pave  <NA>      Reg         Low
## 536         190       RL          70    7000   Pave  <NA>      Reg         Lvl
## 537          60       RL          57    8924   Pave  <NA>      IR1         Lvl
## 538          20       RL          NA   12735   Pave  <NA>      IR1         Lvl
## 544         120       RH          34    4058   Pave  <NA>      Reg         Lvl
## 546          50       RL          NA   13837   Pave  <NA>      IR1         Lvl
## 548          85       RL          54    7244   Pave  <NA>      Reg         Lvl
## 549          20       RM          49    8235   Pave  <NA>      IR1         HLS
## 551         120       RL          53    4043   Pave  <NA>      Reg         Lvl
## 552          20       RM          50    6000   Pave  <NA>      Reg         Lvl
## 554          20       RL          67    8777   Pave  <NA>      Reg         Lvl
## 558          50  C (all)          60   11040   Pave  <NA>      Reg         Low
## 566          70       RL          66    6858   Pave  <NA>      Reg         Bnk
## 568          20       RL          70   10171   Pave  <NA>      IR1         Lvl
## 571          90       RL          74   13101   Pave  <NA>      IR1         Lvl
```

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## 572          20       RL          60    7332   Pave  <NA>      Reg         Lvl
## 573          60       RL          83   13159   Pave  <NA>      IR1         HLS
## 575          80       RL          70   10500   Pave  <NA>      Reg         Lvl
## 576          50       RL          80    8480   Pave  <NA>      Reg         Lvl
## 579         160       FV          34    3604   Pave  Pave      Reg         Lvl
## 580          50       RM          81   12150   Pave  Grvl      Reg         Lvl
## 583          90       RL          81   11841   Grvl  <NA>      Reg         Lvl
## 585          50       RM          51    6120   Pave  <NA>      Reg         Lvl
## 587          30       RL          55   10267   Pave  <NA>      Reg         Lvl
## 588          85       RL          74    8740   Pave  <NA>      IR1         Lvl
## 590          40       RM          50    9100   Pave  <NA>      Reg         Lvl
## 591          60       RL          64    8320   Pave  <NA>      Reg         Lvl
## 593          20       RL          60    6600   Pave  <NA>      Reg         Lvl
## 594         120       RM          NA    4435   Pave  <NA>      Reg         Lvl
## 595          20       RL          88    7990   Pave  <NA>      IR1         Lvl
## 597          70       RM          60    3600   Pave  Grvl      Reg         Lvl
## 604         160       FV          30    3182   Pave  Pave      Reg         Lvl
## 607          20       RL          82   12464   Pave  <NA>      IR2         Low
## 608          20       RL          78    7800   Pave  <NA>      Reg         Bnk
## 610          20       RL          61    7943   Pave  <NA>      Reg         Lvl
## 614          20       RL          70    8402   Pave  <NA>      Reg         Lvl
## 615         180       RM          21    1491   Pave  <NA>      Reg         Lvl
## 616          85       RL          80    8800   Pave  <NA>      Reg         Lvl
## 618          45       RL          59    7227   Pave  <NA>      Reg         HLS
## 621          30       RL          45    8248   Pave  Grvl      Reg         Lvl
## 623          20       RL          71    7064   Pave  <NA>      Reg         Lvl
## 626          20       RL          87   10000   Pave  <NA>      IR1         Lvl
## 630          80       RL          82    9020   Pave  <NA>      Reg         Lvl
## 631          70       RM          50    9000   Pave  Grvl      Reg         Lvl
## 634          20       RL          80    9250   Pave  <NA>      Reg         Lvl
## 635          90       RL          64    6979   Pave  <NA>      Reg         Lvl
## 636         190       RH          60   10896   Pave  Pave      Reg         Bnk
## 638         190       RM          50    6000   Pave  <NA>      Reg         Lvl
## 639          30       RL          67    8777   Pave  <NA>      Reg         Lvl
## 644          60       RL          80   10793   Pave  <NA>      Reg         Lvl
## 646          20       RL          NA   10530   Pave  <NA>      IR1         Lvl
## 647          20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 650         180       RM          21    1936   Pave  <NA>      Reg         Lvl
## 651          60       FV          65    8125   Pave  <NA>      Reg         Lvl
## 654          50       RM          60   10320   Pave  Grvl      Reg         Lvl
## 656         160       RM          21    1680   Pave  <NA>      Reg         Lvl
## 657          20       RL          72   10007   Pave  <NA>      IR1         Lvl
## 660          20       RL          75    9937   Pave  <NA>      Reg         Lvl
## 664          85       RL          90   10012   Pave  <NA>      Reg         Lvl
## 671          60       RL          64    8633   Pave  <NA>      Reg         Lvl
## 672          70       RH          54    6629   Pave  <NA>      Reg         Lvl
## 677          70       RM          60    9600   Pave  Grvl      Reg         Lvl
## 678          30       RL          52    9022   Pave  <NA>      Reg         Lvl
## 680          20       RL          NA    9945   Pave  <NA>      IR1         Lvl
## 682          50       RH          55    4500   Pave  Pave      IR2         Bnk
## 685          60       RL          58   16770   Pave  <NA>      IR2         Lvl
## 687          60       FV          84   10207   Pave  <NA>      Reg         Lvl
## 688         160       FV          NA    5105   Pave  <NA>      IR2         Lvl
## 694          30       RL          60    5400   Pave  <NA>      Reg         Lvl
```

```
## 695          50       RM          51    6120   Pave  <NA>      Reg         Lvl
## 697          30       RM          50    6000   Pave  <NA>      Reg         Lvl
## 698          20       RL          57    6420   Pave  <NA>      IR1         Lvl
## 700         120       FV          59    4282   Pave  Pave      IR2         Lvl
## 702          20       RL          80    9600   Pave  <NA>      Reg         Lvl
## 705          20       RL          70    8400   Pave  <NA>      Reg         Lvl
## 706         190       RM          70    5600   Pave  <NA>      Reg         Lvl
## 710          20       RL          NA    7162   Pave  <NA>      IR1         Lvl
## 711          30       RL          56    4130   Pave  <NA>      IR1         Lvl
## 712          50  C (all)          66    8712   Pave  Pave      Reg         HLS
## 714         190       RL          60    9873   Pave  <NA>      Reg         Lvl
## 715          60       RL          NA   13517   Pave  <NA>      IR1         Lvl
## 717          70       RM          60   10800   Pave  Grvl      Reg         Bnk
## 722         120       RM          NA    4426   Pave  <NA>      Reg         Lvl
## 723          20       RL          70    8120   Pave  <NA>      Reg         Lvl
## 724          50       RL          60    8172   Pave  <NA>      Reg         Lvl
## 726          20       RL          60    6960   Pave  <NA>      Reg         Lvl
## 728          20       RL          64    7314   Pave  <NA>      Reg         Lvl
## 729          90       RL          85   11475   Pave  <NA>      Reg         Lvl
## 730          30       RM          52    6240   Pave  Grvl      Reg         Lvl
## 735          20       RL          NA    8978   Pave  <NA>      IR1         Lvl
## 737          90       RL          60    8544   Pave  <NA>      Reg         Lvl
## 739          90       RL          60   10800   Pave  <NA>      Reg         Lvl
## 740          60       RL          65    9313   Pave  <NA>      IR1         Lvl
## 741          70       RM          60    9600   Pave  Grvl      Reg         Lvl
## 742          20       RL          65    6768   Pave  <NA>      IR1         Lvl
## 743          20       RL          65    8450   Pave  <NA>      Reg         Lvl
## 750          50       RL          50    8405   Pave  <NA>      Reg         Lvl
## 751          50       RM          55    8800   Pave  Grvl      Reg         Lvl
## 752          60       RL          NA    7750   Pave  <NA>      Reg         Lvl
## 753          20       RL          79    9236   Pave  <NA>      IR1         Lvl
## 755          20       RL          61    7930   Pave  <NA>      Reg         Lvl
## 756         160       FV          34    3230   Pave  Pave      Reg         Lvl
## 757          60       RL          68   10769   Pave  <NA>      IR1         Lvl
## 759         160       FV          24    2280   Pave  Pave      Reg         Lvl
## 761          20       RL          70    9100   Pave  <NA>      Reg         Lvl
## 762          30       RM          60    6911   Pave  <NA>      Reg         Lvl
## 763          60       FV          72    8640   Pave  <NA>      Reg         Lvl
## 768          50       RL          75   12508   Pave  <NA>      IR1         Lvl
## 771          85       RL          NA    7252   Pave  <NA>      IR1         Lvl
## 772          20       RL          67    8877   Pave  <NA>      Reg         Lvl
## 774          20       RL          70   10150   Pave  <NA>      Reg         Lvl
## 776         120       RM          32    4500   Pave  <NA>      Reg         Lvl
## 777          20       RL          86   11210   Pave  <NA>      IR1         Lvl
## 780          90       RL          78   10530   Pave  <NA>      Reg         Lvl
## 782          60       RL          65    7153   Pave  <NA>      Reg         Lvl
## 783          20       RL          67   16285   Pave  <NA>      IR2         Lvl
## 787          50       RM          60   10800   Pave  <NA>      Reg         Lvl
## 788          60       RL          76   10142   Pave  <NA>      IR1         Lvl
## 789          20       RM          50    6000   Pave  <NA>      Reg         Lvl
## 790          60       RL          NA   12205   Pave  <NA>      IR1         Low
## 794          20       RL          76    9158   Pave  <NA>      Reg         Lvl
## 798          20       RL          57    7677   Pave  <NA>      Reg         Lvl
## 801          60       RL          79   12798   Pave  <NA>      IR1         HLS
```

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## 802          30       RM          40    4800   Pave  <NA>      Reg         Lvl
## 805          20       RL          75    9000   Pave  <NA>      Reg         Lvl
## 806          20       RL          91   12274   Pave  <NA>      IR1         Lvl
## 807          80       RL          75    9750   Pave  <NA>      Reg         Lvl
## 810          75       RM          90    8100   Pave  <NA>      Reg         Lvl
## 813          20  C (all)          66    8712   Grvl  <NA>      Reg         Bnk
## 814          20       RL          75    9750   Pave  <NA>      Reg         Lvl
## 815          50       RL          45    8248   Pave  Grvl      Reg         Lvl
## 816          20       RL          48   12137   Pave  <NA>      IR2         Lvl
## 819          80       RL          80    8816   Pave  <NA>      Reg         Lvl
## 821          60       RL          72    7226   Pave  <NA>      IR1         Lvl
## 822          20       RM          60    6000   Pave  Pave      Reg         Bnk
## 827          45       RM          50    6130   Pave  <NA>      Reg         Lvl
## 829          60       RL          NA   28698   Pave  <NA>      IR2         Low
## 830         160       FV          24    2544   Pave  Pave      Reg         Lvl
## 832         160       FV          30    3180   Pave  Pave      Reg         Lvl
## 834          20       RL         100   10004   Pave  <NA>      Reg         Lvl
## 835          20       RL          75    7875   Pave  <NA>      Reg         Lvl
## 836          20       RL          60    9600   Pave  <NA>      Reg         Lvl
## 837          30       RM          90    8100   Pave  Pave      Reg         Lvl
## 838         160       RM          21    1680   Pave  <NA>      Reg         Lvl
## 839          20       RL          75    9525   Pave  <NA>      Reg         Lvl
## 840          50       RL          70   11767   Pave  <NA>      Reg         Lvl
## 841          70       RH          NA   12155   Pave  <NA>      IR1         Lvl
## 843          80       RL          82    9020   Pave  <NA>      Reg         Lvl
## 844          90       RL          80    8000   Pave  <NA>      Reg         Lvl
## 851         120       RM          36    4435   Pave  <NA>      Reg         Lvl
## 856          20       RL          NA    6897   Pave  <NA>      IR1         Lvl
## 857          80       RL          NA   10970   Pave  <NA>      IR1         Low
## 862         190       RL          75   11625   Pave  <NA>      Reg         Lvl
## 863          20       RL          81    9672   Pave  <NA>      Reg         Lvl
## 864          20       RL          70    7931   Pave  <NA>      Reg         Lvl
## 865          20       FV          72    8640   Pave  <NA>      Reg         Lvl
## 866          20       RL          NA    8750   Pave  <NA>      IR1         Lvl
## 868          20       RL          85    6970   Pave  <NA>      Reg         Lvl
## 871          20       RL          60    6600   Pave  <NA>      Reg         Lvl
## 872          60       RL          70    8750   Pave  <NA>      Reg         Lvl
## 873          20       RL          74    8892   Pave  <NA>      Reg         Lvl
## 875          50       RM          52    5720   Pave  <NA>      Reg         Lvl
## 877          20       RL          94   25286   Pave  <NA>      Reg         HLS
## 879          85       RL          88   11782   Pave  <NA>      IR1         Lvl
## 880          20       RL          NA    7000   Pave  <NA>      IR1         Lvl
## 881          20       RL          60    7024   Pave  <NA>      Reg         Lvl
## 884          75       RL          60    6204   Pave  <NA>      Reg         Bnk
## 885          20       RL          65    7150   Pave  <NA>      Reg         Lvl
## 887          90       RL          70    8393   Pave  <NA>      Reg         Lvl
## 888          50       RL          59   16466   Pave  <NA>      IR1         Lvl
## 893          20       RL          70    8414   Pave  <NA>      Reg         Lvl
## 895          90       RL          64    7018   Pave  <NA>      Reg         Bnk
## 897          30       RM          50    8765   Pave  Grvl      Reg         Lvl
## 898          90       RL          64    7018   Pave  <NA>      Reg         Lvl
## 901          20       RL          NA    7340   Pave  <NA>      IR1         Lvl
## 902          20       RL          64    8712   Pave  <NA>      IR1         Lvl
## 905          20       RL          NA    6173   Pave  <NA>      IR1         Lvl
```

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## 906          20       RL          80    9920   Pave  <NA>      Reg         Lvl
## 909          20       RL          NA    8885   Pave  <NA>      IR1         Low
## 911          90       RL          80   11600   Pave  <NA>      Reg         Lvl
## 912          20       RL          NA    9286   Pave  <NA>      IR1         Lvl
## 913          30       RM          51    6120   Pave  <NA>      Reg         Lvl
## 914          90       RH          82    6270   Pave  <NA>      Reg         HLS
## 915         160       FV          30    3000   Pave  Pave      Reg         Lvl
## 916         160       RM          21    2001   Pave  <NA>      Reg         Lvl
## 917          20  C (all)          50    9000   Pave  <NA>      Reg         Lvl
## 918          20       RL          NA   17140   Pave  <NA>      Reg         Lvl
## 921          60       RL          70    8462   Pave  <NA>      IR1         Lvl
## 922          90       RL          67    8777   Pave  <NA>      Reg         Lvl
## 926          20       RL          NA   15611   Pave  <NA>      IR1         Lvl
## 931          20       RL          73    8925   Pave  <NA>      IR1         HLS
## 932          20       RL          70    9100   Pave  <NA>      Reg         Lvl
## 934          20       RL          63    8487   Pave  <NA>      Reg         Lvl
## 936          30       RL          52    5825   Pave  <NA>      IR1         Lvl
## 937          20       RL          67   10083   Pave  <NA>      Reg         Lvl
## 939          60       RL          73    8760   Pave  <NA>      Reg         Lvl
## 941          90       RL          55   12640   Pave  <NA>      IR1         Lvl
## 943          90       RL          42    7711   Pave  <NA>      IR1         Lvl
## 944          90       RL         100   25000   Pave  <NA>      Reg         Low
## 946          50       RM          98    8820   Pave  <NA>      Reg         Lvl
## 951          20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 952          20       RH          60    7800   Pave  <NA>      Reg         Lvl
## 953          85       RL          60    7200   Pave  <NA>      Reg         Lvl
## 955          90       RL          35    9400   Pave  <NA>      IR1         Lvl
## 956          90       RH          82    7136   Pave  <NA>      IR1         HLS
## 958          20       RL          70    7420   Pave  <NA>      Reg         Lvl
## 959          20       RL          65    8450   Pave  <NA>      Reg         Lvl
## 960         160       FV          24    2572   Pave  <NA>      Reg         Lvl
## 961          20       RL          50    7207   Pave  <NA>      IR1         Lvl
## 964          20       RL         122   11923   Pave  <NA>      IR1         Lvl
## 968          20       RL          NA    7390   Pave  <NA>      IR1         Lvl
## 969          50       RM          50    5925   Pave  <NA>      Reg         Lvl
## 970         190       RL          75   10382   Pave  <NA>      Reg         Lvl
## 971          50       RL          60   10800   Pave  <NA>      Reg         Lvl
## 972         160       RL          36    2268   Pave  <NA>      Reg         Lvl
## 974          20       FV          95   11639   Pave  <NA>      Reg         Lvl
## 975          70       RL          60   11414   Pave  <NA>      IR1         Lvl
## 976         160       FV          NA    2651   Pave  <NA>      Reg         Lvl
## 977          30       RL          51    5900   Pave  <NA>      IR1         Bnk
## 978         120       FV          35    4274   Pave  Pave      IR1         Lvl
## 979          20       RL          68    9450   Pave  <NA>      Reg         Bnk
## 980          20       RL          80    8816   Pave  <NA>      Reg         Lvl
## 981          85       RL          NA   12122   Pave  <NA>      IR1         Lvl
## 985          90       RL          75   10125   Pave  <NA>      Reg         Lvl
## 986         190       RL          68   10880   Pave  <NA>      Reg         Lvl
## 987          50       RM          59    5310   Pave  <NA>      Reg         Lvl
## 990          60       FV          65    8125   Pave  <NA>      Reg         Lvl
## 994          60       RL          68    8846   Pave  <NA>      Reg         Lvl
## 996          50       RL          51    4712   Pave  <NA>      IR1         Lvl
## 997          20       RL          NA   10659   Pave  <NA>      IR1         Lvl
## 1000         20       RL          64    6762   Pave  <NA>      Reg         Lvl
```

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## 1001         20       RL          74   10206   Pave  <NA>      Reg         Lvl
## 1002         30       RL          60    5400   Pave  <NA>      Reg         Lvl
## 1004         90       RL          NA   11500   Pave  <NA>      IR1         Lvl
## 1006         80       RL          65    8385   Pave  <NA>      Reg         Lvl
## 1008        160       RM          21    2217   Pave  <NA>      Reg         Lvl
## 1010         50       RL          60    6000   Pave  <NA>      Reg         Lvl
## 1012         90       RL          75    9825   Pave  <NA>      Reg         Lvl
## 1014         30       RM          60    7200   Pave  <NA>      Reg         Lvl
## 1016         60       RL          70    8400   Pave  <NA>      Reg         Lvl
## 1021         20       RL          60    7024   Pave  <NA>      Reg         Lvl
## 1022         20       RL          64    7406   Pave  <NA>      Reg         Lvl
## 1023         50       RM          52    9439   Pave  <NA>      Reg         Lvl
## 1026         20       RL          70    7700   Pave  <NA>      Reg         Lvl
## 1030        160       RM          21    1680   Pave  <NA>      Reg         Lvl
## 1031        190       RH          NA    7082   Pave  <NA>      Reg         Lvl
## 1034         20       RL          NA    8125   Pave  <NA>      Reg         Lvl
## 1036         20       RL          NA   11500   Pave  <NA>      IR1         Lvl
## 1040        180       RM          21    1477   Pave  <NA>      Reg         Lvl
## 1042         60       RL          NA    9130   Pave  <NA>      Reg         Lvl
## 1048         20       RL          57    9245   Pave  <NA>      IR2         Lvl
## 1050         20       RL          60   11100   Pave  <NA>      Reg         Low
## 1051         20       RL          73    8993   Pave  <NA>      IR1         Lvl
## 1061        120       RL          41    4920   Pave  <NA>      Reg         Lvl
## 1062         30  C (all)         120   18000   Grvl  <NA>      Reg         Low
## 1063        190       RM          85   13600   Pave  Grvl      Reg         Lvl
## 1066         60       RL          80   14000   Pave  <NA>      Reg         Lvl
## 1068         60       RL          80    9760   Pave  <NA>      Reg         Lvl
## 1070         45       RL          60    9600   Pave  <NA>      Reg         Lvl
## 1071         20       RL          72   10152   Pave  <NA>      Reg         Lvl
## 1072         60       RL          78   11700   Pave  <NA>      Reg         Lvl
## 1074         60       RL          75    7950   Pave  <NA>      IR1         Bnk
## 1075         20       RL          74    8556   Pave  <NA>      Reg         Lvl
## 1078         20       RL          NA   15870   Pave  <NA>      IR1         Lvl
## 1080         20       RL          65    8775   Pave  <NA>      Reg         Lvl
## 1081         20       RL          80   11040   Pave  <NA>      Reg         Lvl
## 1082         20       RL          75    7500   Pave  <NA>      Reg         Lvl
## 1086         85       RL          73    9069   Pave  <NA>      Reg         Lvl
## 1087        160       RM          NA    1974   Pave  <NA>      Reg         Lvl
## 1089        160       RM          24    2522   Pave  <NA>      Reg         Lvl
## 1091         90       RL          60    8544   Pave  <NA>      Reg         Lvl
## 1092        160       FV          24    2160   Pave  Pave      Reg         Lvl
## 1094         20       RL          71    9230   Pave  <NA>      Reg         Lvl
## 1095         20       RL          74    5868   Pave  <NA>      Reg         Lvl
## 1097         70       RM          60    6882   Pave  <NA>      Reg         Lvl
## 1098        120       RL          NA    3696   Pave  <NA>      Reg         Lvl
## 1099         50       RM          50    6000   Pave  <NA>      Reg         Lvl
## 1101         30       RL          60    8400   Pave  <NA>      Reg         Bnk
## 1102         20       RL          61    9758   Pave  <NA>      IR1         Lvl
## 1103         20       RL          70    7000   Pave  <NA>      Reg         Lvl
## 1105        160       RM          24    2016   Pave  <NA>      Reg         Lvl
## 1113         20       RL          73    7100   Pave  <NA>      IR1         Lvl
## 1114         20       RL          66    8923   Pave  <NA>      Reg         Lvl
## 1115         20       RL          90    5400   Pave  <NA>      Reg         Lvl
## 1118         20       RL          57    9764   Pave  <NA>      IR1         Lvl
```

```
## 1119          80       RL          85   13825   Pave  <NA>      Reg         Lvl
## 1120          20       RL          70    7560   Pave  <NA>      Reg         Lvl
## 1122          20       RL          84   10084   Pave  <NA>      Reg         Lvl
## 1123          20       RL          NA    8926   Pave  <NA>      IR1         Lvl
## 1124          20       RL          50    9405   Pave  <NA>      Reg         Lvl
## 1130          90       RM          60    7200   Pave  Grvl      Reg         Lvl
## 1132          20       RL          63   10712   Pave  <NA>      Reg         Lvl
## 1133          70       RM          90    9900   Pave  <NA>      Reg         Lvl
## 1137          50       RL          80    9600   Pave  <NA>      Reg         Lvl
## 1138          50       RL          54    6342   Pave  <NA>      Reg         Lvl
## 1141          20       RL          60    7350   Pave  <NA>      Reg         Lvl
## 1144          20       RL          NA    9000   Pave  <NA>      Reg         Lvl
## 1145         190       RL          60   12180   Pave  <NA>      Reg         Lvl
## 1150          70       RM          50    9000   Pave  <NA>      Reg         Lvl
## 1154          30       RM          NA    5890   Pave  <NA>      Reg         Lvl
## 1159          20       RL          92   11932   Pave  <NA>      Reg         Lvl
## 1164          90       RL          60   12900   Pave  <NA>      Reg         Lvl
## 1166          20       RL          79    9541   Pave  <NA>      IR1         Lvl
## 1167          20       RL          64   10475   Pave  <NA>      IR1         Lvl
## 1173         160       FV          35    4017   Pave  Pave      IR1         Lvl
## 1177          20       RL          37    6951   Pave  <NA>      IR1         Lvl
## 1178          50       RM          NA    3950   Pave  Grvl      Reg         Bnk
## 1181          60       RL          NA   11170   Pave  <NA>      IR2         Lvl
## 1186          50       RL          60    9738   Pave  <NA>      Reg         Lvl
## 1187         190       RL         107   10615   Pave  <NA>      IR1         Bnk
## 1189          60       RL          68    8935   Pave  <NA>      IR1         Lvl
## 1192         160       FV          24    2645   Pave  Pave      Reg         Lvl
## 1193          50       RM          60    9600   Pave  Grvl      Reg         Lvl
## 1194         120       RM          NA    4500   Pave  <NA>      Reg         Lvl
## 1195          60       RL          80    9364   Pave  <NA>      Reg         Lvl
## 1196          60       RL          51    8029   Pave  <NA>      IR1         Lvl
## 1199          20       RL          70    9100   Pave  <NA>      Reg         Lvl
## 1201          20       RL          71    9353   Pave  <NA>      Reg         Lvl
## 1202          60       RL          80   10400   Pave  <NA>      Reg         Lvl
## 1205          20       RL          78   10140   Pave  <NA>      Reg         Lvl
## 1207          20       RH          NA    8900   Pave  <NA>      Reg         Lvl
## 1208          20       RL          70    9135   Pave  <NA>      Reg         Lvl
## 1209          20       RL          70    7763   Pave  <NA>      Reg         Lvl
## 1212          50       RL         152   12134   Pave  <NA>      IR1         Bnk
## 1213          30       RL          50    9340   Pave  <NA>      Reg         Lvl
## 1214          80       RL          NA   10246   Pave  <NA>      IR1         Lvl
## 1215          85       RL          69   10205   Pave  <NA>      IR1         Lvl
## 1216          20       RL          99    7094   Pave  <NA>      IR1         Lvl
## 1217          90       RM          68    8930   Pave  <NA>      Reg         Lvl
## 1218          20       FV          72    8640   Pave  <NA>      Reg         Lvl
## 1219          50       RM          52    6240   Pave  <NA>      Reg         Lvl
## 1220         160       RM          21    1680   Pave  <NA>      Reg         Lvl
## 1221          20       RL          66    7800   Pave  <NA>      IR1         Lvl
## 1224          20       RL          89   10680   Pave  <NA>      Reg         Lvl
## 1226          80       RL          65   10482   Pave  <NA>      Reg         Lvl
## 1228          20       RL          72    8872   Pave  <NA>      Reg         Lvl
## 1230          80       RL          70    7910   Pave  <NA>      Reg         Lvl
## 1232          90       RL          70    7728   Pave  <NA>      Reg         Lvl
## 1233          90       RL          70    9842   Pave  <NA>      Reg         Lvl
```

```
## 1234         20       RL          NA   12160   Pave  <NA>      IR1         Lvl
## 1235         70       RH          55    8525   Pave  <NA>      Reg         Bnk
## 1236         70       RL          96   13132   Pave  <NA>      Reg         Lvl
## 1237        160       RL          36    2628   Pave  <NA>      Reg         Lvl
## 1239         20       RL          63   13072   Pave  <NA>      Reg         Lvl
## 1241         60       RL          65    8158   Pave  <NA>      Reg         Lvl
## 1242         20       RL          83    9849   Pave  <NA>      Reg         Lvl
## 1247         60       FV          65    8125   Pave  <NA>      Reg         Lvl
## 1248         80       RL          NA   12328   Pave  <NA>      IR1         Lvl
## 1250         20       RL          60    7200   Pave  <NA>      Reg         Lvl
## 1253         20       RL          62    9858   Pave  <NA>      Reg         Lvl
## 1258         30       RL          56    4060   Pave  <NA>      Reg         Lvl
## 1259         80       RL          59    9587   Pave  <NA>      IR1         Lvl
## 1260         20       RL          65    9750   Pave  <NA>      Reg         Lvl
## 1262         20       RL          80    9600   Pave  <NA>      Reg         Lvl
## 1265        120       RH          34    4060   Pave  <NA>      Reg         Lvl
## 1266        160       FV          35    3735   Pave  <NA>      Reg         Lvl
## 1270         50       RL          78   11344   Pave  <NA>      Reg         Lvl
## 1273         20       RL          NA   13526   Pave  <NA>      IR1         Lvl
## 1276         90       RL          95   11345   Pave  <NA>      Reg         Lvl
## 1280         50  C (all)          60    7500   Pave  <NA>      Reg         Lvl
## 1281         20       RL          67    9808   Pave  <NA>      IR1         Lvl
## 1283         20       RL          61    8800   Pave  <NA>      IR1         Lvl
## 1284         90       RL          94    9400   Pave  <NA>      Reg         Low
## 1288         20       RL          NA   36500   Pave  <NA>      IR1         Low
## 1292        160       RM          21    1680   Pave  <NA>      Reg         Lvl
## 1293         70       RM          60    6600   Pave  <NA>      Reg         Lvl
## 1295         20       RL          60    8172   Pave  <NA>      Reg         Lvl
## 1296         20       RL          70    8400   Pave  <NA>      Reg         Lvl
## 1297         20       RL          80    8700   Pave  <NA>      Reg         Lvl
## 1298        180       RM          35    3675   Pave  <NA>      Reg         Lvl
## 1300         20       RL          75    7500   Pave  <NA>      Reg         Lvl
## 1304         20       RL          73    8688   Pave  <NA>      Reg         Lvl
## 1305        160       RM          32    3363   Pave  <NA>      Reg         Lvl
## 1308         20       RL          60    8072   Pave  <NA>      Reg         Lvl
## 1309         20       RM         100   12000   Pave  <NA>      Reg         Lvl
## 1310         20       RL          NA    7153   Pave  <NA>      Reg         Lvl
## 1312         20       RL          68    8814   Pave  <NA>      Reg         Lvl
## 1320         20       RL          75   10215   Pave  <NA>      Reg         Bnk
## 1322         20       RL          NA    6627   Pave  <NA>      IR1         Lvl
## 1324         30       RL          50    5330   Pave  <NA>      Reg         HLS
## 1326         30       RM          40    3636   Pave  <NA>      Reg         Lvl
## 1327         30       RH          70    4270   Pave  <NA>      Reg         Bnk
## 1332         80       RL          55   10780   Pave  <NA>      IR1         Lvl
## 1334         50       RM          60    7200   Pave  <NA>      Reg         Lvl
## 1335        160       RM          24    2368   Pave  <NA>      Reg         Lvl
## 1337         90       RL          87    9246   Pave  <NA>      IR1         Lvl
## 1338         30       RM         153    4118   Pave  Grvl      IR1         Bnk
## 1339         60       RL          95   13450   Pave  <NA>      IR1         Lvl
## 1340         20       RL         120    9560   Pave  <NA>      IR1         Lvl
## 1341         20       RL          70    8294   Pave  <NA>      Reg         Lvl
## 1342         20       RL          66   13695   Pave  <NA>      Reg         Lvl
## 1346         30       RM          50    6000   Pave  <NA>      Reg         Lvl
## 1350         70       RM          50    5250   Pave  Pave      Reg         Lvl
```

```
## 1351         90       RL          91   11643   Pave  <NA>      Reg         Lvl
## 1353         50       RM          50    6000   Pave  <NA>      Reg         Lvl
## 1357         20       RL          NA    9477   Pave  <NA>      Reg         Lvl
## 1359        160       FV          NA    2117   Pave  <NA>      Reg         Lvl
## 1361         70       RL          51    9842   Pave  <NA>      Reg         Lvl
## 1365        160       FV          30    3180   Pave  Pave      Reg         Lvl
## 1366         60       FV          NA    7500   Pave  <NA>      Reg         Lvl
## 1367         60       RL          68    9179   Pave  <NA>      IR1         Lvl
## 1369        120       RM          NA    4435   Pave  <NA>      Reg         Lvl
## 1371         50       RL          90    5400   Pave  <NA>      Reg         Lvl
## 1377         30       RL          52    6292   Pave  <NA>      Reg         Bnk
## 1378         50       RL          60   10998   Pave  Grvl      Reg         Lvl
## 1379        160       RM          21    1953   Pave  <NA>      Reg         Lvl
## 1380         80       RL          73    9735   Pave  <NA>      Reg         Lvl
## 1381         30       RL          45    8212   Pave  Grvl      Reg         Lvl
## 1383         70       RM          60    7200   Pave  <NA>      Reg         Lvl
## 1384         30       RL          NA   25339   Pave  <NA>      Reg         Lvl
## 1385         50       RL          60    9060   Pave  <NA>      Reg         Lvl
## 1386         50       RM          40    5436   Pave  <NA>      Reg         Lvl
## 1391         20       RL          70    9100   Pave  <NA>      Reg         Lvl
## 1392         90       RL          65    8944   Pave  <NA>      Reg         Lvl
## 1398         70       RM          51    6120   Pave  <NA>      Reg         Lvl
## 1399         50       RL          60    7200   Pave  <NA>      Reg         Lvl
## 1404         20       RL          49   15256   Pave  <NA>      IR1         Lvl
## 1405         50       RL          60   10410   Pave  Grvl      Reg         Lvl
## 1407         85       RL          70    8445   Pave  <NA>      Reg         Lvl
## 1408         20       RL          NA    8780   Pave  <NA>      IR1         Lvl
## 1409         70       RM          60    7740   Pave  <NA>      Reg         Lvl
## 1411         60       RL          79   12420   Pave  <NA>      Reg         Lvl
## 1412         50       RL          80    9600   Pave  <NA>      Reg         Lvl
## 1413         90       RL          60    7200   Pave  <NA>      Reg         Lvl
## 1417        190       RM          60   11340   Pave  <NA>      Reg         Lvl
## 1419         20       RL          71    9204   Pave  <NA>      Reg         Lvl
## 1423        120       RM          37    4435   Pave  <NA>      Reg         Lvl
## 1426         20       RL          80   10721   Pave  <NA>      IR1         Lvl
## 1432        120       RL          NA    4928   Pave  <NA>      IR1         Lvl
## 1433         30       RL          60   10800   Pave  Grvl      Reg         Lvl
## 1437         20       RL          60    9000   Pave  <NA>      Reg         Lvl
## 1439         20       RM          90    7407   Pave  <NA>      Reg         Lvl
## 1445         20       RL          63    8500   Pave  <NA>      Reg         Lvl
## 1446         85       RL          70    8400   Pave  <NA>      Reg         Lvl
## 1447         20       RL          NA   26142   Pave  <NA>      IR1         Lvl
## 1449         50       RL          70   11767   Pave  <NA>      Reg         Lvl
## 1450        180       RM          21    1533   Pave  <NA>      Reg         Lvl
## 1451         90       RL          60    9000   Pave  <NA>      Reg         Lvl
## 1453        180       RM          35    3675   Pave  <NA>      Reg         Lvl
## 1454         20       RL          90   17217   Pave  <NA>      Reg         Lvl
## 1455         20       FV          62    7500   Pave  Pave      Reg         Lvl
## 1459         20       RL          68    9717   Pave  <NA>      Reg         Lvl
## 1460         20       RL          75    9937   Pave  <NA>      Reg         Lvl
##      Utilities LotConfig LandSlope Neighborhood Condition1 Condition2 BldgType
## 1       AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 6       AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 11      AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
```

```
## 13      AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 16      AllPub    Corner       Gtl      BrkSide       Norm       Norm     1Fam
## 18      AllPub    Inside       Gtl       Sawyer       Norm       Norm   Duplex
## 19      AllPub    Inside       Gtl      SawyerW       RRAe       Norm     1Fam
## 20      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 27      AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 30      AllPub    Inside       Gtl      BrkSide      Feedr       RRNn     1Fam
## 31      AllPub    Inside       Gtl       IDOTRR      Feedr       Norm     1Fam
## 32      AllPub   CulDSac       Gtl       Sawyer       Norm       Norm     1Fam
## 33      AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 37      AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 39      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 40      AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 43      AllPub   CulDSac       Gtl      SawyerW       Norm       Norm     1Fam
## 44      AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 45      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 48      AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 49      AllPub    Inside       Gtl      OldTown       Norm       Norm   2fmCon
## 50      AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 51      AllPub    Corner       Gtl      Gilbert       Norm       Norm     1Fam
## 53      AllPub    Corner       Mod       IDOTRR       RRNn       Norm   Duplex
## 57      AllPub    Inside       Gtl      Somerst       Norm       Norm    Twnhs
## 58      AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 60      AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 61      AllPub    Inside       Gtl      SawyerW       RRAe       Norm     1Fam
## 62      AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 64      AllPub    Inside       Gtl      OldTown       RRAn      Feedr     1Fam
## 65      AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 68      AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 69      AllPub    Corner       Gtl      OldTown     Artery       Norm     1Fam
## 72      AllPub    Corner       Gtl      Mitchel       Norm       Norm     1Fam
## 74      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 75      AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 76      AllPub    Inside       Gtl      MeadowV       Norm       Norm    Twnhs
## 77      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 78      AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 79      AllPub    Inside       Gtl       Sawyer       Norm       Norm   Duplex
## 80      AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 82      AllPub       FR2       Gtl      Mitchel       Norm       Norm   TwnhsE
## 84      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 88      AllPub    Corner       Gtl      Somerst       Norm       Norm   TwnhsE
## 89      AllPub    Corner       Gtl       IDOTRR      Feedr      Feedr     1Fam
## 90      AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 91      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 92      AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 93      AllPub    Inside       Gtl      Crawfor       Norm       Norm     1Fam
## 95      AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 97      AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 98      AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 99      AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 100     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 103     AllPub    Inside       Gtl      SawyerW       Norm       Norm   Duplex
## 104     AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 107     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
```

```
## 108     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 109     AllPub    Corner       Gtl       IDOTRR     Artery       Norm     1Fam
## 111     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 118     AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 122     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 123     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 124     AllPub    Inside       Gtl      SawyerW       Norm       Norm   TwnhsE
## 126     AllPub    Inside       Gtl       IDOTRR       Norm       Norm   2fmCon
## 130     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 133     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 134     AllPub    Inside       Gtl       Timber       Norm       Norm     1Fam
## 138     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 140     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 142     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 143     AllPub    Corner       Gtl        NAmes     Artery       Norm     1Fam
## 144     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 145     AllPub    Inside       Gtl       Sawyer       RRAe       Norm   Duplex
## 146     AllPub    Inside       Gtl      Edwards       Norm       Norm    Twnhs
## 147     AllPub    Corner       Gtl      BrkSide       Norm       Norm     1Fam
## 149     AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 150     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 151     AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 155     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 156     AllPub    Corner       Gtl      Edwards     Artery       Norm     1Fam
## 157     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 161     AllPub   CulDSac       Gtl      Veenker       Norm       Norm     1Fam
## 164     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 165     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 166     AllPub    Inside       Gtl      Edwards       Norm       Norm   2fmCon
## 171     AllPub    Inside       Gtl      OldTown      Feedr       Norm     1Fam
## 180     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 184     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 185     AllPub    Inside       Gtl      BrkSide       RRAn     Feedr     1Fam
## 187     AllPub   CulDSac       Gtl      Mitchel       Norm       Norm     1Fam
## 188     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 192     AllPub   CulDSac       Gtl        NAmes       Norm       Norm     1Fam
## 193     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 194     AllPub    Inside       Gtl      Edwards       Norm       Norm    Twnhs
## 195     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 199     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 201     AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 203     AllPub    Corner       Gtl      OldTown     Artery       Norm     1Fam
## 205     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 206     AllPub    Corner       Gtl      Gilbert       Norm       Norm     1Fam
## 210     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 211     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 212     AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 214     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 215     AllPub       FR2       Gtl      CollgCr       Norm       Norm     1Fam
## 217     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 218     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 220     AllPub    Inside       Gtl      Blmngtn       Norm       Norm   TwnhsE
## 221     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 224     AllPub       FR2       Gtl        NAmes       Norm       Norm     1Fam
```

```
## 226     AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 228     AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 231     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 234     AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 236     AllPub    Inside       Gtl       BrDale       Norm       Norm   TwnhsE
## 237     AllPub       FR2       Gtl      CollgCr       Norm       Norm     1Fam
## 238     AllPub   CulDSac       Gtl      SawyerW       RRNe       Norm     1Fam
## 239     AllPub    Inside       Gtl      NridgHt       Norm       Norm     1Fam
## 241     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 242     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 243     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 247     AllPub    Inside       Gtl      OldTown       Norm       Norm   2fmCon
## 249     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 251     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 253     AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 254     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 255     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 257     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 260     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 264     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 265     AllPub    Inside       Gtl      OldTown     Artery       Norm     1Fam
## 275     AllPub    Corner       Gtl      Mitchel       Norm       Norm     1Fam
## 276     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 277     AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 278     AllPub    Corner       Gtl      Gilbert       Norm       Norm     1Fam
## 282     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 285     AllPub    Inside       Gtl      SawyerW       Norm       Norm   TwnhsE
## 286     AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 288     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 289     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 290     AllPub    Inside       Gtl      BrkSide       RRAn       Norm     1Fam
## 292     AllPub    Inside       Gtl        SWISU       Norm       Norm   2fmCon
## 296     AllPub   CulDSac       Gtl      Mitchel       Norm       Norm     1Fam
## 297     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 304     AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 306     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 308     AllPub    Inside       Gtl       IDOTRR     Artery       Norm     1Fam
## 309     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 321     AllPub    Corner       Gtl      NridgHt       Norm       Norm     1Fam
## 324     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 326     AllPub    Inside       Gtl       IDOTRR       RRAe       Norm     1Fam
## 328     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 329     AllPub    Inside       Gtl      BrkSide       PosN       Norm     1Fam
## 330     AllPub    Corner       Gtl       IDOTRR       Norm       Norm     1Fam
## 331     AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 332     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 338     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 339     AllPub    Corner       Gtl       NWAmes       Norm       Norm     1Fam
## 340     AllPub    Inside       Gtl        NAmes      Feedr       Norm     1Fam
## 341     AllPub    Inside       Gtl       Timber       Norm       Norm     1Fam
## 342     AllPub    Inside       Gtl      SawyerW      Feedr       Norm     1Fam
## 343     AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 345     AllPub    Inside       Gtl      MeadowV       Norm       Norm   TwnhsE
## 347     AllPub   CulDSac       Gtl        NAmes       Norm       Norm     1Fam
```

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## 349     AllPub    Inside       Gtl      NridgHt       Norm       Norm    Twnhs
## 353     AllPub    Inside       Gtl      Edwards     Artery       Norm     1Fam
## 354     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 356     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 357     AllPub    Inside       Gtl      Gilbert       Norm       Norm     1Fam
## 359     AllPub    Inside       Gtl      ClearCr       Norm       Norm     1Fam
## 362     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 364     AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 366     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 373     AllPub    Inside       Gtl      SawyerW       Norm       Norm   TwnhsE
## 374     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 376     AllPub    Inside       Sev      Edwards       Norm       Norm     1Fam
## 377     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 383     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 384     AllPub    Corner       Gtl      SawyerW       Norm       Norm     1Fam
## 387     AllPub       FR2       Gtl      Edwards      Feedr       Norm     1Fam
## 389     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 391     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 393     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 395     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 396     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 397     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 399     AllPub    Corner       Gtl       IDOTRR       Norm       Norm     1Fam
## 400     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 403     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 407     AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
## 408     AllPub    Inside       Gtl      Crawfor       Norm       Norm     1Fam
## 411     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 412     AllPub    Inside       Gtl      Gilbert       Norm       Norm   2fmCon
## 416     AllPub    Inside       Gtl      Gilbert       Norm       Norm     1Fam
## 419     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 421     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 423     AllPub    Inside       Mod      Mitchel     Artery       Norm     1Fam
## 428     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 429     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 431     AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 432     AllPub    Inside       Gtl      OldTown      Feedr       Norm     1Fam
## 433     AllPub    Inside       Gtl       BrDale       Norm       Norm   TwnhsE
## 435     AllPub    Inside       Gtl      MeadowV       Norm       Norm    Twnhs
## 437     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 438     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 440     AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 442     AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 450     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 451     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 453     AllPub    Corner       Gtl       Timber       Norm       Norm     1Fam
## 454     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 455     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 457     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 461     AllPub    Inside       Gtl      Somerst       RRAn       Norm     1Fam
## 462     AllPub    Inside       Gtl        SWISU      Feedr       Norm     1Fam
## 465     AllPub    Inside       Mod      CollgCr       Norm       Norm     1Fam
## 470     AllPub    Corner       Gtl      SawyerW       RRNe       Norm     1Fam
## 471     AllPub    Corner       Gtl      StoneBr       Norm       Norm   TwnhsE
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## 473     AllPub    Inside       Gtl      Edwards       Norm       Norm   TwnhsE
## 475     AllPub    Inside       Gtl      StoneBr       Norm       Norm   TwnhsE
## 476     AllPub    Corner       Gtl       Sawyer       Norm       Norm     1Fam
## 480     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 484     AllPub       FR2       Gtl      Mitchel       Norm       Norm    Twnhs
## 485     AllPub    Corner       Gtl       Sawyer       Norm       Norm     1Fam
## 487     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 490     AllPub    Inside       Gtl      MeadowV       Norm       Norm    Twnhs
## 493     AllPub    Corner       Gtl      Gilbert       Norm       Norm     1Fam
## 495     AllPub    Inside       Gtl      OldTown     Artery       Norm     1Fam
## 496     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 498     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 499     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 500     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 501     AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 502     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 503     AllPub    Corner       Gtl      Edwards      Feedr       Norm     1Fam
## 506     AllPub    Inside       Gtl      OldTown     Artery       Norm   Duplex
## 508     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 510     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 513     AllPub    Corner       Gtl        NAmes      Feedr       Norm     1Fam
## 514     AllPub    Corner       Gtl      Mitchel       Norm       Norm     1Fam
## 515     AllPub    Inside       Gtl      Crawfor       Norm       Norm     1Fam
## 519     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 521     AllPub    Inside       Gtl      OldTown       Norm       Norm   2fmCon
## 527     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 529     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 532     AllPub       FR3       Gtl      BrkSide       RRNn     Feedr     1Fam
## 534     AllPub    Inside       Mod      BrkSide       Norm       Norm     1Fam
## 536     AllPub    Inside       Gtl      Edwards       Norm       Norm   2fmCon
## 537     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 538     AllPub       FR2       Gtl        NAmes       Norm       Norm     1Fam
## 544     AllPub    Inside       Gtl        NAmes       Norm       Norm   TwnhsE
## 546     AllPub    Corner       Gtl       NWAmes       Norm       Norm     1Fam
## 548     AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 549     AllPub    Inside       Gtl      OldTown      Feedr       RRNn     1Fam
## 551     AllPub    Inside       Gtl      NPkVill       Norm       Norm   TwnhsE
## 552     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 554     AllPub    Inside       Gtl      Edwards      Feedr       Norm     1Fam
## 558     AllPub    Inside       Mod       IDOTRR       Norm       Norm     1Fam
## 566     AllPub    Corner       Gtl        SWISU       Norm       Norm     1Fam
## 568     AllPub    Inside       Gtl      NridgHt       Norm       Norm     1Fam
## 571     AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 572     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 573     AllPub    Corner       Gtl       Timber       Norm       Norm     1Fam
## 575     AllPub       FR2       Gtl        NAmes       Norm       Norm     1Fam
## 576     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 579     AllPub    Corner       Gtl      Somerst       Norm       Norm   TwnhsE
## 580     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 583     AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 585     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 587     AllPub    Inside       Gtl      BrkSide       RRAn       Norm     1Fam
## 588     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 590     AllPub    Inside       Gtl      BrkSide       RRAn     Feedr     1Fam
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## 591     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 593     AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 594     AllPub    Inside       Gtl      CollgCr       Norm       Norm   TwnhsE
## 595     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 597     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 604     AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 607     AllPub    Corner       Mod      CollgCr       Norm       Norm     1Fam
## 608     AllPub    Inside       Mod      Edwards       Norm       Norm     1Fam
## 610     AllPub    Inside       Gtl       Sawyer      Feedr       Norm     1Fam
## 614     AllPub    Inside       Gtl      Mitchel      Feedr       Norm     1Fam
## 615     AllPub    Inside       Gtl      MeadowV       Norm       Norm   TwnhsE
## 616     AllPub    Inside       Gtl        NAmes      Feedr       Norm     1Fam
## 618     AllPub    Corner       Mod        NAmes     Artery       Norm     1Fam
## 621     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 623     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 626     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 630     AllPub    Corner       Gtl        NAmes      Feedr       Norm     1Fam
## 631     AllPub    Corner       Gtl      OldTown     Artery       Norm     1Fam
## 634     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 635     AllPub    Inside       Gtl      OldTown       Norm       Norm   Duplex
## 636     AllPub    Inside       Gtl        SWISU      Feedr       Norm   2fmCon
## 638     AllPub    Inside       Gtl      OldTown       Norm       Norm   2fmCon
## 639     AllPub    Inside       Gtl      Edwards      Feedr       Norm     1Fam
## 644     AllPub    Inside       Gtl       NWAmes       RRAn       Norm     1Fam
## 646     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 647     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 650     AllPub    Inside       Gtl      MeadowV       Norm       Norm    Twnhs
## 651     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 654     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 656     AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 657     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 660     AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 664     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 671     AllPub       FR2       Gtl      CollgCr       Norm       Norm     1Fam
## 672     AllPub    Inside       Gtl      Edwards     Artery       Norm     1Fam
## 677     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 678     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 680     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 682     AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
## 685     AllPub   CulDSac       Gtl      NoRidge       Norm       Norm     1Fam
## 687     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 688     AllPub       FR2       Gtl      Somerst       Norm       Norm   TwnhsE
## 694     AllPub    Corner       Sev      OldTown       Norm       Norm     1Fam
## 695     AllPub    Corner       Gtl      BrkSide       Norm       Norm     1Fam
## 697     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 698     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 700     AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 702     AllPub    Inside       Gtl       NWAmes       Norm       Norm     1Fam
## 705     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 706     AllPub    Inside       Gtl       IDOTRR       Norm       Norm   2fmCon
## 710     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 711     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 712     AllPub    Inside       Mod       IDOTRR       Norm       Norm     1Fam
## 714     AllPub    Inside       Gtl      BrkSide       RRAn       Norm   2fmCon
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## 715     AllPub   CulDSac       Gtl       Sawyer       RRAe       Norm     1Fam
## 717     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 722     AllPub    Inside       Gtl      CollgCr       Norm       Norm   TwnhsE
## 723     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 724     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 726     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 728     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 729     AllPub    Corner       Gtl        NAmes       Norm       Norm   Duplex
## 730     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 735     AllPub    Corner       Gtl       Sawyer       Norm       Norm     1Fam
## 737     AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 739     AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 740     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 741     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 742     AllPub    Inside       Gtl       Sawyer      Feedr       Norm     1Fam
## 743     AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 750     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 751     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 752     AllPub    Inside       Gtl      Gilbert       RRAn       Norm     1Fam
## 753     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 755     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 756     AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 757     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 759     AllPub    Inside       Gtl      Somerst       Norm       Norm    Twnhs
## 761     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 762     AllPub       FR2       Gtl      BrkSide      Feedr       Norm     1Fam
## 763     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 768     AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 771     AllPub   CulDSac       Gtl       Sawyer       Norm       Norm     1Fam
## 772     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 774     AllPub    Inside       Gtl        NAmes      Feedr       Norm     1Fam
## 776     AllPub       FR2       Gtl      Mitchel       Norm       Norm   TwnhsE
## 777     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 780     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 782     AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 783     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 787     AllPub    Inside       Gtl      OldTown     Artery       Norm     1Fam
## 788     AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 789     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 790     AllPub    Inside       Gtl      ClearCr       Norm       Norm     1Fam
## 794     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 798     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 801     AllPub    Inside       Mod      ClearCr      Feedr       Norm     1Fam
## 802     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 805     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 806     AllPub       FR2       Gtl      Somerst       Norm       Norm     1Fam
## 807     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 810     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 813     AllPub    Inside       Mod       IDOTRR       Norm       Norm     1Fam
## 814     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 815     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 816     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 819     AllPub    Inside       Gtl      ClearCr       Norm       Norm     1Fam
## 821     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
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## 822     AllPub    Inside       Mod      OldTown       Norm       Norm   2fmCon
## 827     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 829     AllPub   CulDSac       Sev      ClearCr       Norm       Norm     1Fam
## 830     AllPub    Inside       Gtl      Somerst       Norm       Norm    Twnhs
## 832     AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 834     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 835     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 836     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 837     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 838     AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 839     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 840     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 841     AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
## 843     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 844     AllPub    Corner       Gtl        NAmes     Artery       Norm   Duplex
## 851     AllPub    Inside       Gtl      CollgCr       Norm       Norm   TwnhsE
## 856     AllPub    Corner       Gtl       Sawyer       Norm       Norm     1Fam
## 857     AllPub    Inside       Mod      CollgCr       Norm       Norm     1Fam
## 862     AllPub    Inside       Gtl       Sawyer       Norm       Norm   2fmCon
## 863     AllPub    Corner       Gtl      SawyerW       Norm       Norm     1Fam
## 864     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 865     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 866     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 868     AllPub    Corner       Gtl       Sawyer      Feedr       Norm     1Fam
## 871     AllPub    Inside       Gtl        NAmes       PosN       Norm     1Fam
## 872     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 873     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 875     AllPub    Inside       Gtl      OldTown     Artery       Norm     1Fam
## 877     AllPub    Inside       Mod      Mitchel       Norm       Norm     1Fam
## 879     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 880     AllPub   CulDSac       Gtl      CollgCr       Norm       Norm     1Fam
## 881     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 884     AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
## 885     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 887     AllPub    Corner       Gtl        NAmes       Norm       Norm   Duplex
## 888     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 893     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 895     AllPub    Inside       Gtl      SawyerW       Norm       Norm   Duplex
## 897     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 898     AllPub    Inside       Gtl      SawyerW      Feedr       Norm   Duplex
## 901     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 902     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 905     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 906     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 909     AllPub    Inside       Mod      Mitchel       Norm       Norm     1Fam
## 911     AllPub    Corner       Gtl        NAmes      Feedr       Norm   Duplex
## 912     AllPub   CulDSac       Mod      CollgCr       Norm       Norm     1Fam
## 913     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 914     AllPub    Inside       Gtl      Crawfor       Norm       Norm   Duplex
## 915     AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 916     AllPub    Inside       Gtl      MeadowV       Norm       Norm    Twnhs
## 917     AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 918     AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 921     AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
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## 922     AllPub    Inside       Gtl      Edwards      Feedr       Norm   Duplex
## 926     AllPub    Corner       Gtl       NWAmes       Norm       Norm     1Fam
## 931     AllPub    Inside       Gtl       Timber       Norm       Norm     1Fam
## 932     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 934     AllPub       FR2       Gtl      CollgCr       Norm       Norm     1Fam
## 936     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 937     AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 939     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 941     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 943     AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 944     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 946     AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 951     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 952     AllPub    Corner       Gtl      SawyerW       Norm       Norm     1Fam
## 953     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 955     AllPub   CulDSac       Gtl      Edwards       Norm       Norm   Duplex
## 956     AllPub    Inside       Gtl      Crawfor       Norm       Norm   Duplex
## 958     AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 959     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 960     AllPub       FR2       Gtl      Somerst       Norm       Norm    Twnhs
## 961     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 964     AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 968     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 969     AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 970     AllPub    Inside       Gtl        NAmes       Norm       Norm   2fmCon
## 971     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 972     AllPub    Inside       Gtl      NridgHt       Norm       Norm    Twnhs
## 974     AllPub    Corner       Gtl      Somerst       Norm       Norm     1Fam
## 975     AllPub    Corner       Gtl      BrkSide       RRAn      Feedr     1Fam
## 976     AllPub       FR2       Gtl      Somerst       Norm       Norm    Twnhs
## 977     AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 978     AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 979     AllPub    Inside       Mod      Edwards       Norm       Norm     1Fam
## 980     AllPub    Corner       Gtl       Sawyer      Feedr       Norm     1Fam
## 981     AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 985     AllPub    Inside       Gtl      Mitchel       Norm       Norm   Duplex
## 986     AllPub    Inside       Gtl      Edwards       Norm       Norm   2fmCon
## 987     AllPub    Corner       Gtl      OldTown      Feedr       Norm     1Fam
## 990     AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 994     AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 996     AllPub    Inside       Mod      BrkSide      Feedr       Norm     1Fam
## 997     AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1000    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1001    AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 1002    AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 1004    AllPub    Corner       Gtl       NWAmes      Feedr       RRAn   Duplex
## 1006    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1008    AllPub    Inside       Gtl      MeadowV       Norm       Norm   TwnhsE
## 1010    AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
## 1012    AllPub    Inside       Gtl      Edwards       Norm       Norm   Duplex
## 1014    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1016    AllPub    Inside       Gtl       NWAmes       Norm       Norm     1Fam
## 1021    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1022    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
```

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## 1023    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1026    AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 1030    AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 1031    AllPub    Inside       Gtl        SWISU       Norm       Norm   2fmCon
## 1034    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1036    AllPub   CulDSac       Gtl      Edwards       Norm       Norm     1Fam
## 1040    AllPub    Inside       Gtl      MeadowV       Norm       Norm   TwnhsE
## 1042    AllPub    Inside       Gtl       NWAmes      Feedr       Norm     1Fam
## 1048    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1050    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1051    AllPub    Inside       Gtl      Gilbert       Norm       Norm     1Fam
## 1061    AllPub    Inside       Gtl      StoneBr       Norm       Norm   TwnhsE
## 1062    AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 1063    AllPub    Inside       Gtl      OldTown       Norm       Norm   2fmCon
## 1066    AllPub    Inside       Mod      ClearCr       Norm       Norm     1Fam
## 1068    AllPub    Inside       Mod        NAmes       Norm       Norm     1Fam
## 1070    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1071    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1072    AllPub    Inside       Gtl       NWAmes       RRAn       Norm     1Fam
## 1074    AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 1075    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1078    AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 1080    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1081    AllPub    Inside       Gtl       NWAmes       Norm       Norm     1Fam
## 1082    AllPub    Corner       Gtl       Sawyer      Feedr       Norm     1Fam
## 1086    AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 1087    AllPub    Inside       Gtl      MeadowV       Norm       Norm   TwnhsE
## 1089    AllPub    Inside       Gtl      Edwards       Norm       Norm    Twnhs
## 1091    AllPub    Corner       Gtl        NAmes       Norm       Norm   Duplex
## 1092    AllPub    Inside       Gtl      Somerst       Norm       Norm    Twnhs
## 1094    AllPub    Corner       Gtl        NAmes      Feedr       Norm     1Fam
## 1095    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1097    AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 1098    AllPub    Inside       Gtl      StoneBr       Norm       Norm   TwnhsE
## 1099    AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 1101    AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
## 1102    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1103    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1105    AllPub    Inside       Gtl       BrDale       Norm       Norm   TwnhsE
## 1113    AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 1114    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1115    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1118    AllPub       FR2       Gtl       Sawyer      Feedr       Norm     1Fam
## 1119    AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 1120    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1122    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1123    AllPub    Corner       Gtl      Edwards       Norm       Norm     1Fam
## 1124    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1130    AllPub    Inside       Gtl      OldTown       Norm       Norm   Duplex
## 1132    AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 1133    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1137    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1138    AllPub    Inside       Gtl       Sawyer      Feedr       Norm     1Fam
## 1141    AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
```

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## 1144    AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 1145    AllPub    Inside       Gtl      Edwards       Norm       Norm   2fmCon
## 1150    AllPub    Inside       Gtl      OldTown     Artery       Norm     1Fam
## 1154    AllPub    Corner       Gtl       IDOTRR       Norm       Norm     1Fam
## 1159    AllPub       FR2       Gtl      Somerst      Feedr       Norm     1Fam
## 1164    AllPub    Inside       Gtl       Sawyer      Feedr       Norm   Duplex
## 1166    AllPub    Inside       Gtl      NridgHt       Norm       Norm     1Fam
## 1167    AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 1173    AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 1177    AllPub   CulDSac       Gtl      Mitchel       Norm       Norm     1Fam
## 1178    AllPub    Inside       Gtl      OldTown     Artery       Norm     1Fam
## 1181    AllPub    Corner       Gtl       Timber       Norm       Norm     1Fam
## 1186    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1187    AllPub    Corner       Mod      OldTown     Artery     Artery   2fmCon
## 1189    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1192    AllPub    Inside       Gtl      Somerst       Norm       Norm    Twnhs
## 1193    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1194    AllPub       FR2       Gtl      Mitchel       Norm       Norm   TwnhsE
## 1195    AllPub    Corner       Gtl       Sawyer       Norm       Norm     1Fam
## 1196    AllPub    Inside       Gtl      Gilbert       Norm       Norm     1Fam
## 1199    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1201    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1202    AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 1205    AllPub    Inside       Gtl       NWAmes       Norm       Norm     1Fam
## 1207    AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 1208    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1209    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1212    AllPub    Inside       Mod      Gilbert       Norm       Norm     1Fam
## 1213    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1214    AllPub   CulDSac       Gtl       Sawyer       Norm       Norm     1Fam
## 1215    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1216    AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 1217    AllPub    Inside       Gtl       Sawyer       RRAe       Norm   Duplex
## 1218    AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 1219    AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 1220    AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 1221    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1224    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1226    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1228    AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 1230    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1232    AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 1233    AllPub       FR2       Gtl        NAmes       Norm       Norm   Duplex
## 1234    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1235    AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
## 1236    AllPub    Inside       Gtl      Crawfor       Norm       Norm     1Fam
## 1237    AllPub    Inside       Gtl      NridgHt       Norm       Norm    Twnhs
## 1239    AllPub    Inside       Gtl      SawyerW       RRAe       Norm     1Fam
## 1241    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1242    AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 1247    AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 1248    AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 1250    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1253    AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
```

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## 1258    AllPub    Corner       Gtl      Edwards      Feedr       Norm     1Fam
## 1259    AllPub    Inside       Gtl      Gilbert       Norm       Norm     1Fam
## 1260    AllPub       FR2       Gtl        NAmes       Norm       Norm     1Fam
## 1262    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1265    AllPub    Inside       Gtl        NAmes       Norm       Norm   TwnhsE
## 1266    AllPub       FR3       Gtl      Somerst       Norm       Norm   TwnhsE
## 1270    AllPub    Inside       Gtl        NAmes      Feedr       Norm     1Fam
## 1273    AllPub   CulDSac       Gtl       Sawyer       Norm       Norm     1Fam
## 1276    AllPub    Corner       Gtl        NAmes      Feedr       Norm   Duplex
## 1280    AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 1281    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1283    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1284    AllPub    Corner       Gtl      Mitchel       Norm       Norm   Duplex
## 1288    AllPub    Inside       Mod      ClearCr       Norm       Norm     1Fam
## 1292    AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 1293    AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 1295    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1296    AllPub    Inside       Gtl        NAmes      Feedr       Norm     1Fam
## 1297    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1298    AllPub    Inside       Gtl      Edwards       Norm       Norm   TwnhsE
## 1300    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1304    AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 1305    AllPub    Inside       Gtl      Edwards       Norm       Norm   TwnhsE
## 1308    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1309    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1310    AllPub    Inside       Gtl      SawyerW       Norm       Norm     1Fam
## 1312    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1320    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1322    AllPub    Corner       Gtl      BrkSide      Feedr       Norm     1Fam
## 1324    AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 1326    AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 1327    AllPub    Inside       Mod      Edwards       Norm       Norm     1Fam
## 1332    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1334    AllPub    Corner       Gtl       IDOTRR       Norm       Norm     1Fam
## 1335    AllPub    Inside       Gtl       BrDale       Norm       Norm   TwnhsE
## 1337    AllPub    Inside       Gtl       NWAmes      Feedr       Norm   Duplex
## 1338    AllPub    Corner       Mod      OldTown      Feedr       Norm     1Fam
## 1339    AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 1340    AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 1341    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1342    AllPub    Inside       Gtl      SawyerW       RRAe       Norm     1Fam
## 1346    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1350    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1351    AllPub    Inside       Gtl        NAmes     Artery       Norm   Duplex
## 1353    AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 1357    AllPub    Corner       Gtl        NAmes       Norm       Norm     1Fam
## 1359    AllPub    Inside       Gtl      Somerst       Norm       Norm    Twnhs
## 1361    AllPub    Inside       Gtl        SWISU      Feedr       Norm     1Fam
## 1365    AllPub    Inside       Gtl      Somerst       Norm       Norm   TwnhsE
## 1366    AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 1367    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1369    AllPub    Inside       Gtl      CollgCr       Norm       Norm   TwnhsE
## 1371    AllPub    Corner       Gtl      OldTown     Artery       Norm     1Fam
## 1377    AllPub    Inside       Gtl        SWISU       Norm       Norm     1Fam
```

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## 1378    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1379    AllPub    Inside       Gtl       BrDale       Norm       Norm    Twnhs
## 1380    AllPub    Inside       Gtl       Timber       Norm       Norm     1Fam
## 1381    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1383    AllPub    Corner       Gtl      OldTown       Norm       Norm     1Fam
## 1384    AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 1385    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1386    AllPub    Inside       Gtl       IDOTRR       Norm       Norm     1Fam
## 1391    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1392    AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 1398    AllPub    Inside       Gtl      BrkSide       Norm       Norm     1Fam
## 1399    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1404    AllPub   CulDSac       Gtl      Somerst       RRAn       Norm     1Fam
## 1405    AllPub    Corner       Gtl      OldTown     Artery       Norm     1Fam
## 1407    AllPub    Corner       Gtl      CollgCr       Norm       Norm     1Fam
## 1408    AllPub    Corner       Gtl      Mitchel       Norm       Norm     1Fam
## 1409    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1411    AllPub    Inside       Gtl      CollgCr       Norm       Norm     1Fam
## 1412    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1413    AllPub    Inside       Gtl        NAmes       Norm       Norm   Duplex
## 1417    AllPub    Inside       Gtl      OldTown       Norm       Norm   2fmCon
## 1419    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1423    AllPub    Inside       Gtl      CollgCr       Norm       Norm   TwnhsE
## 1426    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1432    AllPub    Inside       Gtl      NPkVill       Norm       Norm   TwnhsE
## 1433    AllPub    Inside       Gtl      OldTown       Norm       Norm     1Fam
## 1437    AllPub       FR2       Gtl        NAmes       Norm       Norm     1Fam
## 1439    AllPub    Inside       Gtl      OldTown     Artery       Norm     1Fam
## 1445    AllPub       FR2       Gtl      CollgCr       Norm       Norm     1Fam
## 1446    AllPub    Inside       Gtl       Sawyer       Norm       Norm     1Fam
## 1447    AllPub   CulDSac       Gtl      Mitchel       Norm       Norm     1Fam
## 1449    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
## 1450    AllPub    Inside       Gtl      MeadowV       Norm       Norm    Twnhs
## 1451    AllPub       FR2       Gtl        NAmes       Norm       Norm   Duplex
## 1453    AllPub    Inside       Gtl      Edwards       Norm       Norm   TwnhsE
## 1454    AllPub    Inside       Gtl      Mitchel       Norm       Norm     1Fam
## 1455    AllPub    Inside       Gtl      Somerst       Norm       Norm     1Fam
## 1459    AllPub    Inside       Gtl        NAmes       Norm       Norm     1Fam
## 1460    AllPub    Inside       Gtl      Edwards       Norm       Norm     1Fam
##      HouseStyle OverallQual OverallCond YearBuilt YearRemodAdd RoofStyle
## 1        2Story           7           5      2003         2003     Gable
## 6        1.5Fin           5           5      1993         1995     Gable
## 11       1Story           5           5      1965         1965       Hip
## 13       1Story           5           6      1962         1962       Hip
## 16       1.5Unf           7           8      1929         2001     Gable
## 18       1Story           4           5      1967         1967     Gable
## 19       1Story           5           5      2004         2004     Gable
## 20       1Story           5           6      1958         1965       Hip
## 27       1Story           5           7      1951         2000     Gable
## 30       1Story           4           6      1927         1950     Gable
## 31       2Story           4           4      1920         1950   Gambrel
## 32       1Story           5           6      1966         2006     Gable
## 33       1Story           8           5      2007         2007     Gable
## 37       1Story           5           5      1994         1995     Gable
```

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## 39       1Story          5          7      1953         2007     Gable
## 40       1Story          4          5      1955         1955     Gable
## 43       SFoyer          5          7      1983         1983     Gable
## 44       1Story          5          6      1975         1980       Hip
## 45       1Story          5          6      1959         1959     Gable
## 48       1Story          8          5      2006         2006     Gable
## 49       2Story          4          5      1920         2008     Gable
## 50       1Story          5          7      1966         1966     Gable
## 51       2Story          6          6      1997         1997     Gable
## 53       1Story          5          5      1963         1963     Gable
## 57       2Story          8          5      1999         2000     Gable
## 58       2Story          7          5      2004         2004     Gable
## 60       1Story          5          7      1972         1972     Gable
## 61       1Story          6          5      2004         2004     Gable
## 62       2.5Unf          5          7      1920         1996     Gable
## 64       2Story          7          6      1921         1950     Gable
## 65       2Story          7          5      1997         1998     Gable
## 68       1Story          7          5      2003         2003     Gable
## 69       1Story          4          6      1945         1950     Gable
## 72       1Story          4          6      1982         2006     Gable
## 74       1Story          5          7      1954         2003     Gable
## 75       2Story          3          6      1915         1950   Gambrel
## 76         SLvl          4          5      1973         1973     Gable
## 77       1Story          4          7      1956         1956     Gable
## 78       1.5Fin          5          5      1948         2001     Gable
## 79       1Story          4          5      1968         1968       Hip
## 80       2Story          5          6      1910         1981     Gable
## 82       1Story          6          5      1998         1998       Hip
## 84       1Story          5          5      1960         1960     Gable
## 88       2Story          6          5      2009         2009     Gable
## 89       1.5Fin          3          2      1915         1982       Hip
## 90       1Story          4          5      1994         1995     Gable
## 91       1Story          4          5      1950         1950     Gable
## 92       1Story          5          3      1961         1961       Hip
## 93       1Story          5          7      1921         2006     Gable
## 95       2Story          6          5      1997         1997     Gable
## 97       1Story          7          5      1999         1999     Gable
## 98       1Story          4          5      1965         1965       Hip
## 99       1Story          5          5      1920         1950     Gable
## 100      1Story          4          5      1959         1959     Gable
## 103      1Story          5          5      1979         1979     Gable
## 104      1Story          7          5      2009         2009     Gable
## 107      1Story          4          7      1885         1995   Mansard
## 108      1Story          5          5      1948         1950     Gable
## 109      1.5Fin          5          7      1919         2005     Gable
## 111      1.5Fin          6          4      1954         1972     Gable
## 118      1Story          5          5      2006         2007     Gable
## 122      1.5Fin          4          5      1939         1950     Gable
## 123      1Story          6          7      1958         1958       Hip
## 124      1Story          6          5      1993         1993     Gable
## 126      1.5Fin          6          8      1935         1982     Gable
## 130      1Story          5          7      1958         1991     Gable
## 133      1Story          5          6      1959         2002     Gable
## 134      1Story          8          5      2001         2002     Gable
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## 138      1Story          7          5      1988         1989     Gable
## 140      2Story          6          5      1997         1997     Gable
## 142      1Story          7          5      2005         2005     Gable
## 143      1.5Fin          5          4      1952         1952     Gable
## 144      1Story          7          5      1999         1999     Gable
## 145      1Story          5          5      1963         1963     Gable
## 146      2Story          6          5      2004         2006     Gable
## 147      1Story          5          7      1931         1993     Gable
## 149      1Story          7          5      2004         2005     Gable
## 150      1.5Fin          5          4      1936         1950     Gable
## 151      1Story          5          6      1975         1975     Gable
## 155      1Story          6          5      1923         1950     Gable
## 156      1.5Fin          6          5      1924         1950     Gable
## 157      1Story          5          7      1950         1950       Hip
## 161      1Story          6          6      1984         1984     Gable
## 164      1.5Unf          4          6      1956         1956     Gable
## 165      1Story          6          7      1926         2004     Gable
## 166      1.5Fin          5          7      1940         1999     Gable
## 171      1.5Fin          5          6      1941         1950     Gable
## 180      1Story          5          6      1923         2006     Gable
## 184      1.5Fin          7          5      2003         2003     Gable
## 185      1.5Fin          5          8      1908         1991     Gable
## 187        SLvl          7          5      1990         1991     Gable
## 188      1.5Fin          5          7      1916         1987     Gable
## 192      2Story          7          9      1972         2004     Gable
## 193      1Story          7          5      1999         1999     Gable
## 194      2Story          7          5      2004         2004     Gable
## 195      1Story          5          7      1972         1972       Hip
## 199      2.5Fin          6          6      1912         1950     Gable
## 201      1Story          4          5      2003         2004     Gable
## 203      1.5Fin          6          6      1924         1950     Gable
## 205      1.5Fin          5          7      1947         1950     Gable
## 206      1Story          7          5      1990         1990     Gable
## 210      1Story          6          7      1964         1964       Hip
## 211      1Story          5          6      1925         1950     Gable
## 212      1Story          6          5      2009         2009     Gable
## 214      1Story          5          5      1995         1995     Gable
## 215      2Story          6          7      1977         1977     Gable
## 217      1Story          7          5      2004         2004     Gable
## 218      2Story          4          4      1925         1950     Gable
## 220      1Story          7          5      2005         2006     Gable
## 221      1Story          7          5      2006         2006     Gable
## 224      1Story          4          6      1971         1971     Gable
## 226      2Story          5          5      1971         1971     Gable
## 228      2Story          6          6      1970         1970     Gable
## 231      1Story          6          6      1959         1959       Hip
## 234      1Story          5          6      1976         1976     Gable
## 236      2Story          6          3      1971         1971     Gable
## 237      1Story          7          5      2004         2004     Gable
## 238      2Story          7          7      1993         2003     Gable
## 239      1Story          8          5      2007         2007       Hip
## 241      1Story          8          5      2008         2008     Gable
## 242      1Story          5          9      1945         1997     Gable
## 243      1.5Fin          5          4      1900         1950     Gable
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## 247      2Story          6          8      1910         1950     Gable
## 249      2Story          7          5      2003         2003     Gable
## 251      1Story          3          2      1940         1966     Gable
## 253      2Story          6          5      2004         2004     Gable
## 254        SLvl          6          7      1964         1991       Hip
## 255      1Story          5          6      1957         1957     Gable
## 257      2Story          6          5      2003         2003     Gable
## 260      1Story          5          5      1956         1956     Gable
## 264      1.5Fin          5          7      1929         2001     Gable
## 265      1Story          5          5      1925         2004     Gable
## 275      1Story          5          7      1982         1982     Gable
## 276      1.5Fin          7          7      1925         2007     Gable
## 277      1Story          7          5      2003         2003     Gable
## 278      1Story          4          5      1951         1951     Gable
## 282      1Story          6          5      2006         2006     Gable
## 285      1Story          6          5      1992         1992     Gable
## 286      2Story          7          5      2006         2007     Gable
## 288      1Story          4          4      1971         1971     Gable
## 289      1Story          5          5      1967         1967     Gable
## 290      2Story          6          7      1915         2003     Gable
## 292      2Story          5          6      1912         2000     Gable
## 296        SLvl          6          6      1984         1984     Gable
## 297      1.5Fin          5          5      1950         1950     Gable
## 304      1Story          5          7      1972         1972     Gable
## 306      1Story          8          5      2004         2005     Gable
## 308      1.5Fin          6          7      1920         1950     Gable
## 309      1Story          4          5      1940         1950     Gable
## 321      2Story          9          5      2006         2006     Gable
## 324      1Story          3          8      1955         2005     Gable
## 326      1.5Unf          5          6      1941         1950     Gable
## 328      1Story          6          5      1960         1960       Hip
## 329      2.5Unf          6          6      1916         1994     Gable
## 330      2Story          5          5      1920         1950     Gable
## 331      1Story          5          4      1964         1964     Gable
## 332      1Story          5          6      1958         1992     Gable
## 338      1Story          7          5      2002         2003     Gable
## 339      1Story          7          7      1984         1998     Gable
## 340      1Story          6          7      1958         1998       Hip
## 341      2Story          8          5      2002         2002     Gable
## 342      1Story          4          4      1950         1950     Gable
## 343      1Story          3          4      1949         1950     Gable
## 345      2Story          5          3      1976         1976     Gable
## 347      1Story          6          8      1960         1998       Hip
## 349      2Story          7          5      2003         2004     Gable
## 353      1.5Fin          5          6      1941         1950     Gable
## 354      1Story          6          8      1928         2003     Gable
## 356      1Story          6          5      1995         1995     Gable
## 357      1Story          6          6      1992         1992     Gable
## 359        SLvl          5          4      1958         1958       Hip
## 362      1.5Fin          5          5      1940         1982     Gable
## 364      2Story          6          8      1972         2007     Gable
## 366      2Story          5          7      1920         1997       Hip
## 373      1Story          6          5      1984         1984     Gable
## 374      1Story          5          6      1953         1953     Gable
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## 376      1Story           1           1      1922         1950     Gable
## 377      SFoyer           5           5      1996         1996     Gable
## 383      2Story           7           5      2006         2006     Gable
## 384      1.5Unf           6           3      1928         1950     Gable
## 387      1.5Fin           5           3      1910         1996   Gambrel
## 389      1Story           7           5      1999         2000     Gable
## 391      1.5Fin           5           8      1900         1950     Gable
## 393      1Story           5           7      1959         1959     Gable
## 395      1.5Fin           5           6      1940         1950     Gable
## 396      1Story           5           6      1956         1956     Gable
## 397      1Story           5           5      1972         1972       Hip
## 399      1Story           5           2      1920         1950     Gable
## 400      2Story           7           5      2006         2007     Gable
## 403      1Story           5           8      1940         1997     Gable
## 407      1.5Fin           6           5      1936         1950     Gable
## 408      2Story           6           7      1915         1976     Gable
## 411      1Story           5           3      1958         1958     Gable
## 412      1Story           5           5      1955         1955       Hip
## 416      1Story           7           5      2007         2007     Gable
## 419      1.5Fin           5           6      1940         1950     Gable
## 421      SFoyer           7           5      1997         1998     Gable
## 423      1Story           5           5      1954         1954       Hip
## 428      1Story           4           6      1957         1957       Hip
## 429      1Story           7           5      2007         2007     Gable
## 431      2Story           6           5      1971         1971     Gable
## 432      1.5Fin           6           7      1920         1998     Gable
## 433      2Story           5           5      1971         1971     Gable
## 435      SFoyer           4           7      1972         1972     Gable
## 437      1.5Fin           6           8      1920         1950     Gable
## 438      1.5Unf           6           7      1926         2004     Gable
## 440      1.5Fin           6           8      1920         2000     Gable
## 442      1Story           4           4      1955         1955     Gable
## 450      1.5Fin           3           7      1948         2002     Gable
## 451      1Story           6           8      1930         2005       Hip
## 453      2Story           6           5      1996         1997       Hip
## 454      2Story           8           5      2008         2008     Gable
## 455      1Story           5           5      1976         1976     Gable
## 457      2Story           5           5      1916         1950     Gable
## 461      2Story           8           5      2009         2009     Gable
## 462      2Story           7           9      1936         2007     Gable
## 465      1Story           5           5      1978         1978     Gable
## 470      2Story           6           5      1993         1993     Gable
## 471      1Story           8           5      1985         1985     Gable
## 473        SLvl           6           5      2005         2005     Gable
## 475      1Story           8           5      2000         2000     Gable
## 476      1Story           5           6      1963         1963       Hip
## 480      1Story           4           7      1937         2000       Hip
## 484      1Story           6           5      1998         1998       Hip
## 485      1Story           5           7      1962         2001     Gable
## 487      1Story           5           7      1965         1965       Hip
## 490      SFoyer           4           8      1970         2002     Gable
## 493      2Story           6           5      2006         2006     Gable
## 495      1Story           5           8      1938         1996     Gable
## 496      1Story           4           5      1920         1950     Gable
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## 498      1.5Fin          7          6      1925         1950     Gable
## 499      1Story          5          7      1967         2004       Hip
## 500      1Story          5          7      1958         1985     Gable
## 501      2Story          6          5      1973         1973     Gable
## 502      2Story          7          5      2005         2005     Gable
## 503      1Story          5          7      1965         1965       Hip
## 506      2Story          5          5      1952         1952       Hip
## 508      1Story          6          5      2009         2009     Gable
## 510      1Story          5          6      1959         1959     Gable
## 513      1Story          5          5      1958         1958     Gable
## 514      1Story          6          5      1983         1983     Gable
## 515      1.5Unf          5          5      1926         1950     Gable
## 519      2Story          6          5      1998         1998     Gable
## 521      2Story          4          7      1900         2000     Gable
## 527      1Story          5          7      1956         2000       Hip
## 529      1Story          4          7      1920         2002     Gable
## 532      2Story          6          8      1920         1999     Gable
## 534      1Story          1          3      1946         1950     Gable
## 536      2Story          5          7      1910         1991     Gable
## 537      2Story          7          5      1998         1999     Gable
## 538      1Story          4          5      1972         1972       Hip
## 544      SFoyer          7          5      1998         1998     Gable
## 546      1.5Fin          7          5      1988         1988     Gable
## 548      SFoyer          5          7      1970         1970     Gable
## 549      1Story          5          7      1955         1995     Gable
## 551      1Story          6          6      1977         1977     Gable
## 552      1Story          5          6      1957         1957       Hip
## 554      1Story          4          5      1949         2003     Gable
## 558      1.5Fin          4          6      1920         1950     Gable
## 566      2Story          6          4      1915         1950     Gable
## 568      1Story          7          5      2004         2004     Gable
## 571      1Story          5          5      1965         1965     Gable
## 572      1Story          6          6      1959         1959     Gable
## 573      2Story          7          5      2009         2009     Gable
## 575        SLvl          5          7      1971         2005   Gambrel
## 576      1.5Fin          5          5      1947         1950     Gable
## 579      2Story          7          5      2007         2007     Gable
## 580      1.5Fin          5          5      1954         1954     Gable
## 583      SFoyer          6          5      1990         1990     Gable
## 585      1.5Fin          4          7      1935         1995     Gable
## 587      1Story          6          7      1918         2000     Gable
## 588      SFoyer          5          6      1982         1982       Hip
## 590      1Story          5          6      1930         1960     Gable
## 591      2Story          7          5      2004         2004     Gable
## 593      1Story          5          8      1982         2003     Gable
## 594      1Story          6          5      2003         2003     Gable
## 595      1Story          5          6      1975         1975       Hip
## 597      2Story          6          7      1910         1993     Gable
## 604      2Story          7          5      2004         2005     Gable
## 607      1Story          5          5      1996         1996     Gable
## 608      2Story          5          8      1948         2002     Gable
## 610      1Story          4          5      1961         1961     Gable
## 614      1Story          5          5      2007         2007     Gable
## 615      SFoyer          4          6      1972         1972     Gable
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## 616      SFoyer          6          7      1963         1963     Gable
## 618      1.5Unf          6          6      1954         1954     Gable
## 621      1Story          3          3      1914         1950     Gable
## 623      1Story          5          6      1977         1977     Gable
## 626      1Story          6          6      1962         1962       Hip
## 630        SLvl          6          5      1964         1964     Gable
## 631      2Story          5          6      1880         1991     Gable
## 634      1Story          5          7      1954         2005     Gable
## 635      SFoyer          6          5      1980         1980     Gable
## 636      2.5Fin          6          7      1914         1995       Hip
## 638      1.5Fin          5          4      1954         1954     Gable
## 639      1Story          5          7      1910         1950     Gable
## 644      2Story          5          5      1969         1969   Mansard
## 646      1Story          6          5      1971         1971       Hip
## 647      1Story          5          5      1950         1950       Hip
## 650      SFoyer          4          6      1970         1970     Gable
## 651      2Story          7          6      2007         2007     Gable
## 654      1.5Fin          6          7      1906         1995     Gable
## 656      2Story          6          5      1971         1971     Gable
## 657      1Story          5          7      1959         2006     Gable
## 660      1Story          5          7      1964         1999       Hip
## 664      SFoyer          4          5      1972         1972     Gable
## 671      2Story          6          5      2005         2005     Gable
## 672      2Story          6          6      1925         1950   Gambrel
## 677      2Story          4          2      1900         1950     Gable
## 678      1Story          5          8      1924         2006     Gable
## 680      1Story          5          5      1961         1961       Hip
## 682      1.5Fin          5          5      1932         2000     Gable
## 685      2Story          7          5      1998         1998     Gable
## 687      2Story          7          6      2007         2007     Gable
## 688      2Story          7          5      2004         2004     Gable
## 694      1Story          5          6      1921         1968     Gable
## 695      1.5Fin          5          6      1936         1950     Gable
## 697      1Story          5          7      1921         1950     Gable
## 698      1Story          5          7      1952         1952     Gable
## 700      1Story          7          5      2004         2004     Gable
## 702      1Story          7          5      1969         1969       Hip
## 705      1Story          7          5      2004         2005     Gable
## 706      2Story          4          5      1930         1950       Hip
## 710      1Story          5          7      1966         1966     Gable
## 711      1Story          3          6      1935         2003     Gable
## 712      1.5Fin          4          7      1900         1950     Gable
## 714      1Story          4          5      1970         1970     Gable
## 715      2Story          6          8      1976         2005     Gable
## 717      2Story          7          8      1890         1998     Gable
## 722      1Story          6          5      2004         2004     Gable
## 723      1Story          4          7      1970         1970     Gable
## 724      1.5Fin          4          6      1954         1972     Gable
## 726      1Story          4          6      1970         1970     Gable
## 728      1Story          7          5      2007         2007     Gable
## 729      1Story          5          5      1958         1958     Gable
## 730      1.5Fin          4          5      1925         1950     Gable
## 735      1Story          5          5      1968         1968     Gable
## 737      1Story          3          4      1950         1950     Gable
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## 739      1Story           5           5      1987         1988     Gable
## 740      2Story           7           5      2004         2004     Gable
## 741      2Story           5           7      1910         2002     Gable
## 742      1Story           6           8      1961         1996       Hip
## 743      1Story           7           5      2000         2001     Gable
## 750      1.5Fin           4           3      1945         1950     Gable
## 751      1.5Fin           4           7      1910         2004     Gable
## 752      2Story           7           5      2003         2003     Gable
## 753      1Story           6           5      1997         1997     Gable
## 755      1Story           6           8      1969         2005     Gable
## 756      2Story           6           5      1999         1999     Gable
## 757      2Story           8           5      2007         2007     Gable
## 759      2Story           7           5      1999         1999     Gable
## 761      1Story           6           6      1959         1959       Hip
## 762      1Story           5           5      1924         1950     Gable
## 763      2Story           7           5      2009         2009     Gable
## 768      1.5Fin           6           7      1940         1985     Gable
## 771      SFoyer           5           5      1982         1982       Hip
## 772      1Story           4           5      1951         1951     Gable
## 774      1Story           5           5      1958         1958     Gable
## 776      1Story           6           5      1998         1998       Hip
## 777      1Story           7           5      2005         2006     Gable
## 780      SFoyer           6           5      1977         1977     Gable
## 782      2Story           6           5      1992         1992     Gable
## 783      1Story           7           5      2001         2002     Gable
## 787      1.5Fin           5           6      1915         1950     Gable
## 788      2Story           7           5      2004         2004     Gable
## 789      1Story           4           7      1954         2000     Gable
## 790      2Story           6           8      1966         2007     Gable
## 794      1Story           8           5      2007         2007     Gable
## 798      1Story           5           5      1953         1953     Gable
## 801      2Story           6           5      1997         1997     Gable
## 802      1Story           4           7      1916         1990     Gable
## 805      1Story           5           5      1954         1954     Gable
## 806      1Story           7           5      2008         2008     Gable
## 807        SLvl           5           5      1967         1967     Gable
## 810      2.5Unf           5           5      1898         1965       Hip
## 813      1Story           5           5      1952         1952       Hip
## 814      1Story           6           6      1958         1958     Gable
## 815      1.5Fin           5           7      1918         1950     Gable
## 816      1Story           7           5      1998         1998     Gable
## 819        SLvl           6           7      1971         1971     Gable
## 821      2Story           7           5      2003         2003     Gable
## 822      1Story           4           4      1953         1953     Gable
## 827      1.5Unf           5           6      1924         1950     Gable
## 829      2Story           5           5      1967         1967      Flat
## 830      2Story           7           5      2005         2005     Gable
## 832      2Story           7           5      2005         2005     Gable
## 834      1Story           6           6      1964         1964     Gable
## 835      1Story           5           6      1961         1961     Gable
## 836      1Story           4           7      1950         1995     Gable
## 837      1Story           5           6      1948         1973     Gable
## 838      2Story           6           5      1973         1973     Gable
## 839      1Story           5           6      1995         2006     Gable
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## 840      1.5Fin          5          6      1946         1995     Gable
## 841      2Story          6          8      1925         1950     Gable
## 843        SLvl          6          7      1966         1966     Gable
## 844      1Story          5          4      1961         1961     Gable
## 851      1Story          6          5      2003         2003     Gable
## 856      1Story          5          8      1962         2010     Gable
## 857        SLvl          6          6      1978         1978     Gable
## 862      1Story          5          4      1965         1965       Hip
## 863      1Story          6          5      1984         1985       Hip
## 864      1Story          5          5      1959         1959       Hip
## 865      1Story          7          5      2007         2008     Gable
## 866      1Story          5          6      1970         1970     Gable
## 868      1Story          4          5      1961         1961     Gable
## 871      1Story          5          5      1962         1962       Hip
## 872      2Story          6          5      1998         1998     Gable
## 873      1Story          5          7      1953         1996     Gable
## 875      1.5Fin          5          6      1941         1950     Gable
## 877      1Story          4          5      1963         1963     Gable
## 879      SFoyer          5          7      1961         1995     Gable
## 880      1Story          5          8      1978         2005     Gable
## 881      1Story          5          5      2005         2006     Gable
## 884      2.5Fin          4          5      1912         1950     Gable
## 885      1Story          5          5      1967         1967     Gable
## 887      1Story          5          5      1959         2005     Gable
## 888      1.5Fin          5          7      1955         1955     Gable
## 893      1Story          6          8      1963         2003       Hip
## 895      1Story          5          5      1979         1979     Gable
## 897      1Story          4          6      1936         1950     Gable
## 898      2Story          5          5      1979         1979     Gable
## 901      1Story          4          6      1971         1971     Gable
## 902      1Story          5          7      1957         2000       Hip
## 905      1Story          5          6      1967         1967     Gable
## 906      1Story          5          5      1954         1954     Gable
## 909      1Story          5          5      1983         1983     Gable
## 911      2Story          5          5      1960         1960     Gable
## 912      1Story          5          7      1977         1989     Gable
## 913      1Story          5          7      1925         1950     Gable
## 914      2Story          5          6      1949         1950     Gable
## 915      2Story          6          5      2009         2009     Gable
## 916      2Story          4          5      1970         1970     Gable
## 917      1Story          2          3      1949         1950     Gable
## 918      1Story          4          6      1956         1956     Gable
## 921      2Story          6          5      1994         1994     Gable
## 922      1.5Fin          5          7      1900         2003     Gable
## 926      1Story          5          6      1977         1977     Gable
## 931      1Story          8          5      2007         2007     Gable
## 932      1Story          5          6      1965         1965     Gable
## 934      1Story          7          5      2004         2004     Gable
## 936      1Story          4          5      1926         1953     Gable
## 937      1Story          7          5      2003         2003     Gable
## 939      2Story          7          5      2006         2006     Gable
## 941      1Story          6          5      1976         1976     Gable
## 943      1Story          4          3      1977         1977     Gable
## 944      1Story          5          4      1967         1967     Gable
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## 946      1.5Fin          5          6      1890         1996       Hip
## 951      1Story          5          8      1950         2002     Gable
## 952      1Story          5          5      1965         1965     Gable
## 953      SFoyer          5          8      1972         2003     Gable
## 955      SFoyer          6          5      1975         1975      Flat
## 956      2Story          6          6      1946         1950     Gable
## 958      1Story          5          5      1962         1962       Hip
## 959      1Story          7          5      2003         2003     Gable
## 960      2Story          7          5      1999         1999       Hip
## 961      1Story          5          7      1958         2008     Gable
## 964      1Story          9          5      2007         2007     Gable
## 968      1Story          5          7      1955         1955       Hip
## 969      1.5Fin          3          6      1910         1950     Gable
## 970        SLvl          6          5      1958         1958       Hip
## 971      1.5Fin          4          4      1949         1950     Gable
## 972      2Story          7          5      2003         2004     Gable
## 974      1Story          7          5      2007         2008     Gable
## 975      2Story          7          8      1910         1993     Gable
## 976      2Story          7          5      2000         2000     Gable
## 977      1Story          4          7      1923         1958     Gable
## 978      1Story          7          5      2006         2007     Gable
## 979      1Story          4          5      1954         1954     Gable
## 980      1Story          5          6      1963         1963     Gable
## 981      SFoyer          7          9      1961         2007     Gable
## 985      1.5Fin          5          5      1977         1977     Gable
## 986      1Story          5          5      1950         1950     Gable
## 987      1.5Fin          6          8      1910         2003       Hip
## 990      2Story          7          5      2006         2006     Gable
## 994      2Story          6          5      2005         2006     Gable
## 996      1.5Fin          4          7      1946         1950     Gable
## 997      1Story          5          6      1961         1961       Hip
## 1000     1Story          7          5      2006         2006     Gable
## 1001     1Story          3          3      1952         1952      Flat
## 1002     1Story          5          6      1920         1950     Gable
## 1004     1Story          5          6      1976         1976     Gable
## 1006       SLvl          5          8      1977         1977     Gable
## 1008     2Story          4          4      1970         1970     Gable
## 1010     1.5Fin          5          5      1926         1950     Gable
## 1012     1Story          5          5      1965         1965       Hip
## 1014     1Story          5          4      1910         2006       Hip
## 1016     2Story          8          6      2001         2001     Gable
## 1021     1Story          4          5      2005         2005     Gable
## 1022     1Story          7          5      2006         2006     Gable
## 1023     1.5Fin          5          5      1930         1950     Gable
## 1026     1Story          5          5      1972         1972     Gable
## 1030     2Story          6          7      1972         1972     Gable
## 1031     2Story          5          8      1916         1995     Gable
## 1034     1Story          7          5      2002         2002     Gable
## 1036     1Story          4          3      1957         1957     Gable
## 1040     SFoyer          4          4      1970         1970     Gable
## 1042     2Story          6          8      1966         2000       Hip
## 1048     1Story          5          5      1994         1995     Gable
## 1050     1Story          4          7      1946         2006     Gable
## 1051     1Story          7          5      2007         2007     Gable
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## 1061     1Story          8          5      2001         2001     Gable
## 1062     1Story          3          4      1935         1950     Gable
## 1063     2Story          5          5      1900         1950     Gable
## 1066     2Story          7          5      1996         1997     Gable
## 1068     2Story          6          6      1964         1964     Gable
## 1070     1.5Unf          5          7      1949         2003     Gable
## 1071     1Story          5          5      1956         1956       Hip
## 1072     2Story          6          6      1968         1968     Gable
## 1074     2Story          6          6      1977         1977       Hip
## 1075     1Story          7          5      2006         2006     Gable
## 1078     1Story          5          5      1969         1969     Gable
## 1080     1Story          5          5      1994         1994     Gable
## 1081     1Story          6          7      1971         2004     Gable
## 1082     1Story          5          5      1963         1963     Gable
## 1086     SFoyer          6          6      1992         1992     Gable
## 1087     2Story          4          5      1973         1973     Gable
## 1089     2Story          7          5      2004         2004     Gable
## 1091     1Story          3          4      1950         1950     Gable
## 1092     2Story          7          5      1999         2000     Gable
## 1094     1Story          5          8      1965         1998       Hip
## 1095     1Story          5          7      1956         2000     Gable
## 1097     2Story          6          7      1914         2006     Gable
## 1098     1Story          8          5      1986         1986     Gable
## 1099     1.5Fin          4          6      1936         1950     Gable
## 1101     1Story          2          5      1920         1950     Gable
## 1102     1Story          5          5      1971         1971     Gable
## 1103     1Story          5          7      1960         2002     Gable
## 1105     2Story          5          5      1970         1970     Gable
## 1113     1Story          5          7      1957         1957     Gable
## 1114     1Story          5          7      1953         2006     Gable
## 1115     1Story          5          7      1954         2000     Gable
## 1118     1Story          5          7      1967         2003     Gable
## 1119       SLvl          5          6      1958         1987     Gable
## 1120     1Story          5          5      1959         1959     Gable
## 1122     1Story          7          5      2005         2006     Gable
## 1123     1Story          4          3      1956         1956     Gable
## 1124     1Story          5          9      1947         2008       Hip
## 1130     SFoyer          5          5      1980         1980     Gable
## 1132     1Story          5          5      1991         1992     Gable
## 1133     2Story          6          4      1880         1950     Gable
## 1137     1.5Fin          6          5      1950         1950     Gable
## 1138     1.5Fin          5          8      1875         1996     Gable
## 1141     1Story          5          7      1951         1951     Gable
## 1144     1Story          5          3      1959         1959     Gable
## 1145     1.5Fin          4          4      1941         1950     Gable
## 1150     2Story          7          9      1920         1988       Hip
## 1154     1Story          6          8      1930         2007     Gable
## 1159     1Story          8          5      2007         2008     Gable
## 1164     SFoyer          4          4      1969         1969     Gable
## 1166     1Story          7          5      2009         2009     Gable
## 1167     1Story          8          5      2008         2008     Gable
## 1173     2Story          7          5      2006         2007     Gable
## 1177     1Story          5          5      1984         1985     Gable
## 1178     1.5Fin          6          8      1926         2004     Gable
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## 1181     2Story           7           5      1990         1991     Gable
## 1186     1.5Fin           5           7      1924         1950     Gable
## 1187     2Story           3           5      1900         1970     Gable
## 1189     2Story           7           5      2002         2002     Gable
## 1192     2Story           8           5      1999         2000     Gable
## 1193     1.5Fin           5           8      1925         1994   Gambrel
## 1194     1Story           6           5      1999         1999       Hip
## 1195     2Story           6           7      1969         1969     Gable
## 1196     2Story           6           5      2005         2005     Gable
## 1199     1Story           7           5      2001         2001     Gable
## 1201     1Story           4           5      1970         1970     Gable
## 1202     2Story           7           5      1998         1998     Gable
## 1205     1Story           5           6      1975         1975     Gable
## 1207     1Story           4           4      1966         1966     Gable
## 1208     1Story           6           5      2003         2003     Gable
## 1209     1Story           5           7      1962         1980     Gable
## 1212     1.5Fin           8           7      1988         2005     Gable
## 1213     1Story           4           6      1941         1950       Hip
## 1214       SLvl           4           9      1965         2001     Gable
## 1215     SFoyer           5           5      1962         1962     Gable
## 1216     1Story           5           5      1966         1966     Gable
## 1217     1.5Fin           6           5      1978         1978     Gable
## 1218     1Story           8           5      2009         2009     Gable
## 1219     1.5Fin           4           5      1947         1950     Gable
## 1220     2Story           6           5      1971         1971     Gable
## 1221     1Story           5           5      1964         1964     Gable
## 1224     1Story           5           3      1951         1951       Hip
## 1226       SLvl           6           8      1958         1958       Hip
## 1228     1Story           5           8      1965         2008     Gable
## 1230       SLvl           5           5      1960         1960       Hip
## 1232       SLvl           5           6      1962         1962       Hip
## 1233     1Story           4           5      1962         1962     Gable
## 1234     1Story           5           5      1959         1959       Hip
## 1235     2Story           5           6      1911         1950     Gable
## 1236     2Story           5           5      1914         1950     Gable
## 1237     2Story           7           5      2003         2003     Gable
## 1239     1Story           6           5      2005         2005     Gable
## 1241     2Story           7           5      2003         2003     Gable
## 1242     1Story           7           6      2007         2007       Hip
## 1247     2Story           7           5      2005         2006     Gable
## 1248       SLvl           6           5      1976         1976     Gable
## 1250     1Story           5           7      1950         1950     Gable
## 1253     1Story           5           6      1968         1968     Gable
## 1258     1Story           5           8      1922         1950     Gable
## 1259       SLvl           7           5      2005         2005     Gable
## 1260     1Story           6           8      1969         1969     Gable
## 1262     1Story           5           6      1956         1956       Hip
## 1265     1Story           6           5      1998         1999     Gable
## 1266     2Story           7           5      1999         1999       Hip
## 1270     1.5Fin           5           5      1958         1958     Gable
## 1273     1Story           5           6      1965         1965       Hip
## 1276     2Story           5           5      1948         1950     Gable
## 1280     1.5Fin           4           4      1920         1950     Gable
## 1281     1Story           7           5      2002         2002     Gable
```

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## 1283     1Story           5           7      1977         2008     Gable
## 1284     2Story           6           5      1971         1971   Mansard
## 1288     1Story           5           5      1964         1964     Gable
## 1292     2Story           5           7      1972         1972     Gable
## 1293     2Story           5           4      1892         1965     Gable
## 1295     1Story           5           7      1955         1990       Hip
## 1296     1Story           5           5      1968         1968       Hip
## 1297     1Story           5           6      1963         1963       Hip
## 1298     SFoyer           6           5      2005         2006     Gable
## 1300     1Story           5           7      1959         1994       Hip
## 1304     1Story           7           5      2005         2005     Gable
## 1305     2Story           7           5      2004         2004     Gable
## 1308     1Story           5           5      1994         1995     Gable
## 1309     1Story           5           7      1948         2005     Gable
## 1310     1Story           6           5      1991         1991     Gable
## 1312     1Story           7           5      2005         2007     Gable
## 1320     1Story           4           5      1954         1954       Hip
## 1322     1Story           3           6      1949         1950       Hip
## 1324     1Story           4           7      1940         1950       Hip
## 1326     1Story           4           4      1922         1950     Gable
## 1327     1Story           3           6      1931         2006     Gable
## 1332       SLvl           5           5      1976         1976     Gable
## 1334     1.5Fin           5           6      1938         1995     Gable
## 1335     2Story           5           6      1970         1970     Gable
## 1337     1Story           5           5      1973         1973     Gable
## 1338     1Story           4           4      1941         1950     Gable
## 1339     2Story           7           5      2002         2002     Gable
## 1340     1Story           5           7      1972         1972       Hip
## 1341     1Story           4           5      1971         1971     Gable
## 1342     1Story           6           5      2003         2004     Gable
## 1346     1Story           4           4      1920         1950       Hip
## 1350     2Story           8           5      1872         1987     Gable
## 1351     2Story           5           5      1969         1969     Gable
## 1353     1.5Fin           6           9      1937         2000     Gable
## 1357     1Story           5           5      1966         1966     Gable
## 1359     2Story           6           5      2000         2000     Gable
## 1361     2Story           5           6      1921         1998     Gable
## 1365     2Story           7           5      2005         2005     Gable
## 1366     2Story           7           5      2000         2000     Gable
## 1367     2Story           7           5      1999         1999     Gable
## 1369     1Story           6           5      2003         2004     Gable
## 1371     1.5Fin           4           6      1920         1950     Gable
## 1377     1Story           6           5      1930         1950     Gable
## 1378     1.5Fin           5           5      1941         1960     Gable
## 1379     2Story           6           5      1973         1973     Gable
## 1380       SLvl           5           5      2006         2007     Gable
## 1381     1Story           3           3      1914         1950     Gable
## 1383     2Story           7           7      1920         1950       Hip
## 1384     1Story           5           7      1918         2007     Gable
## 1385     1.5Fin           6           5      1939         1950     Gable
## 1386     1.5Fin           4           8      1922         2007     Gable
## 1391     1Story           7           5      2000         2000     Gable
## 1392     1Story           5           5      1967         1967     Gable
## 1398     2Story           5           8      1920         2004     Gable
```

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## 1399     1.5Fin           5           4      1950         1982     Gable
## 1404     1Story           8           5      2007         2007     Gable
## 1405     1.5Fin           3           4      1915         1950     Gable
## 1407     SFoyer           5           7      1972         2007     Gable
## 1408     1Story           5           5      1985         1985     Gable
## 1409     2Story           4           7      1910         1950     Gable
## 1411     2Story           7           5      2001         2001     Gable
## 1412     1.5Fin           6           8      1950         2005     Gable
## 1413     1Story           4           5      1949         1950     Gable
## 1417     2Story           4           6      1885         1950     Gable
## 1419     1Story           5           5      1963         1963     Gable
## 1423     1Story           6           5      2003         2003     Gable
## 1426     1Story           6           6      1959         1959       Hip
## 1432     1Story           6           6      1976         1976     Gable
## 1433     1Story           4           6      1927         2007     Gable
## 1437     1Story           4           6      1971         1971     Gable
## 1439     1Story           6           7      1957         1996     Gable
## 1445     1Story           7           5      2004         2004     Gable
## 1446     SFoyer           6           5      1966         1966     Gable
## 1447     1Story           5           7      1962         1962     Gable
## 1449     2Story           4           7      1910         2000     Gable
## 1450     SFoyer           5           7      1970         1970     Gable
## 1451     2Story           5           5      1974         1974     Gable
## 1453       SLvl           5           5      2005         2005     Gable
## 1454     1Story           5           5      2006         2006     Gable
## 1455     1Story           7           5      2004         2005     Gable
## 1459     1Story           5           6      1950         1996       Hip
## 1460     1Story           5           6      1965         1965     Gable
##      RoofMatl Exterior1st Exterior2nd MasVnrType MasVnrArea ExterQual ExterCond
## 1     CompShg     VinylSd     VinylSd    BrkFace        196        Gd        TA
## 6     CompShg     VinylSd     VinylSd       None          0        TA        TA
## 11    CompShg     HdBoard     HdBoard       None          0        TA        TA
## 13    CompShg     HdBoard     Plywood       None          0        TA        TA
## 16    CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 18    CompShg     MetalSd     MetalSd       None          0        TA        TA
## 19    CompShg     VinylSd     VinylSd       None          0        TA        TA
## 20    CompShg     BrkFace     Plywood       None          0        TA        TA
## 27    CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 30    CompShg     MetalSd     MetalSd       None          0        TA        TA
## 31    CompShg     BrkFace     BrkFace       None          0        TA        Fa
## 32    CompShg     HdBoard     HdBoard       None          0        TA        TA
## 33    CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 37    CompShg     VinylSd     VinylSd       None          0        TA        TA
## 39    CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 40    CompShg     AsbShng     Plywood       None          0        TA        TA
## 43    CompShg     HdBoard     HdBoard       None          0        TA        TA
## 44    CompShg     VinylSd     VinylSd       None          0        TA        TA
## 45    CompShg     BrkFace     Wd Sdng       None          0        TA        TA
## 48    CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 49    CompShg     MetalSd     MetalSd       None          0        TA        TA
## 50    CompShg     HdBoard     HdBoard       None          0        TA        TA
## 51    CompShg     VinylSd     VinylSd       None          0        TA        TA
## 53    CompShg     Wd Sdng     Wd Sdng       None          0        Fa        TA
## 57    CompShg     MetalSd     MetalSd    BrkFace        456        Gd        TA
```

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## 58    CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 60    CompShg     HdBoard     HdBoard       None          0        TA        TA
## 61    CompShg     VinylSd     VinylSd       None          0        TA        TA
## 62    CompShg     MetalSd     MetalSd       None          0        TA        TA
## 64    CompShg      Stucco      Stucco       None          0        TA        TA
## 65    CompShg     VinylSd     VinylSd    BrkFace        573        TA        TA
## 68    CompShg     VinylSd     VinylSd    BrkFace        167        Gd        TA
## 69    CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 72    CompShg     HdBoard     Plywood       None          0        TA        TA
## 74    CompShg     Wd Sdng     Wd Sdng    BrkFace        104        TA        TA
## 75    CompShg     VinylSd     VinylSd       None          0        Gd        Gd
## 76    CompShg     CemntBd     CmentBd       None          0        TA        TA
## 77    CompShg     VinylSd     VinylSd       None          0        TA        TA
## 78    CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 79    CompShg     HdBoard     HdBoard       None          0        TA        TA
## 80    CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 82    CompShg     VinylSd     VinylSd    BrkFace        443        TA        Gd
## 84    CompShg     MetalSd     MetalSd     BrkCmn         66        TA        TA
## 88    CompShg     VinylSd     VinylSd      Stone         76        Gd        TA
## 89    CompShg     Plywood     Plywood       None          0        Fa        Fa
## 90    CompShg     VinylSd     VinylSd       None          0        TA        TA
## 91    CompShg     BrkFace     Wd Sdng       None          0        TA        TA
## 92    CompShg     HdBoard     HdBoard     BrkCmn        203        TA        TA
## 93    CompShg     Wd Sdng     Wd Sdng       None          0        TA        Gd
## 95    CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 97    CompShg     VinylSd     VinylSd    BrkFace        183        Gd        TA
## 98    CompShg     HdBoard     HdBoard    BrkFace         48        TA        TA
## 99    CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 100   CompShg     Plywood     Plywood       None          0        TA        TA
## 103   CompShg     HdBoard     HdBoard       None          0        TA        Fa
## 104   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 107   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 108   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 109   CompShg     CemntBd     CmentBd       None          0        TA        TA
## 111   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 118   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 122   CompShg     AsbShng     AsbShng       None          0        TA        TA
## 123   CompShg     MetalSd     MetalSd    BrkFace        135        TA        Gd
## 124   CompShg     Plywood     Plywood       None          0        Gd        TA
## 126   CompShg     Wd Sdng     Wd Sdng       None          0        TA        Fa
## 130   CompShg     Plywood     Plywood    BrkFace         85        TA        TA
## 133   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 134   CompShg     VinylSd     VinylSd    BrkFace        136        Gd        TA
## 138   CompShg     VinylSd     VinylSd    BrkFace         70        TA        TA
## 140   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 142   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 143   CompShg     BrkFace     Wd Sdng       None          0        TA        Fa
## 144   CompShg     VinylSd     VinylSd    BrkFace        183        Gd        TA
## 145   CompShg     HdBoard     HdBoard    BrkFace        336        TA        TA
## 146   CompShg     VinylSd     VinylSd      Stone         50        Gd        TA
## 147   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 149   CompShg     VinylSd     VinylSd    BrkFace        120        TA        TA
## 150   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 151   CompShg     HdBoard     HdBoard       None          0        TA        TA
```

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## 155   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 156   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 157   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 161   CompShg     Plywood     Plywood       None          0        TA        TA
## 164   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 165   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 166   CompShg     Wd Sdng     Wd Sdng       None          0        TA        Gd
## 171   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 180   CompShg     Wd Sdng     Wd Sdng       None          0        Gd        TA
## 184   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 185   CompShg     AsbShng     Plywood       None          0        TA        TA
## 187   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 188   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 192   CompShg     HdBoard     HdBoard    BrkFace        138        TA        TA
## 193   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 194   CompShg     VinylSd     VinylSd      Stone         50        Gd        TA
## 195   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 199   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 201   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 203   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 205   CompShg     AsbShng     AsbShng       None          0        TA        TA
## 206   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 210   CompShg     HdBoard     HdBoard      Stone        260        TA        TA
## 211   CompShg      Stucco      Stucco       None          0        TA        TA
## 212   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 214   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 215   CompShg     HdBoard     HdBoard    BrkFace        153        TA        TA
## 217   CompShg     VinylSd     VinylSd    BrkFace        266        Gd        TA
## 218   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 220   CompShg     VinylSd     VinylSd    BrkFace         16        Gd        TA
## 221   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 224   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 226   CompShg     HdBoard     HdBoard    BrkFace        142        TA        TA
## 228   CompShg     HdBoard     HdBoard    BrkFace        127        TA        TA
## 231   CompShg     MetalSd     MetalSd    BrkFace        220        TA        TA
## 234   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 236   CompShg     HdBoard     HdBoard    BrkFace        604        TA        TA
## 237   CompShg     VinylSd     VinylSd    BrkFace         98        Gd        TA
## 238   CompShg     HdBoard     HdBoard       None          0        Gd        TA
## 239   CompShg     VinylSd     VinylSd    BrkFace        254        Ex        TA
## 241   CompShg     VinylSd     VinylSd      Stone         36        Gd        TA
## 242   CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 243   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 247   CompShg     AsbShng     AsbShng       None          0        TA        Fa
## 249   CompShg     VinylSd     VinylSd    BrkFace        101        Gd        TA
## 251   CompShg     Wd Sdng     Plywood       None          0        TA        Po
## 253   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 254   CompShg     HdBoard     HdBoard    BrkFace        108        TA        TA
## 255   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 257   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 260   CompShg     BrkFace     BrkFace       None          0        TA        TA
## 264   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 265   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 275   CompShg     HdBoard     ImStucc       None          0        TA        TA
```

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## 276   CompShg     Wd Sdng     Wd Sdng       None          0        Gd        Gd
## 277   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 278   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 282   CompShg     VinylSd     VinylSd      Stone         68        Gd        TA
## 285   CompShg     Plywood     ImStucc       None          0        Gd        TA
## 286   CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 288   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 289   CompShg     MetalSd     MetalSd    BrkFace         31        TA        Gd
## 290   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 292   CompShg     VinylSd     VinylSd       None          0        TA        Fa
## 296   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 297   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 304   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 306   CompShg     CemntBd     CmentBd      Stone        246        Gd        TA
## 308   CompShg     MetalSd     MetalSd       None          0        TA        Fa
## 309   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 321   CompShg     VinylSd     VinylSd      Stone        370        TA        TA
## 324   CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 326   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 328   CompShg     Wd Sdng     Wd Sdng    BrkFace        175        TA        TA
## 329   CompShg     Wd Sdng     Wd Shng       None          0        TA        TA
## 330   CompShg     Wd Sdng     Wd Shng       None          0        TA        TA
## 331   CompShg     HdBoard     HdBoard    BrkFace         84        TA        TA
## 332   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 338   CompShg     VinylSd     VinylSd    BrkFace        113        Gd        TA
## 339   CompShg     Wd Sdng     Wd Sdng       None          0        Gd        TA
## 340   CompShg     Wd Sdng     Wd Sdng    BrkFace        176        TA        TA
## 341   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 342   CompShg     Wd Sdng     AsbShng       None          0        Fa        Fa
## 343   CompShg      Stucco      Stucco    BrkFace        340        TA        TA
## 345   CompShg     CemntBd     CmentBd       None          0        TA        TA
## 347   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 349   CompShg     VinylSd     Wd Shng      Stone        106        Gd        TA
## 353   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 354   CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 356   CompShg     VinylSd     VinylSd       None          0        Gd        Gd
## 357   CompShg     HdBoard     HdBoard    BrkFace        106        TA        TA
## 359   CompShg     Wd Sdng     ImStucc    BrkFace        120        TA        TA
## 362   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 364   CompShg     HdBoard     HdBoard    BrkFace        510        TA        TA
## 366   CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 373   CompShg     Plywood     Plywood       None          0        TA        TA
## 374   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 376   CompShg     Wd Sdng     Wd Sdng       None          0        Fa        Fa
## 377   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 383   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 384   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 387   CompShg     Wd Sdng     VinylSd       None          0        TA        Fa
## 389   CompShg     VinylSd     VinylSd    BrkFace        125        Gd        TA
## 391   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 393   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 395   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 396   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 397   CompShg     MetalSd     MetalSd       None          0        TA        TA
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## 399   CompShg     MetalSd     MetalSd       None          0        TA        Fa
## 400   CompShg     CemntBd     CmentBd      Stone        100        Gd        TA
## 403   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 407   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 408   CompShg     Wd Sdng     Plywood       None          0        TA        TA
## 411   CompShg     BrkComm     Brk Cmn       None          0        TA        Fa
## 412   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 416   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 419   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 421   CompShg     VinylSd     VinylSd    BrkFace        200        TA        Gd
## 423   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 428   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 429   CompShg     VinylSd     VinylSd    BrkFace        108        Gd        TA
## 431   CompShg     HdBoard     HdBoard    BrkFace        232        TA        TA
## 432   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 433   CompShg     HdBoard     HdBoard    BrkFace        376        TA        TA
## 435   CompShg     CemntBd     CmentBd       None          0        TA        Gd
## 437   CompShg      Stucco      Stucco       None          0        TA        TA
## 438   CompShg     Wd Sdng     Wd Sdng       None          0        Gd        TA
## 440   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 442   CompShg     VinylSd     VinylSd    BrkFace        270        TA        TA
## 450   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 451   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 453   CompShg     VinylSd     VinylSd    BrkFace         42        Gd        TA
## 454   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 455   CompShg     Plywood     Plywood       None          0        TA        TA
## 457   CompShg     AsbShng     AsbShng       None          0        TA        TA
## 461   CompShg     VinylSd     VinylSd      Stone        110        Gd        TA
## 462   CompShg     Wd Sdng     Wd Sdng       None          0        Gd        Gd
## 465   CompShg     HdBoard     HdBoard    BrkFace        136        TA        TA
## 470   CompShg     HdBoard     HdBoard    BrkFace        120        Gd        TA
## 471   CompShg     HdBoard     HdBoard       None          0        Gd        TA
## 473   CompShg     VinylSd     VinylSd    BrkFace         80        TA        TA
## 475   CompShg     CemntBd     CmentBd       None          0        Gd        TA
## 476   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 480   CompShg      Stucco      Stucco     BrkCmn        435        TA        TA
## 484   CompShg     VinylSd     VinylSd    BrkFace        116        TA        TA
## 485   CompShg     HdBoard     Plywood       None          0        TA        Gd
## 487   CompShg     MetalSd     MetalSd    BrkFace        168        TA        TA
## 490   CompShg     CemntBd     CmentBd       None          0        TA        Gd
## 493   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 495   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 496   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 498   CompShg     Wd Sdng     Wd Sdng       None          0        TA        Gd
## 499   CompShg     HdBoard     HdBoard    BrkFace         89        TA        TA
## 500   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 501   CompShg     HdBoard     HdBoard    BrkFace        285        TA        TA
## 502   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 503   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 506   CompShg     Wd Sdng     Wd Sdng    BrkFace        360        TA        TA
## 508   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 510   CompShg     MetalSd     MetalSd    BrkFace        132        TA        TA
## 513   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 514   CompShg     VinylSd     VinylSd       None          0        TA        Gd
```

```
## 515   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 519   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 521   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 527   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 529   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 532   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 534   CompShg     VinylSd     VinylSd       None          0        Fa        Fa
## 536   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 537   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 538   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 544   CompShg     MetalSd     MetalSd    BrkFace        182        TA        TA
## 546   CompShg     HdBoard     HdBoard    BrkFace        178        Gd        Gd
## 548   CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 549   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 551   CompShg     Plywood     Plywood       None          0        TA        TA
## 552   CompShg     BrkFace     BrkFace       None          0        TA        TA
## 554   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 558   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 566   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 568   CompShg     VinylSd     VinylSd    BrkFace        168        Gd        TA
## 571   CompShg     HdBoard     HdBoard    BrkFace        108        TA        TA
## 572   CompShg     WdShing     Wd Shng    BrkFace        207        TA        TA
## 573   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 575   CompShg     MetalSd     AsphShn    BrkFace         82        TA        TA
## 576   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 579   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 580   CompShg     MetalSd     MetalSd    BrkFace        335        TA        TA
## 583   CompShg     HdBoard     HdBoard    BrkFace        104        TA        Gd
## 585   CompShg     AsbShng     AsbShng       None          0        TA        TA
## 587   CompShg      Stucco     Wd Shng       None          0        TA        Gd
## 588   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 590   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 591   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 593   CompShg     HdBoard     HdBoard       None          0        TA        Gd
## 594   CompShg     VinylSd     VinylSd    BrkFace        170        Gd        TA
## 595   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 597   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 604   CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 607   CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 608   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 610   CompShg     VinylSd     VinylSd     BrkCmn        192        TA        Fa
## 614   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 615   CompShg     CemntBd     CmentBd       None          0        TA        TA
## 616   CompShg     MetalSd     MetalSd    BrkFace        156        TA        Gd
## 618   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 621   CompShg      Stucco      Stucco       None          0        TA        TA
## 623   CompShg     Plywood     Plywood    BrkFace        153        TA        TA
## 626   CompShg     Wd Sdng     Wd Sdng    BrkFace        261        TA        TA
## 630   WdShngl     Plywood     Wd Sdng    BrkFace        259        TA        TA
## 631   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 634   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 635   CompShg     Plywood     Plywood       None          0        TA        TA
## 636   CompShg     VinylSd     VinylSd       None          0        Fa        TA
## 638   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
```

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## 639   CompShg     MetalSd     Wd Sdng       None          0        TA        TA
## 644   CompShg     WdShing     HdBoard    BrkFace        263        TA        TA
## 646   CompShg     Plywood     Plywood       None          0        TA        TA
## 647   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 650   CompShg     CemntBd     CmentBd       None          0        TA        TA
## 651   CompShg     CemntBd     CmentBd       <NA>         NA        Gd        TA
## 654   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 656   CompShg     HdBoard     ImStucc    BrkFace        381        TA        TA
## 657   CompShg     HdBoard     HdBoard    BrkFace         54        Gd        TA
## 660   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 664   CompShg     Plywood     Plywood       None          0        TA        TA
## 671   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 672   CompShg     Wd Sdng     Wd Sdng       None          0        TA        Gd
## 677   CompShg     AsbShng      Stucco       None          0        TA        TA
## 678   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 680   CompShg     Wd Sdng     Wd Sdng    BrkFace         57        TA        TA
## 682   CompShg     VinylSd      Stucco       None          0        TA        TA
## 685   CompShg     VinylSd     VinylSd    BrkFace         30        Gd        TA
## 687   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 688   CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 694   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 695   CompShg     Wd Sdng     Wd Sdng       None          0        TA        Fa
## 697   CompShg     Wd Sdng     Wd Shng       None          0        TA        TA
## 698   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 700   CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 702   CompShg     HdBoard     HdBoard    BrkFace        168        TA        TA
## 705   CompShg     VinylSd     VinylSd    BrkFace        109        Gd        TA
## 706   CompShg     VinylSd     Wd Shng       None          0        Fa        Fa
## 710   CompShg     HdBoard     HdBoard     BrkCmn         41        TA        TA
## 711   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 712   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 714   CompShg     HdBoard     HdBoard    BrkFace        160        TA        TA
## 715   CompShg     HdBoard     Plywood    BrkFace        289        Gd        TA
## 717   CompShg     Wd Sdng     VinylSd       None          0        TA        Gd
## 722   CompShg     VinylSd     VinylSd    BrkFace        169        Gd        TA
## 723   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 724   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 726   CompShg     HdBoard     Plywood       None          0        TA        TA
## 728   CompShg     VinylSd     VinylSd      Stone         82        Gd        TA
## 729   CompShg     VinylSd     VinylSd    BrkFace         95        TA        TA
## 730   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 735   CompShg     Plywood     Plywood       None          0        TA        TA
## 737   CompShg      Stucco       Stone       None          0        TA        TA
## 739   CompShg     Plywood     Plywood       None          0        TA        TA
## 740   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 741   CompShg     Wd Sdng     Wd Shng       None          0        TA        Gd
## 742   CompShg     HdBoard     HdBoard       None          0        TA        Gd
## 743   CompShg     VinylSd     VinylSd    BrkFace        108        TA        TA
## 750   CompShg     WdShing     Wd Shng       None          0        TA        TA
## 751   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 752   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 753   CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 755   CompShg     Plywood     Plywood       None          0        TA        TA
## 756   CompShg     MetalSd     MetalSd    BrkFace        894        TA        TA
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## 757   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 759   CompShg     MetalSd     MetalSd    BrkFace        360        TA        TA
## 761   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 762   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 763   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 768   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 771   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 772   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 774   CompShg     Wd Sdng     Wd Sdng       None          1        TA        TA
## 776   CompShg     VinylSd     VinylSd    BrkFace        320        TA        TA
## 777   CompShg     VinylSd     VinylSd    BrkFace        240        Gd        TA
## 780   CompShg     Plywood     ImStucc    BrkFace         90        TA        TA
## 782   CompShg     VinylSd     VinylSd       None          0        Gd        Gd
## 783   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 787   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 788   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 789   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 790   CompShg     HdBoard     HdBoard    BrkFace        157        TA        TA
## 794   CompShg     CemntBd     CmentBd      Stone        140        Gd        TA
## 798   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 801   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 802   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 805   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 806   CompShg     VinylSd     VinylSd      Stone        256        Gd        TA
## 807   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 810   CompShg     AsbShng     AsbShng       None          0        TA        TA
## 813   CompShg     Wd Sdng     Wd Sdng       None          0        Fa        TA
## 814   CompShg     MetalSd     MetalSd    BrkFace        243        TA        TA
## 815   CompShg      Stucco      Stucco       None          0        TA        TA
## 816   CompShg     VinylSd     VinylSd    BrkFace        442        TA        TA
## 819   CompShg     HdBoard     HdBoard    BrkFace         80        TA        TA
## 821   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 822   CompShg     MetalSd     MetalSd       None          0        Fa        TA
## 827   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 829   Tar&Grv     Plywood     Plywood       None          0        TA        TA
## 830   CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 832   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 834   CompShg     HdBoard     Plywood    BrkFace        180        TA        TA
## 835   CompShg     VinylSd     VinylSd    BrkFace        136        TA        TA
## 836   CompShg     VinylSd     HdBoard       None          0        TA        TA
## 837   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 838   CompShg     HdBoard     HdBoard    BrkFace        158        TA        TA
## 839   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 840   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 841   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 843   CompShg     HdBoard     HdBoard    BrkFace        183        TA        TA
## 844   CompShg     BrkFace     BrkFace       None          0        TA        TA
## 851   CompShg     VinylSd     VinylSd    BrkFace        170        Gd        TA
## 856   CompShg     HdBoard     HdBoard       None          0        TA        Gd
## 857   CompShg     Plywood     HdBoard       None          0        TA        TA
## 862   CompShg     Plywood     HdBoard       None          0        TA        TA
## 863   CompShg     HdBoard     Plywood       None          0        TA        TA
## 864   CompShg     BrkFace     Plywood       None          0        TA        TA
## 865   CompShg     VinylSd     VinylSd       None          0        Gd        TA
```

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## 866   CompShg     MetalSd     MetalSd    BrkFace         76        TA        TA
## 868   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 871   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 872   CompShg     VinylSd     VinylSd    BrkFace        116        TA        TA
## 873   CompShg     WdShing     Wd Shng       None          0        Gd        TA
## 875   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 877   CompShg     HdBoard     Plywood       None          0        TA        TA
## 879   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 880   CompShg     VinylSd     VinylSd    BrkFace         90        Gd        Gd
## 881   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 884   CompShg     Wd Sdng     Wd Sdng       None          0        Gd        TA
## 885   CompShg     HdBoard     HdBoard    BrkFace         60        TA        TA
## 887   CompShg     MetalSd     MetalSd    BrkFace        122        TA        TA
## 888   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 893   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 895   CompShg     Plywood     Plywood       None          0        TA        TA
## 897   CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 898   CompShg     Plywood     Plywood       None          0        TA        TA
## 901   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 902   CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 905   CompShg     HdBoard     Wd Sdng    BrkFace         75        TA        TA
## 906   CompShg     HdBoard     HdBoard      Stone        110        TA        TA
## 909   CompShg     HdBoard     HdBoard       None          0        TA        TA
## 911   CompShg     MetalSd     MetalSd    BrkFace        361        TA        TA
## 912   CompShg     HdBoard     Plywood       None          0        TA        TA
## 913   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 914   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 915   CompShg     VinylSd     VinylSd      Stone         76        Gd        TA
## 916   CompShg     CemntBd     CmentBd    BrkFace         80        TA        TA
## 917   CompShg     AsbShng     AsbShng       None          0        TA        TA
## 918   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 921   CompShg     HdBoard     HdBoard    BrkFace        105        Gd        Gd
## 922   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 926   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 931   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 932   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 934   CompShg     VinylSd     VinylSd    BrkFace        210        Gd        TA
## 936   CompShg     MetalSd     MetalSd    BrkFace        108        TA        Gd
## 937   CompShg     VinylSd     VinylSd       <NA>         NA        Gd        TA
## 939   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 941   CompShg     Plywood     Plywood       None          0        TA        TA
## 943   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 944   CompShg     HdBoard     Plywood       None          0        TA        TA
## 946   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 951   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 952   CompShg     VinylSd     VinylSd       None          0        TA        TA
## 953   CompShg     WdShing     HdBoard       None          0        TA        Gd
## 955   Tar&Grv     WdShing     Plywood    BrkFace        250        TA        TA
## 956   CompShg     MetalSd     MetalSd    BrkFace        423        TA        TA
## 958   CompShg     MetalSd     MetalSd       None          0        TA        TA
## 959   CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 960   CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 961   CompShg     Wd Sdng     Plywood       None          0        TA        Gd
## 964   CompShg     VinylSd     VinylSd       None          0        Gd        TA
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## 968   CompShg     Wd Sdng     Wd Sdng     BrkFace        151        TA        TA
## 969   CompShg     VinylSd     VinylSd        None          0        TA        TA
## 970   CompShg     HdBoard     HdBoard     BrkFace        105        TA        Fa
## 971   CompShg     AsbShng     AsbShng        None          0        TA        TA
## 972   CompShg     VinylSd     Wd Shng       Stone        106        Gd        TA
## 974   CompShg     CemntBd     CmentBd        <NA>         NA        Gd        TA
## 975   CompShg     HdBoard     HdBoard        None          0        TA        Gd
## 976   CompShg     MetalSd     MetalSd        None          0        Gd        TA
## 977   CompShg     Wd Sdng     Wd Sdng        None          0        TA        TA
## 978   CompShg     VinylSd     VinylSd        <NA>         NA        Gd        TA
## 979   CompShg     MetalSd     MetalSd        None          0        TA        TA
## 980   CompShg     VinylSd     VinylSd        None          0        TA        TA
## 981   CompShg     CemntBd     CmentBd       Stone        210        Ex        TA
## 985   CompShg     Plywood     Plywood        None          0        TA        TA
## 986   CompShg     MetalSd     MetalSd        None          0        TA        TA
## 987   CompShg     VinylSd     VinylSd        None          0        TA        Gd
## 990   CompShg     VinylSd     VinylSd        None          0        Gd        TA
## 994   CompShg     VinylSd     VinylSd        None          0        TA        TA
## 996   CompShg     MetalSd     MetalSd        None          0        TA        TA
## 997   CompShg     Wd Sdng     Wd Sdng        None          0        TA        TA
## 1000  CompShg     VinylSd     VinylSd       Stone         24        Gd        TA
## 1001  Tar&Grv     BrkComm     Brk Cmn        None          0        TA        TA
## 1002  CompShg     Wd Sdng     Wd Sdng        None          0        TA        TA
## 1004  CompShg     VinylSd     VinylSd     BrkFace        164        TA        TA
## 1006  CompShg     HdBoard     HdBoard     BrkFace        220        Gd        TA
## 1008  CompShg     CemntBd     CmentBd        None          0        TA        TA
## 1010  CompShg     Wd Sdng     Wd Sdng        None          0        TA        Fa
## 1012  CompShg     AsphShn     AsphShn        None          0        TA        TA
## 1014  CompShg     MetalSd      Stucco        None          0        TA        TA
## 1016  CompShg     VinylSd     VinylSd        None          0        Gd        TA
## 1021  CompShg     VinylSd     VinylSd        None          0        TA        TA
## 1022  CompShg     VinylSd     VinylSd       Stone         84        Gd        TA
## 1023  CompShg     Wd Sdng     Wd Sdng        None          0        TA        TA
## 1026  CompShg     VinylSd     VinylSd        None          0        TA        TA
## 1030  CompShg     HdBoard     HdBoard     BrkFace        281        TA        TA
## 1031  CompShg     VinylSd     VinylSd        None          0        TA        TA
## 1034  CompShg     VinylSd     VinylSd       Stone        295        Gd        TA
## 1036  CompShg     Wd Sdng     Wd Sdng        None          0        TA        Gd
## 1040  CompShg     CemntBd     CmentBd        None          0        TA        TA
## 1042  CompShg     HdBoard     HdBoard     BrkFace        252        TA        TA
## 1048  CompShg     VinylSd     VinylSd        None          0        TA        TA
## 1050  CompShg     MetalSd     MetalSd        None          0        TA        TA
## 1051  CompShg     VinylSd     VinylSd        None          0        Gd        TA
## 1061  CompShg     CemntBd     CmentBd        None          0        Gd        TA
## 1062  CompShg     MetalSd     MetalSd        None          0        Fa        TA
## 1063  CompShg     Wd Sdng     Wd Sdng        None          0        TA        TA
## 1066  CompShg     Wd Sdng     Wd Sdng        None          0        Gd        TA
## 1068  CompShg     HdBoard     HdBoard     BrkFace        360        TA        TA
## 1070  CompShg     MetalSd     MetalSd        None          0        TA        TA
## 1071  CompShg     MetalSd     MetalSd     BrkFace        120        TA        TA
## 1072  CompShg     MetalSd     MetalSd        None          0        TA        TA
## 1074  CompShg     HdBoard     Plywood     BrkFace        140        TA        TA
## 1075  CompShg     VinylSd     VinylSd        None          0        Gd        TA
## 1078  CompShg     VinylSd     Plywood        None          0        TA        TA
```

```
## 1080  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1081  CompShg     VinylSd     VinylSd    BrkFace        144        Gd        Gd
## 1082  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1086  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1087  CompShg     CemntBd     CmentBd       None          0        TA        TA
## 1089  CompShg     VinylSd     VinylSd      Stone         50        Gd        TA
## 1091  CompShg     BrkFace     BrkFace       None          0        TA        TA
## 1092  CompShg     MetalSd     MetalSd    BrkFace        212        Gd        TA
## 1094  CompShg     MetalSd     MetalSd    BrkFace        166        TA        TA
## 1095  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1097  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1098  CompShg     HdBoard     HdBoard       None          0        Gd        TA
## 1099  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1101  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1102  CompShg     HdBoard     MetalSd       None          0        TA        TA
## 1103  CompShg     Wd Sdng     Wd Sdng    BrkFace         45        TA        TA
## 1105  CompShg     HdBoard     HdBoard    BrkFace        304        TA        TA
## 1113  CompShg     WdShing     Wd Shng       None          0        TA        TA
## 1114  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1115  CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 1118  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1119  CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 1120  CompShg     BrkFace     Wd Sdng       None          0        TA        TA
## 1122  CompShg     VinylSd     VinylSd    BrkFace        196        Gd        TA
## 1123  CompShg     AsbShng     AsbShng       None          0        TA        TA
## 1124  CompShg     VinylSd     VinylSd       None          0        TA        Ex
## 1130  CompShg     MetalSd     MetalSd    BrkFace        180        TA        TA
## 1132  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1133  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1137  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1138  CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 1141  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1144  CompShg     Wd Sdng     Plywood       None          0        TA        TA
## 1145  CompShg     MetalSd     MetalSd       None          0        TA        Fa
## 1150  CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 1154  CompShg     Wd Sdng     Wd Sdng       None          0        Gd        Gd
## 1159  CompShg     VinylSd     VinylSd      Stone        186        Gd        TA
## 1164  CompShg     Plywood     Plywood       None          0        TA        TA
## 1166  CompShg     VinylSd     VinylSd      Stone        268        Gd        TA
## 1167  CompShg     VinylSd     VinylSd      Stone         72        Gd        TA
## 1173  CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 1177  CompShg     HdBoard     Plywood       None          0        TA        TA
## 1178  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1181  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1186  CompShg     AsbShng     AsbShng       None          0        TA        Gd
## 1187  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1189  CompShg     VinylSd     VinylSd    BrkFace         95        Gd        TA
## 1192  CompShg     MetalSd     MetalSd    BrkFace        456        Gd        TA
## 1193  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1194  CompShg     VinylSd     VinylSd    BrkFace        425        TA        TA
## 1195  CompShg     HdBoard     HdBoard      Stone        143        TA        TA
## 1196  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1199  CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 1201  CompShg     MetalSd     MetalSd       None          0        TA        TA
```

```
## 1202  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1205  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1207  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1208  CompShg     VinylSd     VinylSd    BrkFace        120        Gd        TA
## 1209  CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 1212  CompShg     Wd Sdng     Wd Sdng       None          0        Gd        TA
## 1213  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1214  CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 1215  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1216  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1217  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1218  CompShg     CemntBd     CmentBd      Stone         72        Gd        TA
## 1219  CompShg     AsbShng     AsbShng       None          0        TA        TA
## 1220  CompShg     CemntBd     CmentBd    BrkFace        236        TA        TA
## 1221  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1224  CompShg     Wd Sdng     Wd Sdng    BrkFace         44        TA        TA
## 1226  CompShg     VinylSd     VinylSd    BrkFace         63        TA        Gd
## 1228  CompShg     VinylSd     VinylSd    BrkFace        300        TA        TA
## 1230  CompShg     BrkFace     HdBoard       None          0        TA        TA
## 1232  CompShg     Wd Sdng     Wd Sdng    BrkFace        120        TA        TA
## 1233  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1234  CompShg     Plywood     Plywood    BrkFace        180        TA        TA
## 1235  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1236  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1237  CompShg     VinylSd     Wd Shng      Stone        106        Gd        TA
## 1239  CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 1241  CompShg     VinylSd     VinylSd    BrkFace        252        Gd        TA
## 1242  CompShg     VinylSd     VinylSd      Stone          0        Gd        TA
## 1247  CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 1248  CompShg     HdBoard     HdBoard    BrkFace        335        TA        TA
## 1250  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1253  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1258  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1259  CompShg     VinylSd     VinylSd      Stone        182        Gd        TA
## 1260  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1262  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1265  CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 1266  CompShg     MetalSd     MetalSd    BrkFace        218        Gd        TA
## 1270  CompShg     MetalSd     MetalSd    BrkFace        180        TA        TA
## 1273  CompShg     HdBoard     Plywood    BrkFace        114        TA        TA
## 1276     Roll     AsbShng     AsbShng      Stone        567        TA        TA
## 1280  CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 1281  CompShg     VinylSd     VinylSd    BrkFace        110        Gd        TA
## 1283  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1284  CompShg     MetalSd     Wd Shng       None          0        TA        TA
## 1288  CompShg     Wd Sdng     Wd Sdng     BrkCmn        621        TA        Gd
## 1292  CompShg     CemntBd     CmentBd    BrkFace        268        TA        TA
## 1293  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1295  CompShg     WdShing     Plywood       None          0        TA        TA
## 1296  CompShg     HdBoard     HdBoard    BrkFace        168        TA        TA
## 1297  CompShg     MetalSd     MetalSd    BrkFace        148        TA        Gd
## 1298  CompShg     VinylSd     VinylSd    BrkFace         82        TA        TA
## 1300  CompShg     BrkFace     BrkFace       None          0        TA        TA
## 1304  CompShg     VinylSd     VinylSd    BrkFace        228        Gd        TA
```

```
## 1305  CompShg     VinylSd     VinylSd      Stone        117        Gd        TA
## 1308  CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 1309  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1310  CompShg     HdBoard     HdBoard    BrkFace         88        TA        TA
## 1312  CompShg     VinylSd     VinylSd    BrkFace         80        Gd        TA
## 1320  CompShg     Wd Sdng     Wd Sdng    BrkFace        132        TA        TA
## 1322  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1324  CompShg     VinylSd     VinylSd       None          0        Fa        TA
## 1326  CompShg     AsbShng     AsbShng       None          0        TA        TA
## 1327  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1332  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1334  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1335  CompShg     HdBoard     HdBoard       None        312        TA        TA
## 1337  CompShg     Plywood     Plywood    BrkFace        564        TA        TA
## 1338  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1339  CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 1340  CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 1341  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1342  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1346  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1350  CompShg     MetalSd     MetalSd       None          0        TA        Gd
## 1351  CompShg     MetalSd     MetalSd    BrkFace        368        TA        TA
## 1353  CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 1357  CompShg     HdBoard     HdBoard    BrkFace         65        TA        TA
## 1359  CompShg     MetalSd     MetalSd    BrkFace        216        Gd        TA
## 1361  CompShg     MetalSd     Wd Sdng       None          0        TA        TA
## 1365  CompShg     MetalSd     MetalSd       None          0        Gd        TA
## 1366  CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 1367  CompShg     VinylSd     VinylSd    BrkFace        158        Gd        TA
## 1369  CompShg     VinylSd     VinylSd    BrkFace        170        Gd        TA
## 1371  CompShg      CBlock      CBlock       None          0        Fa        TA
## 1377  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1378  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1379  CompShg     HdBoard     HdBoard    BrkFace        408        TA        TA
## 1380  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1381  CompShg      Stucco      Stucco       None          0        TA        Fa
## 1383  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1384  CompShg     Wd Sdng     Wd Sdng       None          0        TA        Gd
## 1385  CompShg     WdShing     Wd Shng       None          0        TA        TA
## 1386  CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 1391  CompShg     VinylSd     VinylSd    BrkFace        244        Gd        TA
## 1392  CompShg     Plywood     Plywood       None          0        TA        TA
## 1398  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1399  CompShg     VinylSd     Wd Sdng       None          0        TA        TA
## 1404  CompShg     VinylSd     VinylSd      Stone         84        Gd        TA
## 1405  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1407  CompShg     HdBoard     Wd Shng       None          0        TA        TA
## 1408  CompShg     HdBoard     Plywood       None          0        TA        TA
## 1409  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1411  CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 1412  CompShg     VinylSd     VinylSd       None          0        TA        Gd
## 1413  CompShg     BrkFace       Stone       None          0        TA        TA
## 1417  CompShg     VinylSd     AsbShng       None          0        TA        TA
## 1419  CompShg     HdBoard     HdBoard       None          0        TA        TA
```

```
## 1423  CompShg     VinylSd     VinylSd    BrkFace        170        Gd        TA
## 1426  CompShg     HdBoard     HdBoard      Stone        243        Gd        TA
## 1432  CompShg     Plywood     Plywood       None          0        TA        TA
## 1433  CompShg     Wd Sdng     Wd Sdng       None          0        TA        TA
## 1437  CompShg     HdBoard     HdBoard       None          0        TA        TA
## 1439  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1445  CompShg     VinylSd     VinylSd    BrkFace        106        Gd        TA
## 1446  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1447  CompShg     HdBoard     HdBoard    BrkFace        189        TA        TA
## 1449  CompShg     MetalSd     HdBoard       None          0        TA        TA
## 1450  CompShg     CemntBd     CmentBd       None          0        TA        TA
## 1451  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1453  CompShg     VinylSd     VinylSd    BrkFace         80        TA        TA
## 1454  CompShg     VinylSd     VinylSd       None          0        TA        TA
## 1455  CompShg     VinylSd     VinylSd       None          0        Gd        TA
## 1459  CompShg     MetalSd     MetalSd       None          0        TA        TA
## 1460  CompShg     HdBoard     HdBoard       None          0        Gd        TA
##      Foundation    BsmtQual    BsmtCond BsmtExposure BsmtFinType1 BsmtFinSF1
## 1         PConc          Gd          TA           No          GLQ        706
## 6          Wood          Gd          TA           No          GLQ        732
## 11       CBlock          TA          TA           No          Rec        906
## 13       CBlock          TA          TA           No          ALQ        737
## 16       BrkTil          TA          TA           No          Unf          0
## 18         Slab No basement No basement  No basement  No basement          0
## 19        PConc          TA          TA           No          GLQ        646
## 20       CBlock          TA          TA           No          LwQ        504
## 27       CBlock          TA          TA           Mn          BLQ        234
## 30       BrkTil          TA          TA           No          Unf          0
## 31       BrkTil          TA          TA           No          Unf          0
## 32       CBlock          TA          TA           No          Unf          0
## 33        PConc          Ex          TA           Av          Unf          0
## 37        PConc          Gd          TA           No          Unf          0
## 39       CBlock          TA          TA           No          GLQ        731
## 40        PConc No basement No basement  No basement  No basement          0
## 43       CBlock          Gd          TA           Av          ALQ        747
## 44       CBlock          Gd          TA           Av          LwQ        280
## 45       CBlock          TA          TA           No          ALQ        179
## 48        PConc          Gd          TA           Av          GLQ         24
## 49       BrkTil          TA          TA           No          Unf          0
## 50       CBlock          TA          TA           No          BLQ        763
## 51        PConc          Gd          TA           Av          GLQ        182
## 53       CBlock          Gd          TA           Gd          LwQ        104
## 57        PConc          Gd          TA           No          GLQ        649
## 58        PConc          Gd          TA           No          Unf          0
## 60       CBlock          TA          TA           Av          ALQ        632
## 61        PConc          Gd          TA           No          ALQ        941
## 62       BrkTil          TA          Fa           No          Unf          0
## 64       BrkTil          TA          TA           No          Unf          0
## 65        PConc          Gd          TA           No          GLQ        739
## 68        PConc          Gd          TA           Av          GLQ       1013
## 69       CBlock          TA          TA           No          Unf          0
## 72       CBlock          TA          TA           No          ALQ        565
## 74       CBlock          TA          TA           No          ALQ        320
## 75       CBlock          Fa          TA           No          Unf          0
```

```
## 76       CBlock          Gd          TA           Gd          GLQ        462
## 77       CBlock          TA          TA           No          ALQ        228
## 78       CBlock          TA          TA           No          BLQ        336
## 79       CBlock          TA          TA           No          Unf          0
## 80        PConc          TA          TA           No          Unf          0
## 82        PConc          Ex          Gd           No          GLQ       1201
## 84       CBlock          TA          TA           No          Unf          0
## 88        PConc          Gd          TA           Av          Unf          0
## 89       CBlock          TA          Fa           No          Unf          0
## 90        PConc          Gd          TA           No          GLQ        588
## 91         Slab No basement No basement  No basement  No basement          0
## 92       CBlock          TA          TA           No          Rec        600
## 93       BrkTil          Gd          TA           No          ALQ        713
## 95        PConc          Gd          TA           No          GLQ        648
## 97        PConc          Gd          TA           Av          ALQ       1162
## 98       CBlock          TA          TA           No          Rec        520
## 99       BrkTil          TA          TA           No          ALQ        108
## 100      CBlock          TA          TA           No          ALQ        569
## 103        Slab No basement No basement  No basement  No basement          0
## 104       PConc          Gd          TA           No          Unf          0
## 107      BrkTil          Fa          TA           No          Unf          0
## 108      CBlock          TA          TA           No          ALQ        104
## 109      CBlock          TA          TA           No          Unf          0
## 111      CBlock          TA          Fa           No          Rec        444
## 118       PConc          Gd          TA           No          Unf          0
## 122       PConc          TA          TA           No          Unf          0
## 123      CBlock          TA          TA           No          BLQ        570
## 124       PConc          Gd          TA           No          GLQ        300
## 126      CBlock          TA          TA           Av          GLQ        490
## 130      CBlock          TA          TA           No          Rec        567
## 133      CBlock          TA          TA           No          Rec        405
## 134       PConc          Ex          TA           No          GLQ       1005
## 138      CBlock          TA          TA           No          Unf          0
## 140       PConc          Gd          TA           No          GLQ        821
## 142       PConc          Gd          TA           Av          GLQ       1300
## 143      CBlock          TA          TA           No          Rec        507
## 144       PConc          Gd          TA           Gd          GLQ        679
## 145      CBlock          TA          TA           No          Rec       1332
## 146       PConc          Gd          TA           No          Unf          0
## 147      BrkTil          TA          TA           No          BLQ        209
## 149       PConc          Gd          TA           No          GLQ        680
## 150      BrkTil          Gd          TA           No          Unf          0
## 151      CBlock          TA          TA           Av          BLQ        716
## 155      BrkTil          TA          TA           No          Unf          0
## 156      BrkTil          TA          TA           No          Unf          0
## 157      CBlock No basement No basement  No basement  No basement          0
## 161       PConc          Gd          TA           No          BLQ        660
## 164      CBlock          TA          TA           No          Unf          0
## 165      BrkTil          TA          TA           Mn          LwQ        370
## 166      BrkTil          TA          TA           No          ALQ        351
## 171      CBlock          TA          TA           No          Rec        360
## 180      CBlock          TA          TA           No          Unf          0
## 184       PConc          Gd          TA           No          Unf          0
## 185       PConc          Fa          TA           No          Unf          0
```

```
## 187       PConc          Gd          TA          Av          GLQ        611
## 188      CBlock          Fa          TA          No          Unf          0
## 192      CBlock          TA          TA          No          ALQ        626
## 193       PConc          Gd          TA          Av          GLQ        560
## 194       PConc          Gd          TA          No          Unf          0
## 195      CBlock          TA          TA          Av          ALQ        390
## 199      CBlock          TA          TA          No          Unf          0
## 201       PConc          Gd          TA          No          Unf          0
## 203      BrkTil          Fa          TA          No          LwQ        617
## 205      CBlock          TA          TA          No          LwQ        312
## 206       PConc          Gd          TA          No          Unf          0
## 210      CBlock          Gd          TA          No          Rec        787
## 211      CBlock          TA          TA          No          Rec        468
## 212       PConc          Gd          TA          Mn          GLQ         36
## 214       PConc          Gd          TA          No          ALQ        716
## 215      CBlock          Gd          TA          No          GLQ        378
## 217       PConc          Gd          TA          Mn          GLQ        946
## 218      CBlock          TA          TA          No          Unf          0
## 220       PConc          Gd          TA          Av          GLQ         16
## 221       PConc          Gd          TA          Mn          Unf          0
## 224      CBlock          TA          TA          No          ALQ        524
## 226      CBlock          TA          TA          No          Unf          0
## 228      CBlock          TA          TA          No          Rec        321
## 231      CBlock          TA          TA          No          Unf          0
## 234      CBlock          TA          Gd          Av          LwQ        182
## 236      CBlock          TA          TA          No          ALQ        358
## 237       PConc          Gd          TA          Av          GLQ         24
## 238       PConc          Gd          TA          No          BLQ        402
## 239       PConc          Ex          TA          No          Unf          0
## 241       PConc          Gd          TA          Av          GLQ       1078
## 242      CBlock          TA          TA          No          ALQ        329
## 243      BrkTil          TA          TA          No          Unf          0
## 247       Stone          Fa          TA          No          Unf          0
## 249       PConc          Gd          TA          No          Unf          0
## 251      CBlock          TA          TA          No          Unf          0
## 253       PConc          Gd          TA          No          Unf          0
## 254      CBlock          Gd          TA          Gd          LwQ        270
## 255      CBlock          TA          TA          No          Rec        922
## 257       PConc          Gd          TA          No          Rec        503
## 260       PConc No basement No basement  No basement  No basement          0
## 264      BrkTil          TA          TA          No          LwQ        234
## 265      BrkTil          Fa          TA          No          Unf          0
## 275      CBlock          TA          TA          Gd          ALQ        546
## 276      BrkTil          TA          TA          No          Unf          0
## 277       PConc          Ex          TA          No          Unf          0
## 278      CBlock          TA          TA          No          LwQ        120
## 282       PConc          Gd          TA          No          GLQ        905
## 285       PConc          Gd          TA          No          GLQ        430
## 286       PConc          Gd          TA          No          Unf          0
## 288      CBlock          TA          TA          No          BLQ        614
## 289      CBlock          TA          TA          No          BLQ        450
## 290      BrkTil          TA          TA          No          Unf          0
## 292       PConc          TA          Fa          No          Rec        210
## 296      CBlock          TA          TA          Av          GLQ        819
```

```
## 297      CBlock          TA          TA           No          BLQ        420
## 304       PConc          TA          TA           No          ALQ        894
## 306       PConc          Gd          TA           No          GLQ       1464
## 308      CBlock          TA          TA           No          Unf          0
## 309      CBlock          TA          TA           No          BLQ        262
## 321       PConc          Ex          Gd           Av          Unf          0
## 324      CBlock          TA          TA           No          ALQ        256
## 326      CBlock          TA          TA           Av          BLQ        116
## 328      CBlock          TA          TA           No          Rec        565
## 329      BrkTil          TA          TA           No          Unf          0
## 330       PConc          TA          TA           Mn          Unf          0
## 331      CBlock          TA          TA           No          GLQ         40
## 332      CBlock          TA          TA           No          Rec        846
## 338       PConc          Gd          TA           Av          GLQ        810
## 339      CBlock          Gd          TA           Mn          ALQ        213
## 340      CBlock          TA          Fa           No          Rec        585
## 341       PConc          Gd          TA           No          Unf          0
## 342      CBlock          TA          Fa           No          Unf          0
## 343        Slab No basement No basement  No basement  No basement          0
## 345      CBlock          Gd          TA           No          Rec        129
## 347      CBlock          TA          TA           Mn          BLQ        498
## 349       PConc          Gd          TA           No          GLQ        573
## 353      CBlock          TA          Fa           Mn          LwQ        236
## 354      BrkTil          TA          TA           No          Unf          0
## 356       PConc          Gd          Gd           No          ALQ        334
## 357       PConc          Gd          TA           No          GLQ        560
## 359      CBlock          TA          TA           Av          BLQ        300
## 362      CBlock          TA          TA           No          Rec        399
## 364      CBlock          TA          TA           No          ALQ        162
## 366      CBlock          TA          Fa           No          Rec        456
## 373      CBlock          Gd          TA           No          ALQ        623
## 374       PConc          TA          TA           No          BLQ        428
## 376      BrkTil          Fa          Po           Gd          BLQ        350
## 377       PConc          Gd          TA           Av          GLQ        298
## 383       PConc          Gd          TA           Av          Unf          0
## 384      BrkTil          Fa          Fa           No          Unf          0
## 387       PConc          TA          TA           No          Unf          0
## 389       PConc          Gd          TA           No          Unf          0
## 391      BrkTil          TA          Gd           No          Rec        241
## 393        Slab No basement No basement  No basement  No basement          0
## 395      CBlock          TA          TA           No          Unf          0
## 396      CBlock          TA          TA           Av          BLQ        739
## 397      CBlock          TA          TA           Av          Rec        777
## 399      BrkTil          Fa          Po           No          Unf          0
## 400       PConc          Gd          TA           No          GLQ        812
## 403       PConc          TA          TA           No          Unf          0
## 407      BrkTil          TA          TA           No          Unf          0
## 408      BrkTil          Gd          TA           No          Unf          0
## 411      CBlock          TA          Fa           No          Unf          0
## 412      CBlock          TA          TA           Mn          Rec       1056
## 416       PConc          Gd          TA           Av          GLQ         24
## 419      BrkTil          TA          TA           No          ALQ        312
## 421       PConc          Gd          Gd           Gd          GLQ       1309
## 423      CBlock          TA          TA           No          Unf          0
```

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## 428      CBlock          TA          TA           No          Rec        288
## 429       PConc          Gd          TA           No          GLQ        664
## 431      CBlock          TA          TA           No          ALQ        387
## 432      BrkTil          TA          TA           No          Unf          0
## 433      CBlock          TA          TA           No          ALQ        471
## 435      CBlock          Gd          TA           Av          ALQ        495
## 437      BrkTil          Fa          TA           No          Unf          0
## 438       PConc          TA          TA           No          Unf          0
## 440      BrkTil          TA          Fa           Mn          Unf          0
## 442      CBlock          TA          TA           No          ALQ        133
## 450      CBlock          TA          TA           No          ALQ        331
## 451      BrkTil          TA          TA           No          Unf          0
## 453       PConc          Ex          TA           No          ALQ        742
## 454       PConc          Gd          TA           No          Unf          0
## 455      CBlock          TA          TA           No          ALQ       1606
## 457      BrkTil          TA          TA           No          Unf          0
## 461       PConc          Gd          TA           No          GLQ        544
## 462       PConc          Gd          Gd           No          ALQ        350
## 465      CBlock          Gd          TA           No          Rec        616
## 470       PConc          Gd          TA           No          GLQ        426
## 471       PConc          Gd          TA           Av          GLQ        368
## 473       PConc          Gd          TA           Gd          GLQ        459
## 475       PConc          Gd          TA           Av          GLQ       1196
## 476      CBlock          TA          TA           No          GLQ        630
## 480      BrkTil          Fa          TA           No          Rec        168
## 484       PConc          Ex          TA           No          GLQ        897
## 485      CBlock          TA          TA           No          ALQ        588
## 487      CBlock          TA          TA           No          ALQ        836
## 490      CBlock          Gd          TA           Av          GLQ        515
## 493       PConc          Gd          TA           No          Unf          0
## 495      BrkTil          Fa          TA           No          Unf          0
## 496      CBlock          TA          TA           No          Rec        495
## 498       PConc          TA          TA           No          Rec        329
## 499       PConc          TA          TA           No          ALQ        450
## 500      CBlock          TA          TA           No          BLQ        111
## 501      CBlock          TA          TA           No          BLQ        356
## 502       PConc          Gd          TA           No          GLQ        400
## 503      CBlock          TA          TA           No          ALQ        698
## 506      CBlock          TA          TA           No          Unf          0
## 508       PConc          Gd          TA           No          GLQ         27
## 510      CBlock          TA          TA           No          ALQ        991
## 513      CBlock          TA          TA           No          BLQ        521
## 514       PConc          TA          TA           No          ALQ        336
## 515      BrkTil          TA          TA           No          Unf          0
## 519       PConc          Gd          TA           Mn          GLQ        706
## 521      BrkTil No basement No basement  No basement  No basement          0
## 527      CBlock          Gd          TA           No          Rec        377
## 529      BrkTil          TA          TA           Mn          ALQ        348
## 532      BrkTil          Fa          Fa           Mn          Unf          0
## 534        Slab No basement No basement  No basement  No basement          0
## 536      CBlock          Gd          TA           Gd          GLQ        969
## 537       PConc          Gd          TA           Av          Unf          0
## 538      CBlock          TA          TA           No          BLQ        600
## 544       PConc          Gd          TA           Av          GLQ        584
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```
## 546       PConc          Gd          Gd           No          GLQ       1002
## 548      CBlock          Gd          TA           Av          ALQ        619
## 549      CBlock          TA          TA           No          LwQ        180
## 551      CBlock          Gd          TA           No          ALQ        559
## 552      CBlock          TA          TA           No          Rec        308
## 554      CBlock No basement No basement  No basement  No basement          0
## 558      CBlock          TA          TA           No          Rec        637
## 566       PConc          Gd          TA           No          Unf          0
## 568       PConc          Gd          TA           No          GLQ          2
## 571      CBlock          TA          TA           No          LwQ        231
## 572      CBlock          TA          TA           No          BLQ        414
## 573       PConc          Ex          TA           Av          Unf          0
## 575      CBlock          TA          TA           Av          ALQ        349
## 576      CBlock          TA          TA           No          Rec        442
## 579       PConc          Gd          TA           No          Unf          0
## 580      BrkTil          TA          TA           No          Unf          0
## 583      CBlock          Gd          TA           Av          GLQ        816
## 585      BrkTil          TA          TA           No          Unf          0
## 587      BrkTil          TA          Gd           Mn          Rec        210
## 588      CBlock          TA          TA           Av          ALQ        672
## 590      BrkTil          TA          TA           No          Unf          0
## 591       PConc          Gd          TA           No          GLQ        490
## 593       PConc          TA          Gd           No          GLQ        816
## 594       PConc          Gd          TA           Av          GLQ        685
## 595      CBlock          Gd          TA           No          Unf          0
## 597      CBlock          TA          TA           No          Unf          0
## 604       PConc          Gd          TA           No          Unf          0
## 607       PConc          Gd          TA           No          GLQ        732
## 608      CBlock          TA          Gd           No          GLQ        603
## 610      CBlock          TA          TA           Mn          Rec        903
## 614       PConc          Gd          TA           No          ALQ        206
## 615      CBlock          Gd          TA           Av          LwQ        150
## 616       PConc          TA          TA           Gd          GLQ        763
## 618      CBlock          TA          TA           No          Unf          0
## 621      BrkTil          TA          TA           No          BLQ         41
## 623      CBlock          TA          TA           No          BLQ        560
## 626      CBlock          TA          TA           No          Unf          0
## 630      CBlock          TA          TA           Gd          GLQ        624
## 631      BrkTil          Fa          Fa           No          Unf          0
## 634      CBlock          TA          TA           No          BLQ        480
## 635      CBlock          TA          TA           No          GLQ       1056
## 636      CBlock          TA          Fa           No          LwQ        256
## 638      CBlock          TA          TA           No          Unf          0
## 639      CBlock          Fa          TA           No          Unf          0
## 644      CBlock          TA          TA           No          Rec        493
## 646      CBlock          TA          TA           No          ALQ        282
## 647      CBlock No basement No basement  No basement  No basement          0
## 650      CBlock          Gd          TA           Av          BLQ        131
## 651       PConc          Gd          TA           No          Unf          0
## 654      CBlock          TA          TA           No          Unf          0
## 656      CBlock          TA          TA           No          Unf          0
## 657      CBlock          TA          TA           No          ALQ        806
## 660       PConc          TA          TA           No          BLQ        637
## 664      CBlock          Gd          TA           Av          BLQ        920
```

```
## 671       PConc          Gd          TA           No          GLQ        193
## 672      BrkTil          TA          TA           No          BLQ        551
## 677      BrkTil          TA          Fa           No          Unf          0
## 678      BrkTil          TA          TA           No          Unf          0
## 680      CBlock          TA          TA           No          Rec        827
## 682      BrkTil          TA          TA           No          Rec        182
## 685       PConc          Gd          TA           No          Unf          0
## 687       PConc          Gd          TA           No          Unf          0
## 688       PConc          Gd          TA           No          GLQ        239
## 694      BrkTil          TA          TA           No          Unf          0
## 695      BrkTil          TA          TA           No          Unf          0
## 697      CBlock          TA          TA           No          LwQ        616
## 698       PConc          Ex          Gd           Mn          LwQ        210
## 700       PConc          Gd          TA           Mn          GLQ         16
## 702      CBlock          TA          TA           No          Unf          0
## 705       PConc          Gd          TA           Av          GLQ        712
## 706        Slab No basement No basement  No basement  No basement          0
## 710       PConc          TA          TA           No          Unf          0
## 711      CBlock          TA          TA           No          Unf          0
## 712       Stone          TA          TA           Mn          Unf          0
## 714      CBlock          TA          TA           Av          ALQ        789
## 715      CBlock          TA          TA           No          GLQ        533
## 717      BrkTil          TA          TA           No          Unf          0
## 722       PConc          Gd          TA           Av          GLQ        662
## 723      CBlock          TA          TA           No          ALQ        191
## 724       PConc          TA          TA           No          Unf          0
## 726      CBlock          TA          TA           No          ALQ        375
## 728       PConc          Gd          TA           Av          GLQ        724
## 729      CBlock          TA          TA           No          Unf          0
## 730      CBlock          TA          TA           No          BLQ        152
## 735       PConc          TA          TA           No          Unf          0
## 737      CBlock No basement No basement  No basement  No basement          0
## 739      CBlock          Gd          Gd           Gd          GLQ       1200
## 740       PConc          Gd          TA           No          Unf          0
## 741      BrkTil          Fa          Fa           No          Unf          0
## 742      CBlock          TA          TA           Mn          GLQ        832
## 743       PConc          Gd          TA           No          Unf          0
## 750        Slab No basement No basement  No basement  No basement          0
## 751      BrkTil          TA          Fa           No          Unf          0
## 752       PConc          Gd          TA           No          Unf          0
## 753       PConc          Gd          TA           Gd          GLQ       1200
## 755      CBlock          TA          TA           No          GLQ        439
## 756       PConc          Gd          TA           No          GLQ        381
## 757       PConc          Gd          TA           Av          GLQ         20
## 759       PConc          Gd          TA           No          ALQ        549
## 761      CBlock          TA          TA           No          Rec        612
## 762       PConc          TA          TA           Mn          LwQ        405
## 763       PConc          Gd          TA           Mn          GLQ         24
## 768      CBlock          Gd          TA           Mn          ALQ        660
## 771      CBlock          Gd          TA           Av          GLQ        685
## 772      CBlock          Fa          Fa           No          LwQ        836
## 774      CBlock          TA          TA           No          Rec        456
## 776       PConc          Ex          TA           No          GLQ        866
## 777       PConc          Gd          TA           Av          GLQ         20
```

```
## 780      CBlock          Gd          TA          Gd          GLQ         975
## 782       PConc          Gd          TA          No          ALQ         387
## 783       PConc          Gd          TA          No          Unf           0
## 787       PConc          Fa          TA          No          LwQ         686
## 788       PConc          Gd          TA          No          GLQ         656
## 789      CBlock          TA          TA          No          Unf           0
## 790      CBlock          TA          Fa          Gd          LwQ         568
## 794       PConc          Gd          TA          Av          Unf           0
## 798      CBlock          TA          TA          No          BLQ         570
## 801       PConc          Gd          TA          Gd          GLQ         462
## 802      CBlock          TA          TA          No          LwQ         197
## 805      CBlock          TA          TA          No          LwQ         812
## 806       PConc          Gd          TA          No          Unf           0
## 807       PConc          TA          TA          Av          ALQ         400
## 810       PConc          TA          TA          No          Unf           0
## 813      CBlock          TA          TA          Av          Unf           0
## 814      CBlock          TA          TA          No          Rec         608
## 815      BrkTil          TA          TA          No          Unf           0
## 816       PConc          Gd          TA          No          Unf           0
## 819      CBlock          TA          TA          Av          GLQ         504
## 821       PConc          Gd          TA          No          Unf           0
## 822      CBlock          Fa          TA          No          Unf           0
## 827      BrkTil          TA          TA          No          ALQ         784
## 829       PConc          TA          Gd          Gd          LwQ         249
## 830       PConc          Gd          TA          No          Unf           0
## 832       PConc          Gd          TA          No          Unf           0
## 834      CBlock          TA          TA          No          Rec         196
## 835      CBlock          TA          TA          No          Rec         572
## 836      CBlock          Gd          TA          No          BLQ         442
## 837      BrkTil          TA          TA          No          Rec         338
## 838      CBlock          TA          TA          No          BLQ         330
## 839       PConc          Gd          TA          No          Unf           0
## 840      CBlock          TA          TA          No          BLQ         352
## 841      BrkTil          TA          TA          No          BLQ         156
## 843      CBlock          TA          TA          Gd          Rec         312
## 844      CBlock          TA          TA          No          Unf           0
## 851       PConc          Gd          TA          Av          GLQ         659
## 856      CBlock          TA          TA          No          ALQ         659
## 857      CBlock          Gd          Gd          Gd          GLQ         505
## 862       PConc          TA          TA          Mn          BLQ         841
## 863       PConc          Gd          TA          No          GLQ         338
## 864      CBlock          TA          TA          No          BLQ        1148
## 865       PConc          Ex          TA          No          Unf           0
## 866      CBlock          TA          TA          No          BLQ         828
## 868      CBlock          TA          TA          No          ALQ         932
## 871      CBlock          TA          TA          No          Unf           0
## 872       PConc          Gd          TA          No          GLQ         505
## 873       Stone          TA          TA          Av          Unf           0
## 875      CBlock          TA          TA          No          Unf           0
## 877       PConc          TA          TA          Gd          ALQ         633
## 879      CBlock          TA          TA          Av          ALQ         899
## 880      CBlock          TA          TA          No          ALQ         646
## 881       PConc          Ex          Gd          No          ALQ         980
## 884       PConc          TA          Fa          No          Unf           0
```

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## 885      CBlock          TA          TA           No          BLQ        432
## 887      CBlock          TA          TA           No          LwQ        528
## 888       PConc          TA          TA           No          Unf          0
## 893      CBlock          TA          TA           No          GLQ        663
## 895        Slab No basement No basement  No basement  No basement          0
## 897      BrkTil          TA          TA           No          ALQ        285
## 898        Slab No basement No basement  No basement  No basement          0
## 901      CBlock          TA          TA           No          ALQ        322
## 902      CBlock          TA          TA           Mn          BLQ        860
## 905      CBlock          TA          TA           No          GLQ        599
## 906      CBlock          TA          TA           No          Rec        354
## 909      CBlock          Gd          TA           Av          BLQ        301
## 911      CBlock          TA          TA           No          Rec        443
## 912      CBlock          Gd          Gd           Av          ALQ        196
## 913      BrkTil          TA          TA           No          Rec        489
## 914      CBlock          TA          TA           No          BLQ        284
## 915       PConc          Gd          TA           Av          GLQ        294
## 916      CBlock          TA          TA           No          Unf          0
## 917      CBlock          TA          TA           Av          BLQ         50
## 918      CBlock          TA          TA           No          ALQ       1059
## 921       PConc          Gd          Gd           No          GLQ        814
## 922      CBlock          TA          TA           No          ALQ       1084
## 926       PConc          Gd          TA           Av          ALQ        767
## 931       PConc          Gd          TA           Av          GLQ         16
## 932      CBlock          TA          TA           No          BLQ        338
## 934       PConc          Gd          TA           Av          GLQ         20
## 936       PConc          Fa          TA           Mn          Unf          0
## 937       PConc          Gd          TA           No          GLQ        833
## 939       PConc          Gd          Gd           Mn          GLQ        464
## 941      CBlock          TA          TA           Gd          Rec        936
## 943       PConc          Gd          TA           Gd          GLQ       1440
## 944      CBlock          TA          TA           Av          Unf          0
## 946      BrkTil          TA          TA           No          LwQ       1088
## 951      CBlock          TA          TA           No          ALQ        398
## 952      CBlock          TA          TA           No          BLQ        641
## 953      CBlock          Gd          TA           Av          GLQ        660
## 955      CBlock          Gd          Gd           Gd          GLQ        945
## 956      CBlock          Gd          TA           No          Rec        484
## 958      CBlock          TA          TA           No          Rec        417
## 959       PConc          Gd          TA           Mn          GLQ        699
## 960       PConc          Gd          TA           No          ALQ        604
## 961      CBlock          TA          TA           Gd          BLQ        696
## 964       PConc          Ex          TA           No          Unf          0
## 968      CBlock          TA          TA           No          ALQ        902
## 969      BrkTil          TA          TA           No          Unf          0
## 970      CBlock          TA          TA           Gd          ALQ        513
## 971      CBlock          TA          TA           No          Unf          0
## 972       PConc          Gd          TA           No          GLQ        567
## 974       PConc          Gd          TA           No          Unf          0
## 975      BrkTil          Gd          TA           No          Unf          0
## 976       PConc          Gd          TA           No          GLQ        641
## 977       PConc          Gd          TA           No          Unf          0
## 978       PConc          Gd          TA           No          GLQ       1106
## 979      CBlock          TA          TA           No          LwQ        552
```

```
## 980       PConc          TA          TA           No          Rec        651
## 981      CBlock          TA          TA           Av          ALQ        867
## 985      CBlock No basement No basement  No basement  No basement          0
## 986      CBlock          TA          TA           No          ALQ       1040
## 987      CBlock          TA          Fa           No          Unf          0
## 990       PConc          Gd          Gd           No          Unf          0
## 994       PConc          Gd          TA           No          Unf          0
## 996      CBlock          TA          TA           No          ALQ        384
## 997      CBlock          TA          TA           No          Rec        915
## 1000      PConc          Gd          TA           Av          GLQ        686
## 1001       Slab No basement No basement  No basement  No basement          0
## 1002     BrkTil          Fa          TA           No          Unf          0
## 1004     CBlock          TA          TA           No          Unf          0
## 1006     CBlock          Gd          Gd           Av          GLQ        595
## 1008     CBlock          TA          TA           No          BLQ        273
## 1010     BrkTil          TA          TA           No          Unf          0
## 1012     CBlock No basement No basement  No basement  No basement          0
## 1014     BrkTil          TA          TA           No          ALQ        247
## 1016      PConc          Gd          TA           No          GLQ        643
## 1021      PConc          Gd          TA           No          GLQ       1024
## 1022      PConc          Gd          TA           Av          GLQ        684
## 1023     CBlock          TA          TA           No          LwQ        324
## 1026     CBlock          TA          TA           No          LwQ        138
## 1030     CBlock          TA          TA           No          BLQ        317
## 1031      PConc          TA          TA           Mn          Unf          0
## 1034      PConc          Gd          TA           No          GLQ        986
## 1036       Slab No basement No basement  No basement  No basement          0
## 1040     CBlock          Gd          TA           Av          GLQ        509
## 1042     CBlock          TA          TA           No          GLQ        400
## 1048      PConc          Gd          TA           No          GLQ        686
## 1050     CBlock No basement No basement  No basement  No basement          0
## 1051      PConc          Gd          TA           Av          Unf          0
## 1061      PConc          Gd          TA           Mn          GLQ        616
## 1062     CBlock          TA          TA           No          Unf          0
## 1063     BrkTil          TA          TA           No          Unf          0
## 1066      PConc          Ex          TA           Gd          GLQ       1201
## 1068     CBlock          TA          TA           Gd          GLQ        674
## 1070     CBlock          TA          TA           No          ALQ        220
## 1071     CBlock          TA          TA           No          BLQ        586
## 1072     CBlock          TA          TA           No          Rec        298
## 1074     CBlock          TA          TA           No          BLQ        535
## 1075      PConc          Gd          TA           Av          Unf          0
## 1078     CBlock          TA          TA           Mn          BLQ         75
## 1080      PConc          Gd          TA           No          GLQ        495
## 1081     CBlock          TA          TA           No          ALQ        656
## 1082     CBlock          TA          TA           No          ALQ        824
## 1086      PConc          Gd          TA           Av          GLQ        747
## 1087     CBlock          TA          TA           No          BLQ        334
## 1089      PConc          Gd          TA           No          Unf          0
## 1091       Slab No basement No basement  No basement  No basement          0
## 1092      PConc          Gd          TA           No          BLQ        510
## 1094     CBlock          TA          TA           Mn          GLQ        661
## 1095     CBlock          TA          TA           No          BLQ        248
## 1097      PConc          TA          TA           No          Unf          0
```

```
## 1098     CBlock          Gd          TA           No          Unf          0
## 1099     BrkTil          TA          TA           No          BLQ        672
## 1101     CBlock          TA          Fa           No          Rec        290
## 1102     CBlock          TA          TA           No          BLQ        412
## 1103     CBlock          TA          TA           No          Rec        588
## 1105     CBlock          TA          TA           No          Unf          0
## 1113     CBlock          TA          TA           No          GLQ        708
## 1114     CBlock          TA          TA           No          BLQ        643
## 1115     CBlock          TA          TA           No          Rec        415
## 1118     CBlock          TA          TA           No          BLQ        702
## 1119     CBlock          TA          TA           No          Unf          0
## 1120     CBlock          TA          TA           No          LwQ        369
## 1122      PConc          Gd          TA           Av          GLQ         24
## 1123     CBlock          TA          TA           No          Unf          0
## 1124     CBlock          TA          TA           No          Unf          0
## 1130     CBlock          Gd          TA           Gd          GLQ        936
## 1132      PConc          Gd          TA           Mn          BLQ        212
## 1133     BrkTil          TA          TA           Mn          Unf          0
## 1137     CBlock          TA          TA           No          BLQ        280
## 1138     CBlock          TA          TA           No          Unf          0
## 1141     CBlock          TA          TA           Mn          ALQ        852
## 1144     CBlock          TA          TA           No          GLQ        288
## 1145     BrkTil          Gd          TA           No          BLQ        348
## 1150      PConc          TA          TA           No          ALQ        624
## 1154     BrkTil          TA          TA           Av          ALQ        538
## 1159      PConc          Gd          TA           No          Unf          0
## 1164     CBlock          Gd          TA           Av          GLQ       1198
## 1166      PConc          Gd          TA           No          Unf          0
## 1167      PConc          Gd          TA           Av          Unf          0
## 1173      PConc          Gd          TA           No          Unf          0
## 1177     CBlock          TA          TA           No          ALQ        658
## 1178     CBlock          TA          TA           No          Rec        468
## 1181       Wood          Gd          TA           No          LwQ       1216
## 1186     BrkTil          TA          TA           No          BLQ        392
## 1187     CBlock          Fa          TA           Mn          BLQ        440
## 1189      PConc          Gd          TA           No          Unf          0
## 1192      PConc          Gd          TA           No          Unf          0
## 1193      PConc          TA          TA           Mn          Unf          0
## 1194      PConc          Ex          TA           No          GLQ        883
## 1195     CBlock          TA          TA           No          ALQ        371
## 1196      PConc          Gd          TA           No          Unf          0
## 1199      PConc          Gd          TA           No          Unf          0
## 1201     CBlock          TA          TA           No          Unf          0
## 1202      PConc          Gd          TA           Av          Unf          0
## 1205     CBlock          Gd          TA           No          ALQ        788
## 1207     CBlock          TA          TA           No          Rec       1056
## 1208      PConc          Gd          TA           Av          GLQ        340
## 1209     CBlock          TA          TA           No          Rec        504
## 1212       Wood          Gd          TA           Av          GLQ        427
## 1213     CBlock          TA          TA           No          Rec        344
## 1214     CBlock          TA          Gd           Av          GLQ        648
## 1215     CBlock          TA          TA           Av          BLQ        784
## 1216     CBlock          TA          TA           No          Rec        180
## 1217       Slab No basement No basement  No basement  No basement          0
```

```
## 1218      PConc          Gd          TA           Mn          GLQ        936
## 1219       Slab No basement No basement  No basement  No basement          0
## 1220     CBlock          TA          TA           No          Unf          0
## 1221     CBlock          TA          TA           No          Rec        312
## 1224     CBlock          TA          Fa           No          LwQ        756
## 1226     CBlock          TA          TA           Av          GLQ        507
## 1228     CBlock          TA          TA           No          ALQ        595
## 1230     CBlock          TA          TA           No          ALQ        666
## 1232     CBlock          TA          TA           Av          ALQ        803
## 1233       Slab No basement No basement  No basement  No basement          0
## 1234     CBlock          TA          TA           No          Rec       1000
## 1235      PConc          TA          TA           Av          Unf          0
## 1236     BrkTil          Gd          TA           Mn          Unf          0
## 1237      PConc          Gd          TA           No          Unf          0
## 1239      PConc          Gd          TA           No          Unf          0
## 1241      PConc          Gd          TA           No          GLQ        550
## 1242      PConc          Gd          TA           Av          Unf          0
## 1247      PConc          Gd          TA           No          Unf          0
## 1248     CBlock          TA          TA           Av          GLQ        539
## 1250     CBlock          TA          TA           No          BLQ        534
## 1253     CBlock          TA          TA           No          BLQ        510
## 1258      PConc          Fa          TA           No          Unf          0
## 1259      PConc          Gd          TA           Gd          GLQ        655
## 1260     CBlock          Gd          TA           No          ALQ        602
## 1262     CBlock          TA          TA           No          Rec        504
## 1265      PConc          Gd          TA           No          GLQ        266
## 1266      PConc          Gd          TA           No          GLQ        450
## 1270     CBlock          TA          TA           No          BLQ        460
## 1273     CBlock          TA          TA           No          BLQ        560
## 1276     CBlock          TA          TA           No          Rec        220
## 1280     CBlock          TA          TA           No          Unf          0
## 1281      PConc          Gd          TA           No          GLQ        788
## 1283     CBlock          Gd          TA           Mn          LwQ        532
## 1284     CBlock          TA          TA           Av          Unf          0
## 1288     CBlock          TA          TA           Av          Rec        812
## 1292     CBlock          TA          TA           No          ALQ        231
## 1293      Stone          TA          TA           No          Unf          0
## 1295     CBlock          TA          TA           No          Rec        167
## 1296     CBlock          TA          TA           Av          BLQ       1016
## 1297     CBlock          TA          TA           Mn          ALQ        776
## 1298      PConc          Gd          TA           Gd          GLQ        547
## 1300     CBlock          TA          TA           No          LwQ        340
## 1304      PConc          Gd          TA           Av          Unf          0
## 1305      PConc          Gd          TA           No          Unf          0
## 1308      PConc          Gd          Gd           No          ALQ        746
## 1309     CBlock          TA          TA           No          GLQ        144
## 1310     CBlock          Gd          TA           No          GLQ       1200
## 1312      PConc          Gd          TA           No          GLQ        925
## 1320      PConc          TA          TA           No          ALQ        492
## 1322     CBlock No basement No basement  No basement  No basement          0
## 1324     CBlock          TA          TA           No          LwQ        280
## 1326     BrkTil          TA          Fa           No          Unf          0
## 1327     BrkTil          TA          TA           No          Rec        544
## 1332     CBlock          TA          TA           Av          ALQ        483
```

```
## 1334     CBlock          TA          TA           No          Unf          0
## 1335     CBlock          TA          TA           No          LwQ        765
## 1337     CBlock          TA          TA           No          Unf          0
## 1338     CBlock          TA          TA           No          Unf          0
## 1339      PConc          Gd          TA           No          GLQ        700
## 1340     CBlock          TA          TA           Mn          Rec        360
## 1341     CBlock          TA          TA           No          Unf          0
## 1342      PConc          Gd          TA           No          GLQ        814
## 1346      PConc          TA          TA           No          ALQ        250
## 1350     BrkTil          TA          Fa           No          LwQ        259
## 1351     CBlock          TA          TA           No          LwQ        500
## 1353     BrkTil          TA          TA           No          Unf          0
## 1357     CBlock          TA          TA           No          Rec        340
## 1359      PConc          Gd          TA           No          GLQ        378
## 1361     BrkTil          TA          Fa           No          Unf          0
## 1365      PConc          Gd          TA           No          Unf          0
## 1366      PConc          Gd          TA           No          GLQ        533
## 1367      PConc          Gd          TA           No          GLQ        633
## 1369      PConc          Gd          TA           Av          GLQ        685
## 1371      PConc          TA          TA           No          ALQ        315
## 1377     BrkTil          Gd          TA           Mn          Rec        384
## 1378     CBlock          TA          TA           No          LwQ        408
## 1379     CBlock          TA          Fa           No          BLQ        309
## 1380      PConc          Gd          TA           No          Unf          0
## 1381     BrkTil          TA          Fa           No          Rec        203
## 1383     BrkTil          Fa          TA           No          Unf          0
## 1384     BrkTil          TA          TA           No          Unf          0
## 1385     BrkTil          TA          TA           Mn          Rec        204
## 1386     BrkTil          TA          TA           No          BLQ        735
## 1391      PConc          Gd          TA           Av          GLQ       1400
## 1392     CBlock          TA          TA           No          Unf          0
## 1398     BrkTil          TA          TA           Mn          Unf          0
## 1399     CBlock          TA          TA           No          Rec        180
## 1404      PConc          Gd          TA           Gd          GLQ        929
## 1405      PConc          TA          TA           No          Unf          0
## 1407     CBlock          Gd          TA           Av          GLQ        656
## 1408     CBlock          TA          TA           No          ALQ        625
## 1409     CBlock          Fa          TA           No          Unf          0
## 1411      PConc          Gd          TA           No          GLQ        666
## 1412     CBlock          TA          TA           No          BLQ        120
## 1413       Slab No basement No basement  No basement  No basement          0
## 1417      PConc          TA          TA           No          Unf          0
## 1419     CBlock          TA          TA           No          BLQ         25
## 1423      PConc          Gd          TA           Av          GLQ        686
## 1426     CBlock          TA          TA           No          Unf          0
## 1432     CBlock          Gd          TA           No          LwQ        958
## 1433     BrkTil          TA          TA           No          Unf          0
## 1437      PConc          TA          TA           No          ALQ        616
## 1439     CBlock          TA          TA           No          GLQ        600
## 1445      PConc          Gd          TA           Av          Unf          0
## 1446     CBlock          TA          TA           Gd          LwQ        187
## 1447     CBlock          TA          TA           No          Rec        593
## 1449     CBlock          Fa          TA           No          Unf          0
## 1450     CBlock          Gd          TA           Av          GLQ        553
```

```
## 1451     CBlock          Gd          TA           No          Unf          0
## 1453      PConc          Gd          TA           Gd          GLQ        547
## 1454      PConc          Gd          TA           No          Unf          0
## 1455      PConc          Gd          TA           No          GLQ        410
## 1459     CBlock          TA          TA           Mn          GLQ         49
## 1460     CBlock          TA          TA           No          BLQ        830
##      BsmtFinType2 BsmtFinSF2 BsmtUnfSF TotalBsmtSF Heating HeatingQC CentralAir
## 1             Unf          0       150         856    GasA        Ex          Y
## 6             Unf          0        64         796    GasA        Ex          Y
## 11            Unf          0       134        1040    GasA        Ex          Y
## 13            Unf          0       175         912    GasA        TA          Y
## 16            Unf          0       832         832    GasA        Ex          Y
## 18    No basement          0         0           0    GasA        TA          Y
## 19            Unf          0       468        1114    GasA        Ex          Y
## 20            Unf          0       525        1029    GasA        TA          Y
## 27            Rec        486       180         900    GasA        TA          Y
## 30            Unf          0       520         520    GasA        Fa          N
## 31            Unf          0       649         649    GasA        TA          N
## 32            Unf          0      1228        1228    GasA        Gd          Y
## 33            Unf          0      1234        1234    GasA        Ex          Y
## 37            Unf          0      1097        1097    GasA        Ex          Y
## 39            Unf          0       326        1057    GasA        TA          Y
## 40    No basement          0         0           0    GasA        TA          N
## 43            LwQ         93         0         840    GasA        Gd          Y
## 44            BLQ        491       167         938    GasA        TA          Y
## 45            BLQ        506       465        1150    GasA        Ex          Y
## 48            Unf          0      1632        1656    GasA        Ex          Y
## 49            Unf          0       736         736    GasA        Gd          Y
## 50            Unf          0       192         955    GasA        Ex          Y
## 51            Unf          0       612         794    GasA        Gd          Y
## 53            GLQ        712         0         816    GasA        TA          N
## 57            Unf          0       321         970    GasA        Ex          Y
## 58            Unf          0       860         860    GasA        Ex          Y
## 60            Unf          0       148         780    GasA        Ex          Y
## 61            Unf          0       217        1158    GasA        Ex          Y
## 62            Unf          0       530         530    GasA        TA          N
## 64            Unf          0       576         576    GasA        Gd          Y
## 65            Unf          0       318        1057    GasA        Ex          Y
## 68            Unf          0       440        1453    GasA        Ex          Y
## 69            Unf          0       747         747    GasA        TA          Y
## 72            Unf          0       280         845    GasA        TA          Y
## 74            BLQ        362       404        1086    GasA        Gd          Y
## 75            Unf          0       840         840    GasA        Gd          N
## 76            Unf          0         0         462    GasA        TA          Y
## 77            Unf          0       724         952    GasA        Ex          Y
## 78            GLQ         41       295         672    GasA        TA          Y
## 79            Unf          0      1768        1768    GasA        TA          N
## 80            Unf          0       440         440    GasA        Gd          Y
## 82            Unf          0        36        1237    GasA        Ex          Y
## 84            Unf          0      1065        1065    GasA        Gd          Y
## 88            Unf          0       612         612    GasA        Ex          Y
## 89            Unf          0      1013        1013    GasA        TA          N
## 90            Unf          0       402         990    GasA        Ex          Y
## 91    No basement          0         0           0    GasA        TA          Y
```

```
## 92            Unf          0        635        1235    GasA        TA          Y
## 93            Unf          0        163         876    GasA        Ex          Y
## 95            Unf          0        176         824    GasA        Ex          Y
## 97            Unf          0        426        1588    GasA        Ex          Y
## 98            Unf          0        440         960    GasA        TA          Y
## 99            Unf          0        350         458    GasA        Fa          N
## 100           Unf          0        381         950    GasA        Fa          Y
## 103   No basement          0          0           0    GasA        TA          Y
## 104           Unf          0       1226        1226    GasA        Ex          Y
## 107           Unf          0        641         641    GasA        Gd          Y
## 108           BLQ        169        516         789    GasA        Ex          Y
## 109           Unf          0        793         793    GasW        TA          N
## 111           Unf          0        550         994    GasA        Gd          Y
## 118           Unf          0       1125        1125    GasA        Gd          Y
## 122           Unf          0        732         732    GasA        Gd          Y
## 123           Unf          0        510        1080    GasA        Gd          Y
## 124           Unf          0        899        1199    GasA        Ex          Y
## 126           Unf          0         30         520    GasA        Gd          N
## 130           BLQ         28        413        1008    GasA        TA          Y
## 133           Unf          0        658        1063    GasA        Gd          Y
## 134           Unf          0        262        1267    GasA        Ex          Y
## 138           Unf          0       1907        1907    GasA        Gd          Y
## 140           Unf          0        107         928    GasA        Ex          Y
## 142           Unf          0        434        1734    GasA        Ex          Y
## 143           Unf          0        403         910    GasA        Fa          Y
## 144           Unf          0        811        1490    GasA        Ex          Y
## 145           Unf          0        396        1728    GasA        TA          Y
## 146           Unf          0        970         970    GasA        Ex          Y
## 147           Unf          0        506         715    GasA        TA          Y
## 149           Unf          0        400        1080    GasA        Ex          Y
## 150           Unf          0        896         896    GasA        Gd          Y
## 151           Unf          0        253         969    GasA        TA          Y
## 155           Unf          0       1200        1200    GasA        TA          Y
## 156           Unf          0        572         572    Grav        Fa          N
## 157   No basement          0          0           0    GasA        TA          Y
## 161           Unf          0        572        1232    GasA        TA          Y
## 164           Unf          0        882         882    GasA        Ex          Y
## 165           Unf          0        779        1149    GasA        Gd          Y
## 166           Rec        181        112         644    GasA        Gd          Y
## 171           Unf          0        360         720    GasA        TA          Y
## 180           Unf          0        968         968    GasA        TA          Y
## 184           Unf          0       1362        1362    GasA        Ex          Y
## 185           Unf          0        504         504    GasA        Gd          Y
## 187           Unf          0        577        1188    GasA        Ex          Y
## 188           Unf          0        660         660    GasA        Ex          Y
## 192           Unf          0         99         725    GasA        Gd          Y
## 193           Unf          0        871        1431    GasA        Ex          Y
## 194           Unf          0        970         970    GasA        Ex          Y
## 195           Unf          0        474         864    GasA        TA          Y
## 199           Unf          0        755         755    GasA        Ex          Y
## 201           Unf          0       1121        1121    GasA        Ex          Y
## 203           Unf          0          0         617    GasA        Gd          Y
## 205           Unf          0        408         720    GasA        TA          Y
## 206           Unf          0       1424        1424    GasA        Ex          Y
```

```
## 210          Unf          0       305        1092    GasA       Ex          Y
## 211          Unf          0       396         864    GasA       TA          N
## 212          Unf          0      1176        1212    GasA       Ex          Y
## 214          Unf          0       274         990    GasA       Ex          Y
## 215          Unf          0       311         689    GasA       Ex          Y
## 217          Unf          0       490        1436    GasA       Ex          Y
## 218          Unf          0       686         686    GasA       Fa          N
## 220          Unf          0      1232        1248    GasA       Ex          Y
## 221          Unf          0      1498        1498    GasA       Ex          Y
## 224          LwQ        180       160         864    GasA       Gd          Y
## 226          Unf          0       630         630    GasA       TA          Y
## 228          Unf          0       162         483    GasA       TA          Y
## 231          Unf          0      1194        1194    GasA       TA          Y
## 234          ALQ        712         0         894    GasA       TA          Y
## 236          Unf          0       125         483    GasA       TA          Y
## 237          Unf          0      1390        1414    GasA       Ex          Y
## 238          Unf          0       594         996    GasA       Ex          Y
## 239          Unf          0      1694        1694    GasA       Ex          Y
## 241          Unf          0       488        1566    GasA       Ex          Y
## 242          Unf          0       357         686    GasA       Gd          Y
## 243          Unf          0       540         540    GasA       Gd          N
## 247          Unf          0      1020        1020    GasA       Gd          N
## 249          Unf          0       840         840    GasA       Ex          Y
## 251          Unf          0       728         728    GasA       Ex          Y
## 253          Unf          0       798         798    GasA       Ex          Y
## 254          ALQ        580       452        1302    GasA       Ex          Y
## 255          Unf          0       392        1314    GasA       TA          Y
## 257          Unf          0       361         864    GasA       Ex          Y
## 260  No basement          0         0           0    GasA       Gd          Y
## 264          ALQ        692         0         926    GasA       TA          Y
## 265          Unf          0       680         680    GasA       Gd          N
## 275          Unf          0       270         816    GasA       TA          Y
## 276          Unf          0       952         952    GasW       Gd          N
## 277          Unf          0      1560        1560    GasA       Ex          Y
## 278          Unf          0       744         864    GasA       Ex          Y
## 282          Unf          0       357        1262    GasA       Gd          Y
## 285          Unf          0      1145        1575    GasA       Gd          Y
## 286          Unf          0       625         625    GasA       Ex          Y
## 288          Unf          0       244         858    GasA       TA          Y
## 289          Unf          0       432         882    GasA       TA          Y
## 290          Unf          0       698         698    GasA       Ex          Y
## 292          Unf          0       570         780    GasA       Ex          N
## 296          Unf          0       184        1003    GasA       TA          Y
## 297          Unf          0       490         910    GasA       TA          Y
## 304          Unf          0         0         894    GasA       TA          Y
## 306          Unf          0       536        2000    GasA       Ex          Y
## 308          Unf          0       319         319    GasA       TA          Y
## 309          Unf          0       599         861    GasA       Ex          Y
## 321          Unf          0      1249        1249    GasA       Ex          Y
## 324          Unf          0       906        1162    GasA       Ex          Y
## 326          Unf          0       604         720    GasA       Po          N
## 328          Unf          0       818        1383    GasA       TA          Y
## 329          Unf          0       844         844    GasA       Gd          N
## 330          Unf          0       596         596    GasA       TA          N
```

```
## 331          Rec        264      1424        1728    GasA        TA          Y
## 332          Unf          0       210        1056    GasA        Fa          Y
## 338          Unf          0       726        1536    GasA        Ex          Y
## 339          Unf          0       995        1208    GasA        Ex          Y
## 340          Unf          0       630        1215    GasA        TA          Y
## 341          Unf          0       967         967    GasA        Ex          Y
## 342          Unf          0       721         721    GasA        Gd          Y
## 343   No basement          0         0           0    Wall        Fa          N
## 345          BLQ        232       175         536    GasA        TA          Y
## 347          Unf          0       460         958    GasA        TA          Y
## 349          Unf          0       191         764    GasA        Ex          Y
## 353          Rec        380         0         616    GasA        TA          N
## 354          Unf          0       624         624    GasA        Gd          Y
## 356          BLQ        544       322        1200    GasA        Ex          Y
## 357          Unf          0       598        1158    GasA        Gd          Y
## 359          Rec        294       468        1062    GasA        Ex          Y
## 362          Unf          0       484         883    GasA        Gd          Y
## 364          Unf          0       321         483    GasA        Gd          Y
## 366          Unf          0       216         672    GasA        Gd          Y
## 373          LwQ        121         0         744    GasA        TA          Y
## 374          LwQ        180         0         608    GasA        TA          Y
## 376          Unf          0       333         683    GasA        Gd          N
## 377          Unf          0       572         870    GasA        Ex          Y
## 383          Unf          0       939         939    GasA        Ex          Y
## 384          Unf          0       784         784    GasA        TA          N
## 387          Unf          0       658         658    GasA        TA          Y
## 389          Unf          0      1468        1468    GasA        Ex          Y
## 391          BLQ        391       229         861    GasA        Ex          Y
## 393   No basement          0         0           0    GasA        TA          Y
## 395          Unf          0       735         735    GasA        Gd          Y
## 396          Unf          0       405        1144    GasA        TA          Y
## 397          Unf          0       117         894    GasA        TA          Y
## 399          Unf          0       961         961    GasA        Gd          Y
## 400          Unf          0       280        1092    GasA        Ex          Y
## 403          Unf          0       672         672    GasA        Ex          Y
## 407          Unf          0      1064        1064    GasA        Ex          Y
## 408          Unf          0       840         840    GasA        Ex          Y
## 411          Unf          0      1276        1276    GasA        TA          Y
## 412          Unf          0         0        1056    GasA        TA          N
## 416          Unf          0      1316        1340    GasA        Ex          Y
## 419          Unf          0       444         756    GasA        Fa          N
## 421          Unf          0        35        1344    GasA        Ex          Y
## 423          Unf          0       988         988    GasA        Ex          Y
## 428          Unf          0       619         907    GasA        Ex          Y
## 429          Unf          0       544        1208    GasA        Ex          Y
## 431          Unf          0        96         483    GasA        TA          Y
## 432          Unf          0       901         901    GasA        Gd          Y
## 433          Unf          0       294         765    GasA        Ex          Y
## 435          Unf          0       135         630    GasA        Gd          Y
## 437          Unf          0       648         648    GasA        TA          Y
## 438          Unf          0       884         884    GasA        Gd          Y
## 440          Unf          0       684         684    GasA        Gd          Y
## 442          Unf          0      1307        1440    GasA        TA          N
## 450          Unf          0       318         649    GasA        Ex          Y
```

```
## 451          Unf          0        813         813    GasA        Ex          Y
## 453          Unf          0        130         872    GasA        Ex          Y
## 454          Unf          0        768         768    GasA        Ex          Y
## 455          Unf          0        122        1728    GasA        TA          Y
## 457          Unf          0        624         624    GasA        Fa          N
## 461          Unf          0        288         832    GasA        Ex          Y
## 462          BLQ        210          0         560    GasA        Ex          Y
## 465          Unf          0        424        1040    GasA        TA          Y
## 470          Unf          0        406         832    GasA        Ex          Y
## 471          BLQ       1120          0        1488    GasA        TA          Y
## 473          Unf          0         88         547    GasA        Ex          Y
## 475          Unf          0        298        1494    GasA        Ex          Y
## 476          Unf          0        340         970    GasA        TA          Y
## 480          Unf          0        739         907    GasA        TA          Y
## 484          Unf          0        319        1216    GasA        Ex          Y
## 485          Unf          0        411         999    GasA        Gd          Y
## 487          Unf          0        237        1073    GasA        TA          Y
## 490          Unf          0        115         630    GasA        TA          Y
## 493          Unf          0        728         728    GasA        Gd          Y
## 495          Unf          0        190         190    GasA        Gd          Y
## 496          Unf          0        225         720    GasA        TA          N
## 498          Unf          0        697        1026    GasA        Ex          Y
## 499          Unf          0        414         864    GasA        Ex          Y
## 500          LwQ        279        522         912    GasA        Fa          Y
## 501          Unf          0        316         672    GasA        TA          Y
## 502          Unf          0        466         866    GasA        Gd          Y
## 503          GLQ         96        420        1214    GasA        Ex          Y
## 506          Unf          0        960         960    GasA        Gd          Y
## 508          Unf          0       1191        1218    GasA        Ex          Y
## 510          Unf          0         50        1041    GasA        Ex          Y
## 513          LwQ        174        169         864    GasA        TA          Y
## 514          Unf          0        748        1084    GasA        TA          Y
## 515          Unf          0        768         768    Grav        Fa          N
## 519          Unf          0         88         794    GasA        Ex          Y
## 521  No basement          0          0           0    GasA        TA          N
## 527          Unf          0        551         928    GasA        TA          Y
## 529          Unf          0        180         528    GasA        Ex          Y
## 532          Unf          0        611         611    GasA        Ex          Y
## 534  No basement          0          0           0    GasA        Fa          N
## 536          Unf          0        148        1117    GasA        TA          Y
## 537          Unf          0        880         880    GasA        Ex          Y
## 538          Unf          0        264         864    GasA        TA          Y
## 544          LwQ        139          0         723    GasA        Ex          Y
## 546          LwQ        202          0        1204    GasA        Gd          Y
## 548          Unf          0        149         768    GasA        Ex          Y
## 549          Rec        645          0         825    GasA        TA          Y
## 551          Unf          0        510        1069    GasA        TA          Y
## 552          Unf          0        620         928    GasA        Gd          Y
## 554  No basement          0          0           0    GasA        Ex          Y
## 558          Unf          0          0         637    GasA        Gd          Y
## 566          Unf          0        806         806    GasA        TA          N
## 568          Unf          0       1515        1517    GasA        Ex          Y
## 571          Unf          0       1497        1728    GasA        TA          Y
## 572          Unf          0        450         864    GasA        Ex          Y
```

```
## 573          Unf          0        846         846    GasA        Gd          Y
## 575          Unf          0         23         372    GasA        TA          Y
## 576          Unf          0        390         832    GasA        TA          Y
## 579          Unf          0        689         689    GasA        Ex          Y
## 580          Unf          0       1050        1050    GasA        Ex          N
## 583          Unf          0          0         816    GasA        TA          Y
## 585          Unf          0        884         884    GasA        Ex          Y
## 587          ALQ        606          0         816    GasA        Ex          Y
## 588          Unf          0        168         840    GasA        TA          Y
## 590          Unf          0        742         742    GasA        TA          Y
## 591          Unf          0        280         770    GasA        Ex          Y
## 593          Unf          0          0         816    GasA        Ex          Y
## 594          Unf          0        163         848    GasA        Ex          Y
## 595          Unf          0        924         924    GasA        TA          Y
## 597          Unf          0        684         684    GasA        Ex          N
## 604          Unf          0        600         600    GasA        Ex          Y
## 607          Unf          0        308        1040    GasA        Gd          Y
## 608          Unf          0        293         896    GasA        Ex          Y
## 610          Unf          0        126        1029    GasA        Gd          Y
## 614          Unf          0        914        1120    GasA        Ex          Y
## 615          GLQ        480          0         630    GasA        Ex          Y
## 616          Unf          0        173         936    GasA        Ex          Y
## 618          Unf          0        832         832    GasA        Gd          Y
## 621          Unf          0        823         864    GasA        TA          N
## 623          Unf          0        420         980    GasA        TA          Y
## 626          Unf          0       1116        1116    GasA        TA          Y
## 630          Rec        336        288        1248    GasA        TA          Y
## 631          Unf          0        636         636    GasA        TA          Y
## 634          LwQ        468        108        1056    GasA        TA          Y
## 635          Unf          0          0        1056    GasA        Gd          Y
## 636          Unf          0       1184        1440    GasA        Ex          Y
## 638          Unf          0        811         811    GasA        TA          Y
## 639          Unf          0        796         796    GasA        Gd          Y
## 644          BLQ        287          0         780    GasA        Ex          Y
## 646          LwQ         35        664         981    GasA        TA          Y
## 647   No basement          0          0           0    GasA        Gd          Y
## 650          GLQ        499          0         630    GasA        Gd          Y
## 651          Unf          0        813         813    GasA        Ex          Y
## 654          Unf          0        756         756    GasA        Ex          Y
## 656          Unf          0        525         525    GasA        TA          Y
## 657          Unf          0        247        1053    GasA        Ex          Y
## 660          Unf          0        849        1486    GasA        Ex          Y
## 664          Rec        180         38        1138    GasA        TA          Y
## 671          Unf          0        545         738    GasA        Ex          Y
## 672          Unf          0        121         672    GasA        TA          N
## 677          Unf          0       1095        1095    GasW        Fa          N
## 678          Unf          0        768         768    GasA        Ex          Y
## 680          Unf          0        161         988    GasA        TA          Y
## 682          Unf          0        611         793    GasA        Ex          Y
## 685          Unf          0       1195        1195    GasA        Gd          Y
## 687          Unf          0        874         874    GasA        Ex          Y
## 688          Unf          0        312         551    GasA        Ex          Y
## 694          Unf          0       1073        1073    GasA        Ex          Y
## 695          Unf          0        927         927    GasA        TA          Y
```

```
## 697          Unf          0        0         616    GasA        Gd          Y
## 698          ALQ        551      219         980    GasA        Fa          Y
## 700          Unf          0     1375        1391    GasA        Ex          Y
## 702          Unf          0     1164        1164    GasA        TA          Y
## 705          Unf          0      761        1473    GasA        Ex          Y
## 706   No basement          0        0           0    GasA        Fa          N
## 710          Unf          0      876         876    GasA        TA          Y
## 711          Unf          0      270         270    GasA        Gd          Y
## 712          Unf          0      859         859    GasA        Gd          Y
## 714          Unf          0      171         960    GasW        TA          N
## 715          Unf          0      192         725    GasA        Ex          Y
## 717          Unf          0      718         718    GasA        Ex          Y
## 722          Unf          0      186         848    GasA        Ex          Y
## 723          Unf          0      673         864    GasA        Ex          Y
## 724          Unf          0      941         941    GasA        Ex          Y
## 726          BLQ        239      250         864    GasA        TA          Y
## 728          Unf          0      508        1232    GasA        Ex          Y
## 729          Unf          0     1584        1584    GasA        TA          Y
## 730          Unf          0      628         780    GasA        TA          Y
## 735          Unf          0      948         948    GasA        TA          Y
## 737   No basement          0        0           0    GasA        Gd          N
## 739          Unf          0        0        1200    GasA        TA          Y
## 740          Unf          0      864         864    GasA        Ex          Y
## 741          Unf          0      264         264    GasA        Ex          Y
## 742          Unf          0       80         912    GasA        Gd          Y
## 743          Unf          0     1349        1349    GasA        Ex          Y
## 750   No basement          0        0           0    Wall        TA          N
## 751          Unf          0      576         576    GasA        Gd          Y
## 752          Unf          0      660         660    GasA        Ex          Y
## 753          Unf          0      279        1479    GasA        Ex          Y
## 755          LwQ        472      115        1026    GasA        Gd          Y
## 756          Unf          0      348         729    GasA        Gd          Y
## 757          Unf          0      846         866    GasA        Ex          Y
## 759          Unf          0      195         744    GasA        Gd          Y
## 761          Unf          0      252         864    GasA        Ex          Y
## 762          Unf          0      740        1145    GasA        TA          Y
## 763          Unf          0      732         756    GasA        Ex          Y
## 768          Unf          0      323         983    GasA        Ex          Y
## 771          Unf          0      173         858    GasA        TA          Y
## 772          Unf          0        0         836    GasA        TA          Y
## 774          Unf          0      456         912    GasA        Ex          Y
## 776          Unf          0      338        1204    GasA        Ex          Y
## 777          Unf          0     1594        1614    GasA        Ex          Y
## 780          Unf          0        0         975    GasA        TA          Y
## 782          Unf          0      374         761    GasA        Ex          Y
## 783          Unf          0     1413        1413    GasA        Ex          Y
## 787          Unf          0        0         686    GasA        TA          Y
## 788          Unf          0      300         956    GasA        Ex          Y
## 789          Unf          0      901         901    GasA        Ex          Y
## 790          Unf          0      264         832    GasA        Gd          Y
## 794          Unf          0     1496        1496    GasA        Ex          Y
## 798          Unf          0      203         773    GasA        Gd          Y
## 801          Unf          0      154         616    GasA        Gd          Y
## 802          Unf          0      999        1196    GasA        Ex          Y
```

```
## 805          Unf          0        124         936    GasA        TA          Y
## 806          Unf          0       1417        1417    GasA        Ex          Y
## 807          Rec        480        100         980    GasA        Gd          Y
## 810          Unf          0        849         849    GasA        TA          N
## 813          Unf          0        540         540    GasA        TA          N
## 814          Unf          0        834        1442    GasA        Gd          Y
## 815          Unf          0        686         686    GasW        Gd          Y
## 816          Unf          0       1649        1649    GasA        Ex          Y
## 819          Unf          0        506        1010    GasA        Gd          Y
## 821          Unf          0        798         798    GasA        Ex          Y
## 822          Unf          0        936         936    GasA        TA          N
## 827          Unf          0          0         784    GasA        Gd          Y
## 829          ALQ        764          0        1013    GasA        TA          Y
## 830          Unf          0        600         600    GasA        Ex          Y
## 832          Unf          0        600         600    GasA        Ex          Y
## 834          BLQ        345        975        1516    GasA        TA          Y
## 835          Unf          0        572        1144    GasA        Gd          Y
## 836          Unf          0        625        1067    GasA        TA          Y
## 837          Unf          0       1221        1559    GasA        Gd          Y
## 838          Unf          0        153         483    GasA        TA          Y
## 839          Unf          0       1099        1099    GasA        Ex          Y
## 840          Unf          0        416         768    GasA        Ex          Y
## 841          Unf          0        516         672    GasA        TA          N
## 843          ALQ        539        276        1127    GasA        TA          Y
## 844          Unf          0       1800        1800    GasA        Ex          N
## 851          Unf          0        189         848    GasA        Ex          Y
## 856          Unf          0        381        1040    GasA        Ex          Y
## 857          LwQ        435          0         940    GasA        TA          Y
## 862          Unf          0        198        1039    GasA        Ex          Y
## 863          Unf          0        702        1040    GasA        TA          Y
## 864          Unf          0          0        1148    GasA        TA          Y
## 865          Unf          0       1372        1372    GasA        Ex          Y
## 866          Unf          0        174        1002    GasA        TA          Y
## 868          Unf          0        108        1040    GasA        TA          Y
## 871          Unf          0        894         894    GasA        Gd          N
## 872          Unf          0        299         804    GasA        Ex          Y
## 873          Unf          0        105         105    GasA        Gd          Y
## 875          Unf          0        676         676    GasA        Ex          Y
## 877          Unf          0        431        1064    GasA        Gd          Y
## 879          Unf          0        210        1109    GasA        TA          Y
## 880          Unf          0        218         864    GasA        Ex          Y
## 881          Unf          0        110        1090    GasA        Gd          Y
## 884          Unf          0        795         795    GasA        TA          N
## 885          Unf          0        460         892    GasA        TA          Y
## 887          Unf          0       1098        1626    GasA        Ex          Y
## 888          Unf          0        816         816    GasA        TA          Y
## 893          Unf          0        396        1059    GasA        TA          Y
## 895  No basement          0          0           0    GasA        TA          Y
## 897          Unf          0        666         951    GasA        Ex          N
## 898  No basement          0          0           0    GasA        TA          Y
## 901          Unf          0        536         858    GasA        TA          Y
## 902          Unf          0        132         992    GasA        TA          Y
## 905          Unf          0        277         876    GasA        TA          Y
## 906          LwQ        290        412        1056    GasA        TA          Y
```

```
## 909           ALQ        324       239        864    GasA        TA          Y
## 911           Unf          0       662       1105    GasA        TA          Y
## 912           Unf          0      1072       1268    GasA        TA          Y
## 913           Unf          0       279        768    GasA        TA          N
## 914           Unf          0       717       1001    GasA        TA          N
## 915           Unf          0       318        612    GasA        Ex          Y
## 916           Unf          0       546        546    GasA        Fa          Y
## 917           Unf          0       430        480    GasA        TA          N
## 918           Unf          0        75       1134    GasA        Ex          Y
## 921           Unf          0       114        928    GasA        Ex          Y
## 922           Unf          0       188       1272    GasA        Gd          Y
## 926           LwQ         93       266       1126    GasA        TA          Y
## 931           Unf          0      1450       1466    GasA        Ex          Y
## 932           Rec        466       121        925    GasA        Ex          Y
## 934           Unf          0      1480       1500    GasA        Ex          Y
## 936           Unf          0       600        600    GasA        Gd          Y
## 937           Unf          0       343       1176    GasA        Ex          Y
## 939           Unf          0       927       1391    GasA        Ex          Y
## 941           LwQ        396       396       1728    GasA        TA          Y
## 943           Unf          0         0       1440    GasA        TA          Y
## 944           Unf          0      1632       1632    GasA        TA          Y
## 946           Unf          0         0       1088    GasA        TA          Y
## 951           BLQ        149       317        864    GasA        Gd          Y
## 952           Unf          0       187        828    GasA        Gd          Y
## 953           Unf          0       108        768    GasA        Gd          Y
## 955           Unf          0         0        945    GasA        TA          Y
## 956           Unf          0       495        979    GasA        TA          N
## 958           Unf          0       640       1057    GasA        TA          Y
## 959           Unf          0       638       1337    GasA        Ex          Y
## 960           Unf          0        92        696    GasA        Ex          Y
## 961           Unf          0       162        858    GasA        Gd          Y
## 964           Unf          0      1800       1800    GasA        Ex          Y
## 968           Unf          0       196       1098    GasA        TA          Y
## 969           Unf          0       600        600    Grav        Fa          N
## 970           Unf          0        75        588    GasA        TA          Y
## 971           Unf          0       720        720    GasA        TA          N
## 972           Unf          0       197        764    GasA        Ex          Y
## 974           Unf          0      1428       1428    GasA        Ex          Y
## 975           Unf          0       728        728    GasA        TA          N
## 976           Unf          0        32        673    GasA        Ex          Y
## 977           Unf          0       440        440    GasA        TA          Y
## 978           Unf          0       135       1241    GasA        Ex          Y
## 979           Unf          0       342        894    GasA        Ex          Y
## 980           Unf          0       470       1121    GasA        TA          Y
## 981           Unf          0        77        944    GasA        Gd          Y
## 985   No basement          0         0          0    GasA        TA          Y
## 986           Unf          0       124       1164    GasW        TA          N
## 987           Unf          0       485        485    GasA        Gd          Y
## 990           Unf          0       770        770    GasA        Ex          Y
## 994           Unf          0       750        750    GasA        Ex          Y
## 996           Unf          0       363        747    GasA        TA          Y
## 997           Unf          0       135       1050    GasA        TA          Y
## 1000          Unf          0       501       1187    GasA        Ex          Y
## 1001  No basement          0         0          0    GasW        Fa          N
```

```
## 1002          Unf          0        691         691    GasA        Ex          Y
## 1004          Unf          0       1680        1680    GasA        Fa          Y
## 1006          Unf          0        390         985    GasA        TA          Y
## 1008          LwQ        273          0         546    GasA        TA          Y
## 1010          Unf          0       1008        1008    GasA        Ex          Y
## 1012  No basement          0          0           0    GasA        TA          N
## 1014          Rec        465        310        1022    GasW        TA          N
## 1016          Unf          0        167         810    GasA        Ex          Y
## 1021          Unf          0        108        1132    GasA        Ex          Y
## 1022          Unf          0        515        1199    GasA        Ex          Y
## 1023          Unf          0        588         912    GasA        Gd          Y
## 1026          Rec        468        276         882    GasA        TA          Y
## 1030          Unf          0        355         672    GasA        Gd          Y
## 1031          Unf          0        686         686    GasA        Gd          Y
## 1034          Unf          0        668        1654    GasA        Ex          Y
## 1036  No basement          0          0           0    GasA        Ex          N
## 1040          Unf          0        121         630    GasA        TA          Y
## 1042          Rec         64        336         800    GasA        Gd          Y
## 1048          Unf          0        304         990    GasA        Ex          Y
## 1050  No basement          0          0           0    GasA        Ex          Y
## 1051          Unf          0       1302        1302    GasA        Ex          Y
## 1061          Unf          0        722        1338    GasA        Ex          Y
## 1062          Unf          0        894         894    GasA        TA          Y
## 1063          Unf          0        662         662    GasA        TA          N
## 1066          Unf          0        105        1306    GasA        Ex          Y
## 1068          LwQ        106          0         780    GasA        TA          Y
## 1070          Unf          0        625         845    GasA        TA          Y
## 1071          Unf          0        462        1048    GasA        TA          Y
## 1072          Unf          0        429         727    GasA        Ex          Y
## 1074          Unf          0        155         690    GasA        TA          Y
## 1075          Unf          0       1240        1240    GasA        Ex          Y
## 1078          Rec        791        230        1096    GasA        Ex          Y
## 1080          Unf          0        495         990    GasA        Gd          Y
## 1081          Unf          0        602        1258    GasA        Ex          Y
## 1082          Unf          0        216        1040    GasA        Fa          Y
## 1086          Unf          0        189         936    GasA        Ex          Y
## 1087          Unf          0        212         546    GasA        TA          Y
## 1089          Unf          0        970         970    GasA        Ex          Y
## 1091  No basement          0          0           0    Wall        Fa          N
## 1092          Unf          0         90         600    GasA        Ex          Y
## 1094          Unf          0        203         864    GasA        Gd          Y
## 1095          Rec        240        448         936    GasA        Ex          Y
## 1097          Unf          0        684         684    GasA        TA          Y
## 1098          Unf          0       1074        1074    GasA        Ex          Y
## 1099          Unf          0          0         672    GasA        TA          Y
## 1101          Unf          0          0         290    GasA        TA          N
## 1102          LwQ        287        251         950    GasA        TA          Y
## 1103          Unf          0        422        1010    GasA        Ex          Y
## 1105          Unf          0        630         630    GasA        TA          Y
## 1113          Unf          0        108         816    GasA        TA          Y
## 1114          Unf          0        365        1008    GasA        Gd          Y
## 1115          Unf          0        418         833    GasA        Ex          Y
## 1118          Unf          0        192         894    GasA        Ex          Y
## 1119          Unf          0        533         533    GasA        TA          Y
```

```
## 1120          Unf          0        671        1040    GasA        TA          Y
## 1122          Unf          0       1528        1552    GasA        Ex          Y
## 1123          Unf          0        672         672    GasA        Ex          Y
## 1124          Unf          0        698         698    GasA        Ex          Y
## 1130          Unf          0          0         936    GasA        TA          Y
## 1132          Unf          0        762         974    GasA        TA          Y
## 1133          Unf          0       1008        1008    GasW        TA          Y
## 1137          Unf          0        752        1032    GasA        TA          Y
## 1138          Unf          0        780         780    GasA        Gd          N
## 1141          Unf          0        100         952    GasA        TA          Y
## 1144          Unf          0        718        1006    GasA        TA          Y
## 1145          Unf          0        324         672    Grav        Fa          N
## 1150          Unf          0         26         650    GasA        Ex          Y
## 1154          Unf          0        278         816    GasA        Ex          Y
## 1159          Unf          0       1580        1580    GasA        Ex          Y
## 1164          Unf          0          0        1198    GasA        TA          Y
## 1166          Unf          0       1502        1502    GasA        Ex          Y
## 1167          Unf          0       1694        1694    GasA        Ex          Y
## 1173          Unf          0        625         625    GasA        Ex          Y
## 1177          Unf          0        218         876    GasA        TA          Y
## 1178          Unf          0        350         818    GasA        TA          Y
## 1181          Unf          0          0        1216    GasA        Ex          Y
## 1186          Unf          0        392         784    GasA        Gd          Y
## 1187          Unf          0        538         978    GasA        TA          Y
## 1189          Unf          0        831         831    GasA        Ex          Y
## 1192          Unf          0        776         776    GasA        Ex          Y
## 1193          Unf          0        702         702    GasA        Gd          Y
## 1194          Unf          0        341        1224    GasA        Ex          Y
## 1195          Unf          0        292         663    GasA        TA          Y
## 1196          Unf          0        728         728    GasA        Ex          Y
## 1199          Unf          0       1212        1212    GasA        Ex          Y
## 1201          Unf          0        864         864    GasA        Gd          Y
## 1202          Unf          0        866         866    GasA        Ex          Y
## 1205          Unf          0        268        1056    GasA        Ex          Y
## 1207          Unf          0          0        1056    GasA        TA          Y
## 1208          Unf          0       1342        1682    GasA        Ex          Y
## 1209          BLQ        108        319         931    GasA        TA          Y
## 1212          Unf          0        132         559    GasA        Gd          Y
## 1213          Unf          0        328         672    GasA        TA          Y
## 1214          Unf          0          0         648    GasA        Ex          Y
## 1215          Unf          0        141         925    GasA        TA          Y
## 1216          LwQ        374        340         894    GasA        TA          Y
## 1217  No basement          0          0           0    GasA        TA          Y
## 1218          Unf          0        364        1300    GasA        Ex          Y
## 1219  No basement          0          0           0    GasA        Gd          N
## 1220          Unf          0        672         672    GasA        TA          Y
## 1221          LwQ        600          0         912    GasA        TA          Y
## 1224          Unf          0       1380        2136    GasA        TA          N
## 1226          Unf          0         81         588    GasA        Ex          Y
## 1228          Unf          0        317         912    GasA        Ex          Y
## 1230          Unf          0        409        1075    GasA        Gd          Y
## 1232          Unf          0        303        1106    GasA        TA          Y
## 1233  No basement          0          0           0    GasA        TA          Y
## 1234          Unf          0        188        1188    GasA        Fa          Y
```

```
## 1235          Unf          0        940         940    GasA        TA          N
## 1236          Unf          0        747         747    GasA        Gd          Y
## 1237          Unf          0        764         764    GasA        Ex          Y
## 1239          Unf          0       1141        1141    GasA        Ex          Y
## 1241          Unf          0        334         884    GasA        Ex          Y
## 1242          Unf          0       1689        1689    GasA        Ex          Y
## 1247          Unf          0        756         756    GasA        Ex          Y
## 1248          Unf          0        473        1012    GasA        TA          Y
## 1250          Rec         96        246         876    GasA        TA          Y
## 1253          Unf          0        354         864    GasA        TA          Y
## 1258          Unf          0        864         864    GasA        Ex          Y
## 1259          Unf          0        201         856    GasA        Ex          Y
## 1260          LwQ        438         14        1054    GasA        Gd          Y
## 1262          Unf          0        546        1050    GasA        Gd          Y
## 1265          Unf          0       1139        1405    GasA        Ex          Y
## 1266          Unf          0        241         691    GasA        Ex          Y
## 1270          Unf          0        414         874    GasW        TA          Y
## 1273          LwQ        375          0         935    GasA        TA          Y
## 1276          Unf          0        708         928    GasA        Gd          Y
## 1280          Unf          0        698         698    GasA        TA          Y
## 1281          Unf          0        785        1573    GasA        Ex          Y
## 1283          Rec        144        364        1040    GasA        TA          Y
## 1284          Unf          0        912         912    GasA        TA          Y
## 1288          Unf          0        812        1624    GasA        Fa          Y
## 1292          Unf          0        399         630    GasA        TA          Y
## 1293          Unf          0        994         994    GasA        TA          N
## 1295          Unf          0        697         864    GasA        TA          Y
## 1296          Unf          0         36        1052    GasA        Gd          Y
## 1297          Unf          0        344        1120    GasA        Gd          Y
## 1298          Unf          0          0         547    GasA        Gd          Y
## 1300          Rec        906          0        1246    GasA        Ex          Y
## 1304          Unf          0       1616        1616    GasA        Ex          Y
## 1305          Unf          0        976         976    GasA        Ex          Y
## 1308          Unf          0        244         990    GasA        Ex          Y
## 1309          ALQ        608        172         924    GasA        Ex          Y
## 1310          Unf          0         78        1278    GasA        Gd          Y
## 1312          Unf          0        349        1274    GasA        Ex          Y
## 1320          Unf          0        372         864    GasA        Ex          Y
## 1322  No basement          0          0           0   Floor        TA          N
## 1324          Unf          0        140         420    GasA        Gd          Y
## 1326          Unf          0        796         796    GasA        Fa          N
## 1327          Unf          0          0         544    GasA        Ex          Y
## 1332          Unf          0        428         911    GasA        Gd          Y
## 1334          Unf          0        803         803    GasA        Ex          Y
## 1335          Unf          0          0         765    GasA        TA          Y
## 1337          Unf          0       1656        1656    GasA        TA          Y
## 1338          Unf          0        693         693    Grav        Fa          N
## 1339          Unf          0        216         916    GasA        Ex          Y
## 1340          Unf          0        504         864    GasA        Ex          Y
## 1341          Unf          0        858         858    GasA        TA          Y
## 1342          Unf          0        300        1114    GasA        Ex          Y
## 1346          Unf          0        710         960    GasA        Gd          Y
## 1350          Unf          0        425         684    OthW        Fa          N
## 1351          Unf          0        748        1248    GasA        TA          Y
```

```
## 1353          Unf          0       698         698    GasA        TA          Y
## 1357          Unf          0       524         864    GasA        TA          Y
## 1359          Unf          0       378         756    GasA        Ex          Y
## 1361          Unf          0       612         612    GasA        Ex          Y
## 1365          Unf          0       600         600    GasA        Ex          Y
## 1366          Unf          0       281         814    GasA        Ex          Y
## 1367          Unf          0       240         873    GasA        Ex          Y
## 1369          Unf          0       163         848    GasA        Ex          Y
## 1371          Rec        105       420         840    GasA        Ex          Y
## 1377          Unf          0       384         768    GasA        TA          N
## 1378          BLQ        420       156         984    GasA        Ex          Y
## 1379          Unf          0       174         483    GasA        TA          Y
## 1380          Unf          0       384         384    GasA        Gd          Y
## 1381          Unf          0       661         864    GasA        TA          N
## 1383          Unf          0       596         596    GasA        Ex          Y
## 1384          Unf          0       816         816    GasA        Ex          Y
## 1385          Unf          0       356         560    GasA        TA          Y
## 1386          Unf          0        61         796    GasA        Gd          Y
## 1391          Unf          0       125        1525    GasA        Ex          Y
## 1392          Unf          0      1584        1584    GasA        TA          Y
## 1398          Unf          0       939         939    GasA        Ex          Y
## 1399          BLQ        352       676        1208    GasA        Gd          Y
## 1404          Unf          0       556        1485    GasA        Ex          Y
## 1405          Unf          0       672         672    GasA        TA          Y
## 1407          Unf          0       112         768    GasA        TA          Y
## 1408          Unf          0       208         833    GasA        Ex          Y
## 1409          Unf          0       622         622    GasA        Gd          Y
## 1411          Unf          0       278         944    GasA        Ex          Y
## 1412          Unf          0       736         856    GasA        Ex          Y
## 1413  No basement          0         0           0    Wall        Fa          N
## 1417          Unf          0       777         777    GasA        Gd          Y
## 1419          Rec        872       247        1144    GasA        TA          Y
## 1423          Unf          0       162         848    GasA        Ex          Y
## 1426          Unf          0      1252        1252    GasA        Ex          Y
## 1432          Unf          0         0         958    GasA        TA          Y
## 1433          Unf          0       656         656    GasA        TA          Y
## 1437          Unf          0       248         864    GasA        TA          Y
## 1439          Unf          0       312         912    GasA        TA          Y
## 1445          Unf          0      1422        1422    GasA        Ex          Y
## 1446          Rec        627         0         814    GasA        Gd          Y
## 1447          Unf          0       595        1188    GasA        TA          Y
## 1449          Unf          0       560         560    GasA        Gd          N
## 1450          Unf          0        77         630    GasA        Ex          Y
## 1451          Unf          0       896         896    GasA        TA          Y
## 1453          Unf          0         0         547    GasA        Gd          Y
## 1454          Unf          0      1140        1140    GasA        Ex          Y
## 1455          Unf          0       811        1221    GasA        Ex          Y
## 1459          Rec       1029         0        1078    GasA        Gd          Y
## 1460          LwQ        290       136        1256    GasA        Gd          Y
##      Electrical X1stFlrSF X2ndFlrSF LowQualFinSF GrLivArea BsmtFullBath
## 1         SBrkr       856       854            0      1710            1
## 6         SBrkr       796       566            0      1362            1
## 11        SBrkr      1040         0            0      1040            1
## 13        SBrkr       912         0            0       912            1
```

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## 16        FuseA       854         0            0       854            0
## 18        SBrkr      1296         0            0      1296            0
## 19        SBrkr      1114         0            0      1114            1
## 20        SBrkr      1339         0            0      1339            0
## 27        SBrkr       900         0            0       900            0
## 30        SBrkr       520         0            0       520            0
## 31        SBrkr       649       668            0      1317            0
## 32        SBrkr      1228         0            0      1228            0
## 33        SBrkr      1234         0            0      1234            0
## 37        SBrkr      1097         0            0      1097            0
## 39        SBrkr      1057         0            0      1057            1
## 40        FuseP      1152         0            0      1152            0
## 43        SBrkr       884         0            0       884            1
## 44        SBrkr       938         0            0       938            1
## 45        FuseA      1150         0            0      1150            1
## 48        SBrkr      1656         0            0      1656            0
## 49        SBrkr       736       716            0      1452            0
## 50        SBrkr       955         0            0       955            1
## 51        SBrkr       794       676            0      1470            0
## 53        SBrkr       816         0            0       816            1
## 57        SBrkr       983       756            0      1739            1
## 58        SBrkr       860       860            0      1720            0
## 60        SBrkr       780         0            0       780            0
## 61        SBrkr      1158         0            0      1158            1
## 62        SBrkr       581       530            0      1111            0
## 64        SBrkr       902       808            0      1710            0
## 65        SBrkr      1057       977            0      2034            1
## 68        SBrkr      1479         0            0      1479            1
## 69        SBrkr       747         0            0       747            0
## 72        SBrkr       845         0            0       845            1
## 74        SBrkr      1086         0            0      1086            1
## 75        SBrkr       840       765            0      1605            0
## 76        SBrkr       526       462            0       988            1
## 77        FuseA       952         0            0       952            0
## 78        SBrkr      1072       213            0      1285            1
## 79        SBrkr      1768         0            0      1768            0
## 80        SBrkr       682       548            0      1230            0
## 82        SBrkr      1337         0            0      1337            1
## 84        SBrkr      1065         0            0      1065            0
## 88        SBrkr       612       612            0      1224            0
## 89        SBrkr      1013         0          513      1526            0
## 90        SBrkr       990         0            0       990            1
## 91        FuseA      1040         0            0      1040            0
## 92        SBrkr      1235         0            0      1235            0
## 93        SBrkr       964         0            0       964            1
## 95        SBrkr       905       881            0      1786            1
## 97        SBrkr      1588         0            0      1588            0
## 98        FuseF       960         0            0       960            1
## 99        SBrkr       835         0            0       835            0
## 100       SBrkr      1225         0            0      1225            1
## 103       SBrkr      1535         0            0      1535            0
## 104       SBrkr      1226         0            0      1226            0
## 107       SBrkr      1047         0            0      1047            0
## 108       SBrkr       789         0            0       789            0
```

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## 109       FuseF       997       520           0      1517           0
## 111       SBrkr      1216       639           0      1855           0
## 118       SBrkr      1125         0           0      1125           0
## 122       SBrkr       772       351           0      1123           0
## 123       SBrkr      1080         0           0      1080           0
## 124       SBrkr      1199         0           0      1199           0
## 126       SBrkr       520         0         234       754           1
## 130       FuseA      1053         0           0      1053           0
## 133       SBrkr      1327         0           0      1327           1
## 134       SBrkr      1296         0           0      1296           1
## 138       SBrkr      1959         0           0      1959           0
## 140       SBrkr       928       836           0      1764           1
## 142       SBrkr      1734         0           0      1734           1
## 143       SBrkr       910       475           0      1385           0
## 144       SBrkr      1501         0           0      1501           1
## 145       SBrkr      1728         0           0      1728           1
## 146       SBrkr       970       739           0      1709           0
## 147       FuseA       875         0           0       875           1
## 149       SBrkr      1080         0           0      1080           1
## 150       FuseA       896       448           0      1344           0
## 151       SBrkr       969         0           0       969           0
## 155       FuseA      1200         0           0      1200           0
## 156       FuseF       572       524           0      1096           0
## 157       FuseF      1040         0           0      1040           0
## 161       SBrkr      1232         0           0      1232           0
## 164       SBrkr       882         0           0       882           0
## 165       FuseA      1149       467           0      1616           0
## 166       SBrkr       808       547           0      1355           1
## 171       SBrkr       854         0         528      1382           0
## 180       SBrkr       968         0           0       968           0
## 184       SBrkr      1362       720           0      2082           0
## 185       SBrkr       936       316           0      1252           0
## 187       SBrkr      1217         0           0      1217           1
## 188       SBrkr       808       704         144      1656           0
## 192       SBrkr       725       754           0      1479           1
## 193       SBrkr      1431         0           0      1431           1
## 194       SBrkr       970       739           0      1709           0
## 195       SBrkr       864         0           0       864           0
## 199       SBrkr       929       929         371      2229           0
## 201       SBrkr      1121         0           0      1121           0
## 203       SBrkr       865       445           0      1310           0
## 205       SBrkr       720       564           0      1284           0
## 206       SBrkr      1442         0           0      1442           0
## 210       SBrkr      1092         0           0      1092           1
## 211       FuseA       864         0           0       864           1
## 212       SBrkr      1212         0           0      1212           0
## 214       SBrkr       990         0           0       990           0
## 215       SBrkr       689       703           0      1392           0
## 217       SBrkr      1436         0           0      1436           1
## 218       SBrkr       810       518           0      1328           0
## 220       SBrkr      1248         0           0      1248           0
## 221       SBrkr      1498         0           0      1498           0
## 224       SBrkr       864         0           0       864           0
## 226       SBrkr       630       672           0      1302           0
```

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## 228       SBrkr       483       504            0       987            0
## 231       SBrkr      1194         0            0      1194            1
## 234       SBrkr       894         0            0       894            1
## 236       SBrkr       483       504            0       987            0
## 237       SBrkr      1414         0            0      1414            0
## 238       SBrkr      1014       730            0      1744            0
## 239       SBrkr      1694         0            0      1694            0
## 241       SBrkr      1566         0            0      1566            1
## 242       SBrkr       866         0            0       866            0
## 243       FuseA       889       551            0      1440            0
## 247       FuseP       908      1020            0      1928            0
## 249       SBrkr       840       828            0      1668            0
## 251       SBrkr      1306         0            0      1306            0
## 253       SBrkr       798       842            0      1640            0
## 254       SBrkr      1302         0            0      1302            0
## 255       SBrkr      1314         0            0      1314            1
## 257       SBrkr       864       864            0      1728            0
## 260       FuseA       882         0            0       882            0
## 264       SBrkr       926         0          390      1316            1
## 265       FuseP       764         0            0       764            0
## 275       SBrkr       816         0            0       816            0
## 276       SBrkr       952       596            0      1548            0
## 277       SBrkr      1560         0            0      1560            0
## 278       SBrkr       864         0            0       864            0
## 282       SBrkr      1262         0            0      1262            0
## 285       SBrkr      1575         0            0      1575            1
## 286       SBrkr       625       625            0      1250            0
## 288       SBrkr       858         0            0       858            0
## 289       SBrkr       900         0            0       900            0
## 290       FuseA       698       698            0      1396            0
## 292       SBrkr       936       780            0      1716            1
## 296       SBrkr      1003         0            0      1003            1
## 297       FuseA       910       648            0      1558            0
## 304       SBrkr       894         0            0       894            1
## 306       SBrkr      2000         0            0      2000            1
## 308       FuseA      1035       371            0      1406            0
## 309       SBrkr       861         0            0       861            0
## 321       SBrkr      1249      1347            0      2596            0
## 324       SBrkr      1163         0            0      1163            1
## 326       FuseF       803         0            0       803            0
## 328       SBrkr      1383         0            0      1383            0
## 329       FuseA      1445       689            0      2134            0
## 330       SBrkr       596       596            0      1192            0
## 331       SBrkr      1728         0            0      1728            0
## 332       SBrkr      1056         0            0      1056            1
## 338       SBrkr      1536         0            0      1536            1
## 339       SBrkr      1621         0            0      1621            1
## 340       FuseA      1215         0            0      1215            0
## 341       SBrkr       993       915            0      1908            0
## 342       SBrkr       841         0            0       841            0
## 343       FuseA      1040         0            0      1040            0
## 345       SBrkr       536       576            0      1112            0
## 347       SBrkr       958         0            0       958            0
## 349       SBrkr       764       862            0      1626            1
```

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## 353       SBrkr       616       495            0      1111            0
## 354       SBrkr       720         0            0       720            0
## 356       SBrkr      1200         0            0      1200            1
## 357       SBrkr      1167         0            0      1167            1
## 359       FuseF      1352         0            0      1352            0
## 362       SBrkr       988       517            0      1505            1
## 364       SBrkr       483       504            0       987            0
## 366       FuseA       672       672            0      1344            0
## 373       SBrkr       752         0            0       752            1
## 374       SBrkr      1319         0            0      1319            1
## 376       FuseA       904         0            0       904            1
## 377       SBrkr       914         0            0       914            0
## 383       SBrkr       939       858            0      1797            0
## 384       FuseA       784         0            0       784            0
## 387       SBrkr       658       526            0      1184            0
## 389       SBrkr      1479         0            0      1479            0
## 391       SBrkr       961       406            0      1367            1
## 393       SBrkr       882         0            0       882            0
## 395       FuseA       735       299            0      1034            0
## 396       SBrkr      1144         0            0      1144            1
## 397       SBrkr       894         0            0       894            0
## 399         Mix      1077         0            0      1077            0
## 400       SBrkr      1112       438            0      1550            1
## 403       SBrkr       672         0            0       672            0
## 407       FuseA      1166         0          473      1639            0
## 408       SBrkr       840       840            0      1680            0
## 411       FuseA      1276         0            0      1276            0
## 412       SBrkr      1056         0            0      1056            1
## 416       SBrkr      1340         0            0      1340            0
## 419       FuseF       756       378            0      1134            1
## 421       SBrkr      1344         0            0      1344            2
## 423       FuseA       988         0            0       988            0
## 428       SBrkr       907         0            0       907            0
## 429       SBrkr      1208         0            0      1208            1
## 431       SBrkr       483       504            0       987            0
## 432       SBrkr      1088       110            0      1198            0
## 433       SBrkr       765       600            0      1365            1
## 435       SBrkr       630         0            0       630            1
## 437       FuseA       734       384            0      1118            0
## 438       SBrkr       904         0            0       904            0
## 440       SBrkr       684       512            0      1196            0
## 442       FuseF      1440         0            0      1440            0
## 450       SBrkr       679       504            0      1183            0
## 451       FuseA       813         0            0       813            0
## 453       SBrkr       888       868            0      1756            1
## 454       SBrkr       786       804            0      1590            0
## 455       SBrkr      1728         0            0      1728            2
## 457       SBrkr       624       720            0      1344            0
## 461       SBrkr       832      1103            0      1935            1
## 462       SBrkr       575       560            0      1135            1
## 465       SBrkr      1040         0            0      1040            0
## 470       SBrkr       832       878            0      1710            0
## 471       SBrkr      1502         0            0      1502            1
## 473       SBrkr      1072         0            0      1072            1
```

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## 475       SBrkr      1652         0            0      1652            1
## 476       SBrkr       970         0            0       970            1
## 480       SBrkr      1131         0            0      1131            0
## 484       SBrkr      1216         0            0      1216            1
## 485       SBrkr       999         0            0       999            1
## 487       SBrkr      1073         0            0      1073            1
## 490       SBrkr       630         0            0       630            1
## 493       SBrkr       728       728            0      1456            0
## 495       FuseA       886         0            0       886            0
## 496       FuseA       720         0            0       720            0
## 498       SBrkr      1133       687            0      1820            1
## 499       SBrkr       899         0            0       899            0
## 500       SBrkr       912         0            0       912            0
## 501       SBrkr       672       546            0      1218            0
## 502       SBrkr       866       902            0      1768            0
## 503       SBrkr      1214         0            0      1214            1
## 506       SBrkr       960      1000            0      1960            0
## 508       SBrkr      1218         0            0      1218            0
## 510       SBrkr      1041         0            0      1041            1
## 513       SBrkr       864         0            0       864            1
## 514       SBrkr      1080         0            0      1080            0
## 515       SBrkr       789         0            0       789            0
## 519       SBrkr       882       914            0      1796            1
## 521       FuseA       694       600            0      1294            0
## 527       SBrkr       928         0            0       928            0
## 529       SBrkr       605         0            0       605            1
## 532       SBrkr       751       611            0      1362            0
## 534       FuseF       334         0            0       334            0
## 536       SBrkr       820       527            0      1347            1
## 537       SBrkr       880       844            0      1724            0
## 538       SBrkr       864         0            0       864            0
## 544       SBrkr       767         0            0       767            1
## 546       SBrkr      1377       806            0      2183            0
## 548       SBrkr       768         0            0       768            1
## 549       SBrkr       825         0            0       825            1
## 551       SBrkr      1069         0            0      1069            0
## 552       FuseA       928         0            0       928            0
## 554       SBrkr      1126         0            0      1126            0
## 558       SBrkr       897       439            0      1336            0
## 566       FuseF       841       806            0      1647            1
## 568       SBrkr      1535         0            0      1535            0
## 571       SBrkr      1728         0            0      1728            0
## 572       SBrkr       864         0            0       864            1
## 573       SBrkr       846       846            0      1692            0
## 575       SBrkr       576       533            0      1109            0
## 576       SBrkr       832       384            0      1216            0
## 579       SBrkr       703       689            0      1392            0
## 580       FuseF      1050       745            0      1795            0
## 583       SBrkr       816         0            0       816            1
## 585       SBrkr       989       584            0      1573            0
## 587       SBrkr       838         0            0       838            1
## 588       SBrkr       860         0            0       860            1
## 590       FuseA       779         0          156       935            0
## 591       SBrkr       770       812            0      1582            0
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## 593       SBrkr       816         0            0       816            1
## 594       SBrkr       848         0            0       848            1
## 595       SBrkr       924         0            0       924            0
## 597       FuseA       684       684            0      1368            0
## 604       SBrkr       600       600            0      1200            0
## 607       SBrkr      1040         0            0      1040            1
## 608       SBrkr      1112       896            0      2008            1
## 610       SBrkr      1029         0            0      1029            1
## 614       SBrkr      1120         0            0      1120            0
## 615       SBrkr       630         0            0       630            1
## 616       SBrkr      1054         0            0      1054            1
## 618       SBrkr       832         0            0       832            0
## 621       FuseF       864         0            0       864            1
## 623       SBrkr       980         0            0       980            0
## 626       SBrkr      1116         0            0      1116            0
## 630       SBrkr      1350         0            0      1350            1
## 631       FuseA      1089       661            0      1750            0
## 634       SBrkr      1056         0            0      1056            0
## 635       SBrkr      1056         0            0      1056            2
## 636       FuseA      1440      1440          515      3395            0
## 638       FuseA       811       576            0      1387            0
## 639       FuseA       796         0            0       796            0
## 644       SBrkr       780       840            0      1620            0
## 646       SBrkr       981         0            0       981            1
## 647       SBrkr      1048         0            0      1048            0
## 650       SBrkr       630         0            0       630            1
## 651       SBrkr       822       843            0      1665            0
## 654       SBrkr       756       713            0      1469            0
## 656       SBrkr       525       567            0      1092            0
## 657       SBrkr      1053         0            0      1053            1
## 660       SBrkr      1486         0            0      1486            1
## 664       SBrkr      1181         0            0      1181            1
## 671       SBrkr       738       738            0      1476            1
## 672       SBrkr       697       672            0      1369            1
## 677       SBrkr      1095       679            0      1774            1
## 678       SBrkr       792         0            0       792            0
## 680       SBrkr       988         0            0       988            1
## 682       SBrkr       848       672            0      1520            0
## 685       SBrkr      1195       644            0      1839            0
## 687       SBrkr       874       887            0      1761            0
## 688       SBrkr       551       551            0      1102            0
## 694       SBrkr      1073         0            0      1073            0
## 695       SBrkr      1067       472            0      1539            0
## 697       SBrkr       616         0            0       616            0
## 698       FuseA      1148         0            0      1148            0
## 700       SBrkr      1391         0            0      1391            0
## 702       SBrkr      1164         0            0      1164            0
## 705       SBrkr      1484         0            0      1484            1
## 706       SBrkr       372       720            0      1092            0
## 710       SBrkr       904         0            0       904            0
## 711       SBrkr       729         0            0       729            0
## 712       SBrkr       859       319            0      1178            0
## 714       SBrkr       960         0            0       960            1
## 715       SBrkr       725       754            0      1479            0
```

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## 717       SBrkr      1576       978            0      2554            0
## 722       SBrkr       848         0            0       848            1
## 723       SBrkr       864         0            0       864            0
## 724       SBrkr       997       473            0      1470            0
## 726       SBrkr       864         0            0       864            0
## 728       SBrkr      1232         0            0      1232            1
## 729       SBrkr      1776         0            0      1776            1
## 730       FuseA       848         0          360      1208            0
## 735       SBrkr       948         0            0       948            0
## 737       FuseF      1040         0            0      1040            0
## 739       SBrkr      1200         0            0      1200            3
## 740       SBrkr       864       864            0      1728            0
## 741       SBrkr       768       664            0      1432            0
## 742       SBrkr       912         0            0       912            1
## 743       SBrkr      1349         0            0      1349            0
## 750       FuseF      1088       441            0      1529            0
## 751       SBrkr       792       348            0      1140            0
## 752       SBrkr       660       660            0      1320            0
## 753       SBrkr      1494         0            0      1494            1
## 755       SBrkr      1026         0            0      1026            1
## 756       SBrkr       742       729            0      1471            0
## 757       SBrkr       866       902            0      1768            0
## 759       SBrkr       757       744            0      1501            0
## 761       SBrkr       864         0            0       864            0
## 762       SBrkr      1301         0            0      1301            0
## 763       SBrkr       764       783            0      1547            0
## 768       SBrkr       983       767            0      1750            1
## 771       SBrkr       858         0            0       858            1
## 772       FuseF      1220         0            0      1220            0
## 774       FuseA       912         0            0       912            0
## 776       SBrkr      1204         0            0      1204            1
## 777       SBrkr      1614         0            0      1614            0
## 780       SBrkr      1004         0            0      1004            1
## 782       SBrkr       810       793            0      1603            0
## 783       SBrkr      1430         0            0      1430            0
## 787       SBrkr       966       686            0      1652            1
## 788       SBrkr       956      1128            0      2084            1
## 789       SBrkr       901         0            0       901            0
## 790       SBrkr       976      1111            0      2087            0
## 794       SBrkr      1496         0            0      1496            0
## 798       SBrkr       773         0            0       773            0
## 801       SBrkr       616      1072            0      1688            1
## 802       FuseA      1196         0            0      1196            1
## 805       SBrkr      1128         0            0      1128            0
## 806       SBrkr      1428         0            0      1428            0
## 807       SBrkr       980         0            0       980            0
## 810       FuseA      1075      1063            0      2138            0
## 813       FuseA      1044         0            0      1044            0
## 814       SBrkr      1442         0            0      1442            0
## 815       SBrkr       686       564            0      1250            0
## 816       SBrkr      1661         0            0      1661            0
## 819       SBrkr      1052         0            0      1052            1
## 821       SBrkr       798       842            0      1640            0
## 822       SBrkr       936         0            0       936            0
```

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## 827       SBrkr       784         0            0       784            1
## 829       SBrkr      1160       966            0      2126            0
## 830       SBrkr       520       623           80      1223            0
## 832       SBrkr       520       600           80      1200            0
## 834       SBrkr      1516         0            0      1516            0
## 835       SBrkr      1144         0            0      1144            1
## 836       SBrkr      1067         0            0      1067            0
## 837       SBrkr      1559         0            0      1559            1
## 838       SBrkr       483       504            0       987            1
## 839       SBrkr      1099         0            0      1099            0
## 840       SBrkr       768       432            0      1200            0
## 841       SBrkr       810       672            0      1482            0
## 843       SBrkr      1165         0            0      1165            1
## 844       SBrkr      1800         0            0      1800            0
## 851       SBrkr       848         0            0       848            1
## 856       SBrkr      1040         0            0      1040            1
## 857       SBrkr      1026         0            0      1026            1
## 862       SBrkr      1039         0            0      1039            1
## 863       SBrkr      1097         0            0      1097            0
## 864       SBrkr      1148         0            0      1148            1
## 865       SBrkr      1372         0            0      1372            0
## 866       SBrkr      1002         0            0      1002            1
## 868       SBrkr      1120         0            0      1120            1
## 871       SBrkr       894         0            0       894            0
## 872       SBrkr       804       878            0      1682            0
## 873       SBrkr       910         0            0       910            0
## 875       SBrkr       676       455            0      1131            0
## 877       SBrkr      1040         0            0      1040            1
## 879       SBrkr      1155         0            0      1155            1
## 880       SBrkr       864         0            0       864            1
## 881       SBrkr      1090         0            0      1090            1
## 884       SBrkr       954       795          481      2230            1
## 885       SBrkr       892         0            0       892            0
## 887       SBrkr      1712         0            0      1712            0
## 888       SBrkr       872       521            0      1393            0
## 893       SBrkr      1068         0            0      1068            0
## 895       SBrkr      1535         0            0      1535            0
## 897       SBrkr       951         0            0       951            0
## 898       SBrkr      1120      1120            0      2240            0
## 901       SBrkr       858         0            0       858            0
## 902       SBrkr      1306         0            0      1306            1
## 905       SBrkr       902         0            0       902            0
## 906       SBrkr      1063         0            0      1063            1
## 909       SBrkr       902         0            0       902            1
## 911       FuseA      1105      1169            0      2274            0
## 912       SBrkr      1268         0            0      1268            0
## 913       SBrkr      1015         0            0      1015            0
## 914       FuseA      1001      1001            0      2002            0
## 915       SBrkr       612       612            0      1224            0
## 916       SBrkr       546       546            0      1092            0
## 917       FuseA       480         0            0       480            1
## 918       FuseA      1229         0            0      1229            0
## 921       SBrkr       936       785            0      1721            0
## 922       SBrkr      1272       928            0      2200            2
```

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## 926       SBrkr      1126         0            0      1126            0
## 931       SBrkr      1466         0            0      1466            0
## 932       SBrkr       925         0            0       925            0
## 934       SBrkr      1500         0            0      1500            0
## 936       SBrkr       747         0            0       747            0
## 937       SBrkr      1200         0            0      1200            1
## 939       SBrkr      1391       571            0      1962            0
## 941       SBrkr      1728         0            0      1728            0
## 943       SBrkr      1440         0            0      1440            2
## 944       SBrkr      1632         0            0      1632            0
## 946       SBrkr      1188       561          120      1869            0
## 951       SBrkr       864         0            0       864            1
## 952       SBrkr       965         0            0       965            1
## 953       SBrkr       768         0            0       768            0
## 955       SBrkr       980         0            0       980            0
## 956       FuseF       979       979            0      1958            0
## 958       SBrkr      1057         0            0      1057            0
## 959       SBrkr      1337         0            0      1337            1
## 960       SBrkr       696       720            0      1416            1
## 961       SBrkr       858         0            0       858            1
## 964       SBrkr      1800         0            0      1800            0
## 968       SBrkr      1098         0            0      1098            1
## 969       SBrkr       600       368            0       968            0
## 970       SBrkr      1095         0            0      1095            1
## 971       FuseA       720       472            0      1192            0
## 972       SBrkr       764       862            0      1626            0
## 974       SBrkr      1428         0            0      1428            0
## 975       SBrkr      1136       883            0      2019            0
## 976       SBrkr       673       709            0      1382            1
## 977       FuseA       869         0            0       869            0
## 978       SBrkr      1241         0            0      1241            1
## 979       SBrkr       894         0            0       894            0
## 980       SBrkr      1121         0            0      1121            1
## 981       SBrkr       999         0            0       999            1
## 985       SBrkr      1302       432            0      1734            0
## 986       SBrkr      1164         0            0      1164            1
## 987       SBrkr      1001       634            0      1635            0
## 990       SBrkr       778       798            0      1576            0
## 994       SBrkr       750       750            0      1500            0
## 996       SBrkr       774       456            0      1230            1
## 997       SBrkr      1050         0            0      1050            1
## 1000      SBrkr      1208         0            0      1208            1
## 1001      FuseF       944         0            0       944            0
## 1002      FuseA       691         0            0       691            0
## 1004      SBrkr      1680         0            0      1680            0
## 1006      SBrkr       985         0            0       985            0
## 1008      SBrkr       546       546            0      1092            0
## 1010      SBrkr      1008         0          514      1522            0
## 1012      SBrkr      1664         0            0      1664            0
## 1014      SBrkr      1022         0            0      1022            1
## 1016      SBrkr       810       855            0      1665            1
## 1021      SBrkr      1132         0            0      1132            1
## 1022      SBrkr      1220         0            0      1220            1
## 1023      FuseA       912       336            0      1248            0
```

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## 1026      SBrkr       882         0            0       882            1
## 1030      SBrkr       672       546            0      1218            0
## 1031      SBrkr       948       980            0      1928            0
## 1034      SBrkr      1654         0            0      1654            1
## 1036      SBrkr       845         0            0       845            0
## 1040      SBrkr       630         0            0       630            1
## 1042      SBrkr       800       832            0      1632            0
## 1048      SBrkr       990         0            0       990            0
## 1050      SBrkr       930         0            0       930            0
## 1051      SBrkr      1302         0            0      1302            0
## 1061      SBrkr      1338         0            0      1338            1
## 1062      SBrkr       894         0            0       894            0
## 1063      SBrkr      1422       915            0      2337            0
## 1066      SBrkr      1306       954            0      2260            1
## 1068      SBrkr       798       813            0      1611            1
## 1070      SBrkr       893         0            0       893            0
## 1071      SBrkr      1048         0            0      1048            1
## 1072      SBrkr       829       727            0      1556            0
## 1074      SBrkr       698       728            0      1426            0
## 1075      SBrkr      1240         0            0      1240            0
## 1078      SBrkr      1096         0            0      1096            1
## 1080      SBrkr       990         0            0       990            0
## 1081      SBrkr      1258         0            0      1258            0
## 1082      SBrkr      1040         0            0      1040            1
## 1086      SBrkr       996         0            0       996            1
## 1087      SBrkr       546       546            0      1092            0
## 1089      SBrkr       970       739            0      1709            0
## 1091      FuseA      1040         0            0      1040            0
## 1092      SBrkr       624       628            0      1252            1
## 1094      SBrkr      1200         0            0      1200            1
## 1095      SBrkr       936         0            0       936            1
## 1097      SBrkr       773       582            0      1355            0
## 1098      SBrkr      1088         0            0      1088            0
## 1099      SBrkr       757       567            0      1324            0
## 1101      FuseF       438         0            0       438            0
## 1102      SBrkr       950         0            0       950            0
## 1103      SBrkr      1134         0            0      1134            0
## 1105      SBrkr       630       672            0      1302            0
## 1113      FuseA       816         0            0       816            1
## 1114      SBrkr      1008         0            0      1008            1
## 1115      SBrkr       833         0            0       833            0
## 1118      SBrkr       894         0            0       894            1
## 1119      SBrkr      1021       580            0      1601            0
## 1120      FuseA      1040         0            0      1040            0
## 1122      SBrkr      1552         0            0      1552            0
## 1123      FuseA       960         0            0       960            0
## 1124      SBrkr       698         0            0       698            0
## 1130      SBrkr       936         0            0       936            1
## 1132      SBrkr       974         0            0       974            0
## 1133      SBrkr      1178      1032            0      2210            0
## 1137      FuseA      1032       220            0      1252            0
## 1138      SBrkr       780       240            0      1020            0
## 1141      SBrkr       952         0            0       952            1
## 1144      SBrkr      1006         0            0      1006            0
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## 1145      FuseA       672       252            0       924            1
## 1150      SBrkr       832       650            0      1482            0
## 1154      SBrkr       816         0            0       816            0
## 1159      SBrkr      1580         0            0      1580            0
## 1164      SBrkr      1258         0            0      1258            2
## 1166      SBrkr      1502         0            0      1502            0
## 1167      SBrkr      1694         0            0      1694            0
## 1173      SBrkr       625       625            0      1250            0
## 1177      SBrkr       923         0            0       923            1
## 1178      SBrkr       818       406            0      1224            0
## 1181      SBrkr      1298      1216            0      2514            0
## 1186      SBrkr       949       272            0      1221            1
## 1187      SBrkr      1014       685            0      1699            1
## 1189      SBrkr       831       829            0      1660            0
## 1192      SBrkr       764       677            0      1441            0
## 1193      SBrkr       842       630            0      1472            0
## 1194      SBrkr      1224         0            0      1224            1
## 1195      SBrkr       663       689            0      1352            0
## 1196      SBrkr       728       728            0      1456            0
## 1199      SBrkr      1212         0            0      1212            0
## 1201      SBrkr       864         0            0       864            0
## 1202      SBrkr       866       913            0      1779            0
## 1205      SBrkr      1074         0            0      1074            1
## 1207      SBrkr      1056         0            0      1056            1
## 1208      SBrkr      1700         0            0      1700            1
## 1209      SBrkr      1283         0            0      1283            1
## 1212      SBrkr      1080       672            0      1752            0
## 1213      SBrkr       672         0            0       672            1
## 1214      SBrkr       960         0            0       960            1
## 1215      SBrkr       999         0            0       999            1
## 1216      SBrkr       894         0            0       894            0
## 1217      SBrkr      1318       584            0      1902            0
## 1218      SBrkr      1314         0            0      1314            1
## 1219      SBrkr       672       240            0       912            0
## 1220      SBrkr       672       546            0      1218            0
## 1221      SBrkr       912         0            0       912            0
## 1224      FuseA      2136         0            0      2136            0
## 1226      SBrkr      1138         0            0      1138            0
## 1228      SBrkr       912         0            0       912            1
## 1230      SBrkr      1507         0            0      1507            0
## 1232      SBrkr      1190         0            0      1190            1
## 1233      SBrkr      1224         0            0      1224            0
## 1234      SBrkr      1188         0            0      1188            1
## 1235      FuseA      1024       940            0      1964            0
## 1236      FuseF       892       892            0      1784            0
## 1237      SBrkr       764       862            0      1626            0
## 1239      SBrkr      1141         0            0      1141            0
## 1241      SBrkr       884       884            0      1768            1
## 1242      SBrkr      1689         0            0      1689            0
## 1247      SBrkr       756       797            0      1553            0
## 1248      SBrkr      1034         0            0      1034            1
## 1250      SBrkr       988         0            0       988            0
## 1253      SBrkr       874         0            0       874            1
## 1258      SBrkr       864         0            0       864            0
```

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## 1259      SBrkr      1166         0            0      1166            1
## 1260      SBrkr      1054         0            0      1054            1
## 1262      SBrkr      1050         0            0      1050            0
## 1265      SBrkr      1337         0            0      1337            1
## 1266      SBrkr       713       739            0      1452            1
## 1270      FuseA       874       650            0      1524            0
## 1273      SBrkr       935         0            0       935            1
## 1276      FuseA       928       992            0      1920            0
## 1280      FuseA       698       430            0      1128            0
## 1281      SBrkr      1573         0            0      1573            1
## 1283      SBrkr      1040         0            0      1040            0
## 1284      SBrkr       912       912            0      1824            0
## 1288      SBrkr      1582         0            0      1582            0
## 1292      SBrkr       630       672            0      1302            0
## 1293      SBrkr      1378       994            0      2372            0
## 1295      SBrkr       864         0            0       864            1
## 1296      SBrkr      1052         0            0      1052            1
## 1297      SBrkr      1128         0            0      1128            1
## 1298      SBrkr      1072         0            0      1072            1
## 1300      SBrkr      1246         0            0      1246            1
## 1304      SBrkr      1616         0            0      1616            0
## 1305      SBrkr       976       732            0      1708            0
## 1308      SBrkr       990         0            0       990            1
## 1309      SBrkr      1122         0            0      1122            1
## 1310      SBrkr      1294         0            0      1294            1
## 1312      SBrkr      1274         0            0      1274            1
## 1320      SBrkr       948         0            0       948            0
## 1322      SBrkr       720         0            0       720            0
## 1324      SBrkr       708         0            0       708            0
## 1326      SBrkr       796         0            0       796            0
## 1327      SBrkr       774         0            0       774            0
## 1332      SBrkr       954         0            0       954            0
## 1334      SBrkr       803       557            0      1360            0
## 1335      SBrkr       765       600            0      1365            0
## 1337      SBrkr      1656         0            0      1656            0
## 1338      FuseA       693         0            0       693            0
## 1339      SBrkr       920       941            0      1861            1
## 1340      SBrkr       864         0            0       864            0
## 1341      SBrkr       872         0            0       872            0
## 1342      SBrkr      1114         0            0      1114            1
## 1346      FuseA       960         0            0       960            0
## 1350      SBrkr       938      1215          205      2358            0
## 1351      SBrkr      1338      1296            0      2634            1
## 1353      SBrkr       786       390            0      1176            0
## 1357      SBrkr       892         0            0       892            0
## 1359      SBrkr       769       804            0      1573            0
## 1361      SBrkr       990      1611            0      2601            0
## 1365      SBrkr       520       600           80      1200            0
## 1366      SBrkr       814       860            0      1674            1
## 1367      SBrkr       882       908            0      1790            1
## 1369      SBrkr       848         0            0       848            1
## 1371      SBrkr       840       534            0      1374            0
## 1377      SBrkr       790         0            0       790            0
## 1378      SBrkr       984       620            0      1604            0
```

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## 1379      SBrkr       483       504            0       987            0
## 1380       <NA>       754       640            0      1394            0
## 1381      FuseF       864         0            0       864            1
## 1383      SBrkr       998       764            0      1762            1
## 1384      SBrkr      1416         0            0      1416            0
## 1385      SBrkr       698       560            0      1258            0
## 1386      SBrkr       796       358            0      1154            1
## 1391      SBrkr      1525         0            0      1525            1
## 1392      SBrkr      1584         0            0      1584            0
## 1398      SBrkr       939       574            0      1513            0
## 1399      FuseA      1136       768            0      1904            1
## 1404      SBrkr      1464         0            0      1464            1
## 1405      SBrkr       694       520            0      1214            0
## 1407      SBrkr       768         0            0       768            1
## 1408      SBrkr       833         0            0       833            1
## 1409      SBrkr       741       622            0      1363            0
## 1411      SBrkr       944       896            0      1840            1
## 1412      SBrkr      1112       556            0      1668            0
## 1413      FuseF      1040         0            0      1040            0
## 1417      SBrkr      1246      1044            0      2290            0
## 1419      SBrkr      1144         0            0      1144            1
## 1423      SBrkr       848         0            0       848            1
## 1426      SBrkr      1252         0            0      1252            0
## 1432      SBrkr       958         0            0       958            0
## 1433      SBrkr       968         0            0       968            0
## 1437      SBrkr       864         0            0       864            0
## 1439      FuseA      1236         0            0      1236            1
## 1445      SBrkr      1422         0            0      1422            0
## 1446      SBrkr       913         0            0       913            1
## 1447      SBrkr      1188         0            0      1188            0
## 1449      SBrkr       796       550            0      1346            0
## 1450      SBrkr       630         0            0       630            1
## 1451      SBrkr       896       896            0      1792            0
## 1453      SBrkr      1072         0            0      1072            1
## 1454      SBrkr      1140         0            0      1140            0
## 1455      SBrkr      1221         0            0      1221            1
## 1459      FuseA      1078         0            0      1078            1
## 1460      SBrkr      1256         0            0      1256            1
##      BsmtHalfBath FullBath HalfBath BedroomAbvGr KitchenAbvGr KitchenQual
## 1               0        2        1            3            1          Gd
## 6               0        1        1            1            1          TA
## 11              0        1        0            3            1          TA
## 13              0        1        0            2            1          TA
## 16              0        1        0            2            1          TA
## 18              0        2        0            2            2          TA
## 19              0        1        1            3            1          Gd
## 20              0        1        0            3            1          TA
## 27              1        1        0            3            1          Gd
## 30              0        1        0            1            1          Fa
## 31              0        1        0            3            1          TA
## 32              0        1        1            3            1          Gd
## 33              0        2        0            3            1          Gd
## 37              0        1        1            3            1          TA
## 39              0        1        0            3            1          Gd
```

```
## 40          0       2       0       2       2       Fa
## 43          0       1       0       2       1       Gd
## 44          0       1       0       3       1       TA
## 45          0       1       0       3       1       TA
## 48          0       2       0       3       1       Gd
## 49          0       2       0       2       3       TA
## 50          0       1       0       3       1       TA
## 51          1       2       0       3       1       TA
## 53          0       1       0       2       1       TA
## 57          0       2       1       3       1       Gd
## 58          0       2       1       3       1       Gd
## 60          0       1       0       2       1       TA
## 61          0       1       1       3       1       Gd
## 62          0       1       0       3       1       Fa
## 64          0       2       0       3       1       TA
## 65          0       2       1       3       1       Gd
## 68          0       2       0       3       1       Gd
## 69          0       1       0       2       1       TA
## 72          0       1       0       2       1       TA
## 74          0       1       0       3       1       TA
## 75          0       2       0       3       2       TA
## 76          0       1       0       2       1       TA
## 77          0       1       0       2       1       TA
## 78          0       1       0       2       1       TA
## 79          0       2       0       4       2       TA
## 80          0       1       1       2       1       TA
## 82          0       2       0       2       1       TA
## 84          0       1       1       3       1       TA
## 88          0       2       1       2       1       Gd
## 89          0       1       0       2       1       Fa
## 90          0       1       0       3       1       TA
## 91          0       1       0       2       1       TA
## 92          0       1       0       2       1       TA
## 93          0       1       0       2       1       TA
## 95          0       2       1       3       1       Gd
## 97          0       2       0       3       1       Gd
## 98          0       1       0       3       1       TA
## 99          0       1       0       2       1       TA
## 100         0       1       1       3       1       TA
## 103         0       2       0       4       2       TA
## 104         0       2       0       3       1       Gd
## 107         0       1       0       2       1       TA
## 108         0       1       0       2       1       TA
## 109         0       2       0       3       1       Fa
## 111         0       2       0       4       1       TA
## 118         0       1       1       2       1       TA
## 122         0       1       0       3       1       TA
## 123         0       1       0       3       1       TA
## 124         0       2       0       2       1       Gd
## 126         0       1       0       2       1       TA
## 130         1       1       1       3       1       Ex
## 133         0       1       0       3       1       Gd
## 134         0       2       0       2       1       Gd
## 138         0       3       0       5       2       TA
```

```
## 140          0       2       1          3          1        Gd
## 142          0       2       0          3          1        Gd
## 143          0       2       0          4          1        TA
## 144          0       2       0          3          1        Gd
## 145          0       2       0          6          2        TA
## 146          0       2       0          3          1        Gd
## 147          0       1       0          2          1        TA
## 149          0       1       0          3          1        Gd
## 150          0       1       0          3          1        TA
## 151          0       1       1          3          1        TA
## 155          0       1       0          4          1        TA
## 156          0       1       0          2          1        TA
## 157          0       1       0          2          1        TA
## 161          0       2       0          3          1        TA
## 164          0       1       0          1          1        TA
## 165          0       2       0          3          1        Gd
## 166          0       2       0          4          2        TA
## 171          0       1       1          2          1        TA
## 180          0       1       0          2          1        TA
## 184          0       2       1          3          1        Gd
## 185          0       1       0          3          1        TA
## 187          0       2       0          3          1        Gd
## 188          0       2       1          3          1        TA
## 192          0       1       1          4          1        Gd
## 193          0       2       0          3          1        Gd
## 194          0       2       0          3          1        Gd
## 195          0       1       0          3          1        TA
## 199          0       1       0          5          1        TA
## 201          0       2       0          2          1        TA
## 203          0       2       0          2          1        TA
## 205          0       1       1          2          1        TA
## 206          0       2       0          3          1        TA
## 210          0       1       0          3          1        TA
## 211          0       1       0          2          1        TA
## 212          0       2       0          3          1        Gd
## 214          1       1       0          3          1        TA
## 215          0       1       1          3          1        TA
## 217          0       2       0          3          1        Gd
## 218          0       1       0          3          1        TA
## 220          0       2       0          2          1        Gd
## 221          0       2       0          2          1        Gd
## 224          0       1       0          2          1        TA
## 226          0       2       1          3          1        TA
## 228          0       1       1          2          1        TA
## 231          0       1       0          3          1        TA
## 234          0       1       0          3          1        TA
## 236          0       1       1          2          1        TA
## 237          0       2       0          3          1        Gd
## 238          0       2       1          3          1        Gd
## 239          0       2       0          3          1        Gd
## 241          0       2       0          3          1        Gd
## 242          0       1       0          2          1        Gd
## 243          0       1       0          3          1        TA
## 247          0       2       0          4          2        Fa
```

```
## 249          0          2          1          3          1          Gd
## 251          0          1          0          3          1          Fa
## 253          0          2          1          3          1          Gd
## 254          1          2          0          3          1          Gd
## 255          0          1          0          3          1          TA
## 257          0          2          1          3          1          Gd
## 260          0          1          0          2          1          TA
## 264          0          1          0          3          1          TA
## 265          0          1          0          2          1          TA
## 275          0          1          0          2          1          TA
## 276          0          2          1          3          1          Ex
## 277          0          2          0          3          1          Gd
## 278          0          1          0          2          1          TA
## 282          0          2          0          2          1          Gd
## 285          0          2          0          2          1          Gd
## 286          0          2          1          2          1          Gd
## 288          0          1          0          3          1          TA
## 289          0          1          0          3          1          TA
## 290          0          1          0          3          1          TA
## 292          0          2          0          6          1          Fa
## 296          0          1          0          3          1          TA
## 297          0          1          1          4          1          TA
## 304          0          1          0          3          1          TA
## 306          0          2          0          3          1          Gd
## 308          0          1          0          3          1          Fa
## 309          0          1          0          1          1          TA
## 321          0          3          1          4          1          Gd
## 324          0          1          0          3          1          TA
## 326          0          1          0          2          1          TA
## 328          0          1          1          3          1          TA
## 329          0          2          0          5          1          Gd
## 330          0          1          0          3          1          TA
## 331          1          2          0          6          2          TA
## 332          0          1          0          3          1          TA
## 338          0          2          0          3          1          Gd
## 339          0          2          0          3          1          Gd
## 340          0          1          0          3          1          TA
## 341          0          2          1          4          1          Gd
## 342          0          1          0          2          1          TA
## 343          0          2          0          2          2          TA
## 345          0          1          1          3          1          TA
## 347          0          1          0          2          1          TA
## 349          0          2          1          2          1          Gd
## 353          1          1          0          3          1          TA
## 354          0          1          0          2          1          TA
## 356          0          2          0          3          1          Gd
## 357          0          2          0          3          1          Gd
## 359          1          1          0          3          1          Gd
## 362          0          1          0          3          1          TA
## 364          0          1          1          2          1          Gd
## 366          0          1          0          3          1          TA
## 373          0          1          0          2          1          TA
## 374          0          1          0          3          1          TA
## 376          0          0          1          1          1          Fa
```

```
## 377          0        1        0        2        1        TA
## 383          0        2        1        3        1        Gd
## 384          0        1        0        2        1        TA
## 387          0        1        0        5        1        TA
## 389          0        2        0        3        1        Gd
## 391          0        1        0        4        1        TA
## 393          0        1        0        3        1        TA
## 395          0        1        0        2        1        TA
## 396          0        1        0        3        1        TA
## 397          0        1        0        2        1        TA
## 399          0        1        0        2        1        TA
## 400          0        2        0        2        1        Gd
## 403          0        1        0        2        1        TA
## 407          0        1        0        3        1        TA
## 408          0        2        0        4        1        TA
## 411          0        1        0        3        1        TA
## 412          0        1        0        3        1        TA
## 416          0        2        0        3        1        Gd
## 419          0        1        1        3        1        TA
## 421          0        2        0        2        2        TA
## 423          0        1        0        2        1        TA
## 428          0        1        0        3        1        TA
## 429          0        2        0        2        1        Gd
## 431          0        1        1        2        1        TA
## 432          0        1        0        4        1        TA
## 433          0        1        1        2        1        TA
## 435          0        1        0        1        1        TA
## 437          0        1        0        2        1        TA
## 438          0        1        0        2        1        TA
## 440          0        1        0        3        1        Gd
## 442          0        2        0        4        2        Fa
## 450          0        1        1        2        1        TA
## 451          0        1        0        2        1        Gd
## 453          0        2        1        3        1        TA
## 454          0        2        1        3        1        Gd
## 455          0        2        0        4        2        TA
## 457          0        1        0        4        1        TA
## 461          0        2        1        3        1        TA
## 462          0        1        0        3        1        Gd
## 465          0        2        0        3        1        TA
## 470          0        2        1        3        1        Gd
## 471          0        1        1        1        1        Gd
## 473          0        1        0        2        1        TA
## 475          0        2        0        2        1        Ex
## 476          0        1        0        2        1        TA
## 480          0        1        0        2        1        TA
## 484          0        2        0        2        1        TA
## 485          0        1        0        3        1        Gd
## 487          0        1        1        3        1        TA
## 490          0        1        0        1        1        Gd
## 493          0        2        1        3        1        TA
## 495          0        1        0        2        1        TA
## 496          0        1        0        2        1        TA
## 498          0        2        0        4        1        TA
```

```
## 499          0       1       0       3       1       Gd
## 500          1       1       0       2       1       TA
## 501          0       1       1       3       1       TA
## 502          0       2       1       3       1       Gd
## 503          0       1       0       2       1       TA
## 506          0       2       0       4       2       TA
## 508          0       2       0       2       1       Gd
## 510          0       1       0       3       1       TA
## 513          0       1       0       3       1       TA
## 514          0       1       1       3       1       TA
## 515          0       1       0       2       1       TA
## 519          0       2       1       3       1       TA
## 521          0       2       0       3       2       TA
## 527          0       1       0       2       1       TA
## 529          0       1       0       2       1       TA
## 532          0       2       0       3       1       TA
## 534          0       1       0       1       1       Fa
## 536          0       1       0       3       1       TA
## 537          0       2       1       3       1       Gd
## 538          0       1       0       3       1       TA
## 544          0       1       0       1       1       TA
## 546          0       2       1       4       1       Gd
## 548          0       1       0       2       1       TA
## 549          0       1       0       2       1       TA
## 551          0       2       0       2       1       TA
## 552          0       1       0       3       1       TA
## 554          0       2       0       2       1       Gd
## 558          0       1       1       3       1       TA
## 566          0       1       1       4       1       Fa
## 568          0       2       0       3       1       Gd
## 571          0       2       0       6       2       TA
## 572          0       1       0       2       1       Gd
## 573          0       2       1       3       1       Gd
## 575          1       1       0       3       1       TA
## 576          0       1       0       2       1       TA
## 579          0       2       0       2       1       Gd
## 580          0       2       0       4       1       TA
## 583          0       1       0       3       1       TA
## 585          0       1       0       3       1       Gd
## 587          0       1       0       2       1       Fa
## 588          0       1       0       2       1       TA
## 590          0       1       0       2       1       TA
## 591          0       2       1       3       1       Gd
## 593          0       1       0       2       1       TA
## 594          0       1       0       1       1       Gd
## 595          0       1       0       3       1       TA
## 597          0       1       0       3       1       TA
## 604          0       2       1       2       1       Gd
## 607          0       1       0       3       1       Gd
## 608          0       3       0       3       1       Ex
## 610          0       1       0       3       1       TA
## 614          0       1       0       3       1       TA
## 615          0       1       0       1       1       TA
## 616          0       1       0       3       1       Gd
```

```
## 618          0         1         0         2         1         Gd
## 621          0         1         0         2         1         TA
## 623          0         1         0         3         1         TA
## 626          0         1         1         3         1         TA
## 630          0         1         1         3         1         TA
## 631          0         1         0         3         1         Ex
## 634          1         1         0         3         1         TA
## 635          0         0         0         0         2         TA
## 636          0         2         0         8         2         Fa
## 638          0         2         0         3         2         Gd
## 639          0         1         0         2         1         TA
## 644          0         2         1         4         1         TA
## 646          0         1         1         3         1         TA
## 647          0         1         0         3         1         TA
## 650          0         1         0         1         1         TA
## 651          0         2         1         3         1         Gd
## 654          0         1         0         3         1         TA
## 656          0         1         1         3         1         TA
## 657          0         1         1         3         1         Gd
## 660          0         1         0         3         1         TA
## 664          0         2         0         3         1         TA
## 671          0         2         1         3         1         Gd
## 672          0         2         0         3         1         TA
## 677          0         2         0         4         2         TA
## 678          0         1         0         2         1         Gd
## 680          0         1         0         3         1         TA
## 682          0         1         0         3         1         TA
## 685          0         2         1         4         1         TA
## 687          0         3         0         3         1         Gd
## 688          0         2         1         2         1         Gd
## 694          0         1         0         2         1         TA
## 695          0         1         1         3         1         TA
## 697          0         1         0         2         1         TA
## 698          1         1         0         2         1         TA
## 700          0         2         0         2         1         Gd
## 702          0         1         1         3         1         TA
## 705          0         2         0         3         1         Gd
## 706          0         2         0         3         2         Fa
## 710          0         1         0         3         1         TA
## 711          0         1         0         2         1         TA
## 712          0         1         0         2         1         TA
## 714          0         1         0         3         1         TA
## 715          0         2         1         3         1         Gd
## 717          0         1         1         3         1         TA
## 722          0         1         0         1         1         Gd
## 723          0         1         0         3         1         TA
## 724          0         2         0         4         1         TA
## 726          0         1         0         3         1         Gd
## 728          0         2         0         2         1         Gd
## 729          0         2         0         4         2         TA
## 730          0         1         0         2         1         TA
## 735          0         1         0         3         1         TA
## 737          0         2         0         2         2         TA
## 739          0         3         0         3         1         TA
```

```
## 740          0        2        1        3        1        Gd
## 741          0        2        0        2        1        TA
## 742          1        1        0        3        1        Gd
## 743          0        2        0        3        1        TA
## 750          0        2        0        4        1        TA
## 751          0        1        0        3        1        TA
## 752          0        2        1        3        1        Gd
## 753          0        2        0        3        1        Gd
## 755          0        1        0        3        1        Gd
## 756          0        2        1        3        1        TA
## 757          0        2        1        3        1        Gd
## 759          0        2        1        3        1        TA
## 761          0        1        0        2        1        TA
## 762          0        1        0        2        1        Fa
## 763          0        2        1        3        1        Gd
## 768          0        2        0        4        1        TA
## 771          0        1        0        2        1        TA
## 772          0        1        0        2        1        TA
## 774          0        1        0        2        1        TA
## 776          0        2        0        2        1        TA
## 777          0        2        0        3        1        Gd
## 780          0        1        0        2        1        TA
## 782          0        2        1        3        1        Gd
## 783          0        2        0        3        1        Gd
## 787          0        2        0        4        1        TA
## 788          0        2        1        4        1        Gd
## 789          0        1        0        2        1        TA
## 790          0        2        1        5        1        Gd
## 794          0        2        0        3        1        Gd
## 798          0        1        0        2        1        TA
## 801          0        2        1        4        1        Gd
## 802          0        1        0        2        1        TA
## 805          0        1        0        2        1        TA
## 806          0        2        0        3        1        Ex
## 807          0        2        0        3        1        TA
## 810          0        2        0        2        3        TA
## 813          0        1        0        2        1        Fa
## 814          0        1        1        4        1        TA
## 815          1        1        1        3        1        Fa
## 816          0        2        0        3        1        Gd
## 819          0        1        0        3        1        TA
## 821          0        2        1        3        1        Gd
## 822          0        1        0        2        1        TA
## 827          0        1        0        2        1        Gd
## 829          1        2        1        3        1        TA
## 830          0        2        1        2        1        Gd
## 832          0        2        1        2        1        Gd
## 834          0        1        1        3        1        TA
## 835          0        1        0        3        1        TA
## 836          0        2        0        2        1        Gd
## 837          0        1        0        2        1        TA
## 838          0        1        1        2        1        TA
## 839          0        1        1        3        1        Gd
## 840          0        1        0        3        1        TA
```

```
## 841          0        2        0        4        1        Fa
## 843          0        1        1        3        1        TA
## 844          0        2        0        6        2        TA
## 851          0        1        0        1        1        Gd
## 856          0        1        1        3        1        TA
## 857          0        1        0        3        1        TA
## 862          0        1        1        3        1        TA
## 863          0        2        0        3        1        TA
## 864          0        1        0        3        1        TA
## 865          0        2        0        3        1        Gd
## 866          0        1        0        3        1        TA
## 868          0        1        1        3        1        Fa
## 871          0        1        0        2        1        TA
## 872          0        2        1        3        1        Gd
## 873          0        1        0        3        1        Gd
## 875          0        1        1        3        1        TA
## 877          0        1        0        3        1        TA
## 879          0        1        0        3        1        Gd
## 880          0        1        0        3        1        TA
## 881          0        1        1        2        1        TA
## 884          0        1        0        5        1        TA
## 885          0        1        0        3        1        TA
## 887          0        2        0        4        2        TA
## 888          0        1        1        3        1        TA
## 893          1        1        0        3        1        TA
## 895          0        2        0        4        2        TA
## 897          0        1        0        2        1        TA
## 898          0        2        0        6        2        TA
## 901          0        1        0        2        1        TA
## 902          0        1        0        2        1        TA
## 905          0        1        0        3        1        TA
## 906          0        1        0        3        1        TA
## 909          0        1        0        2        1        TA
## 911          0        2        0        5        2        TA
## 912          0        1        1        3        1        Gd
## 913          0        1        0        3        1        TA
## 914          0        2        0        4        2        TA
## 915          0        2        1        2        1        Gd
## 916          0        1        1        3        1        TA
## 917          0        0        0        1        1        TA
## 918          0        1        0        3        1        TA
## 921          1        2        1        3        1        Gd
## 922          0        2        2        4        2        TA
## 926          1        2        0        3        1        Ex
## 931          0        2        0        3        1        Gd
## 932          1        1        0        2        1        TA
## 934          0        2        0        3        1        Gd
## 936          0        1        0        1        1        TA
## 937          0        2        0        2        1        Gd
## 939          0        2        1        3        1        Gd
## 941          0        2        0        4        2        TA
## 943          0        2        0        4        2        TA
## 944          0        2        0        4        2        TA
## 946          0        1        0        2        1        TA
```

```
## 951          0       1       0       3       1       Gd
## 952          0       1       0       3       1       TA
## 953          1       1       0       2       1       TA
## 955          2       2       0       4       0       TA
## 956          0       2       0       4       2       TA
## 958          0       1       0       3       1       TA
## 959          0       2       0       3       1       Gd
## 960          0       2       1       3       1       Gd
## 961          0       1       0       2       1       TA
## 964          0       2       0       2       1       Ex
## 968          0       1       0       3       1       TA
## 969          0       1       0       2       1       TA
## 970          0       1       0       2       1       TA
## 971          0       1       1       4       1       TA
## 972          0       2       0       2       1       Gd
## 974          0       2       0       3       1       Gd
## 975          0       1       0       3       1       Gd
## 976          0       2       1       3       1       Gd
## 977          0       1       0       2       1       Fa
## 978          0       1       1       1       1       Gd
## 979          0       1       0       3       1       TA
## 980          0       1       0       3       1       TA
## 981          0       1       0       3       1       Ex
## 985          0       2       0       4       2       Gd
## 986          0       1       0       3       1       TA
## 987          0       1       0       2       1       Gd
## 990          0       2       1       3       1       Gd
## 994          0       2       1       3       1       Gd
## 996          0       1       1       3       1       TA
## 997          0       1       0       3       1       TA
## 1000         0       2       0       2       1       Gd
## 1001         0       1       0       2       1       Fa
## 1002         0       1       0       2       1       Ex
## 1004         0       2       0       4       2       TA
## 1006         0       2       0       3       1       TA
## 1008         0       1       1       3       1       TA
## 1010         0       2       0       4       1       TA
## 1012         0       2       0       4       2       TA
## 1014         0       1       0       2       1       TA
## 1016         0       2       1       3       1       Gd
## 1021         0       1       1       2       1       Gd
## 1022         0       2       0       2       1       Gd
## 1023         0       1       0       2       1       TA
## 1026         0       1       0       3       1       TA
## 1030         1       1       1       3       1       TA
## 1031         0       2       0       5       2       TA
## 1034         0       2       0       3       1       Gd
## 1036         0       1       0       3       1       TA
## 1040         0       1       0       1       1       TA
## 1042         1       1       1       4       1       Gd
## 1048         1       1       0       3       1       TA
## 1050         0       1       0       2       1       Gd
## 1051         0       2       0       3       1       Gd
## 1061         0       2       0       2       1       Gd
```

```
## 1062          0       1       0       2       1       TA
## 1063          0       2       0       5       2       TA
## 1066          0       2       1       3       1       Gd
## 1068          0       1       1       4       1       TA
## 1070          1       1       0       2       1       Gd
## 1071          0       1       0       3       1       TA
## 1072          0       1       1       4       1       TA
## 1074          0       1       1       3       1       TA
## 1075          0       2       0       2       1       Gd
## 1078          0       1       0       3       1       TA
## 1080          0       1       0       3       1       TA
## 1081          1       2       0       3       1       Gd
## 1082          0       1       1       3       1       TA
## 1086          0       1       0       2       1       Gd
## 1087          0       1       1       3       1       TA
## 1089          0       2       0       3       1       Gd
## 1091          0       2       0       2       2       TA
## 1092          0       2       1       2       1       Gd
## 1094          0       1       1       1       1       Gd
## 1095          0       1       0       2       1       TA
## 1097          0       1       1       3       1       Gd
## 1098          0       1       1       2       1       Gd
## 1099          0       1       0       3       1       TA
## 1101          0       1       0       1       1       Fa
## 1102          0       1       0       3       1       TA
## 1103          0       1       0       2       1       TA
## 1105          0       2       1       3       1       TA
## 1113          0       1       0       2       1       TA
## 1114          0       1       0       2       1       Gd
## 1115          0       1       0       2       1       Gd
## 1118          0       1       0       3       1       Gd
## 1119          1       1       0       3       1       TA
## 1120          0       1       0       3       1       TA
## 1122          0       2       0       3       1       Gd
## 1123          0       1       0       3       1       TA
## 1124          1       1       0       2       1       TA
## 1130          0       1       0       2       1       TA
## 1132          0       1       0       3       1       TA
## 1133          0       2       0       5       1       Fa
## 1137          0       1       0       3       1       TA
## 1138          0       1       0       2       1       TA
## 1141          0       1       0       2       1       TA
## 1144          0       1       0       3       1       TA
## 1145          0       1       0       2       1       Fa
## 1150          1       1       0       3       1       TA
## 1154          0       1       0       2       1       TA
## 1159          0       2       0       3       1       Gd
## 1164          0       0       2       0       2       TA
## 1166          0       2       0       3       1       Gd
## 1167          0       2       0       3       1       Gd
## 1173          0       2       1       2       1       Gd
## 1177          0       1       0       3       1       TA
## 1178          0       1       0       3       1       TA
## 1181          0       2       1       4       1       TA
```

```
## 1186          0         1         0         4         1         TA
## 1187          0         2         0         3         2         TA
## 1189          0         2         1         3         1         Gd
## 1192          0         2         1         2         1         Gd
## 1193          0         1         0         3         1         Gd
## 1194          0         2         0         2         1         TA
## 1195          0         1         1         4         1         TA
## 1196          0         2         1         3         1         Gd
## 1199          0         2         0         3         1         Gd
## 1201          0         1         0         3         1         TA
## 1202          0         2         1         3         1         Gd
## 1205          0         1         1         3         1         TA
## 1207          0         1         0         2         1         TA
## 1208          0         2         0         3         1         Gd
## 1209          0         1         0         3         1         TA
## 1212          0         2         0         4         1         TA
## 1213          0         1         0         2         1         TA
## 1214          1         0         0         0         1         TA
## 1215          0         1         0         3         1         TA
## 1216          0         1         0         3         1         TA
## 1217          0         2         0         4         2         TA
## 1218          0         2         0         3         1         Gd
## 1219          0         1         0         2         1         TA
## 1220          0         1         1         3         1         TA
## 1221          0         1         0         2         1         TA
## 1224          0         2         0         4         1         TA
## 1226          1         1         0         3         1         TA
## 1228          0         1         0         2         1         Gd
## 1230          0         2         0         4         1         TA
## 1232          0         1         0         3         1         TA
## 1233          0         2         0         2         2         TA
## 1234          0         1         0         3         1         TA
## 1235          0         1         1         4         1         TA
## 1236          0         1         1         4         1         TA
## 1237          0         2         1         2         1         Gd
## 1239          0         1         1         3         1         TA
## 1241          0         2         1         3         1         Gd
## 1242          0         2         0         3         1         Gd
## 1247          0         2         1         3         1         Gd
## 1248          0         1         0         3         1         TA
## 1250          0         1         0         3         1         TA
## 1253          0         1         0         3         1         TA
## 1258          0         1         0         2         1         TA
## 1259          0         2         0         2         1         Gd
## 1260          0         1         1         3         1         TA
## 1262          0         1         0         2         1         TA
## 1265          0         2         0         2         1         Gd
## 1266          0         2         1         3         1         Gd
## 1270          0         1         1         3         1         TA
## 1273          0         1         0         3         1         TA
## 1276          0         2         0         4         2         TA
## 1280          0         1         0         2         1         TA
## 1281          0         2         0         3         1         Gd
## 1283          0         2         0         3         1         Gd
```

```
## 1284          0       2       2       4       2       TA
## 1288          1       2       0       4       1       TA
## 1292          0       2       1       3       1       TA
## 1293          0       2       0       4       2       TA
## 1295          0       1       0       2       1       TA
## 1296          0       1       1       3       1       TA
## 1297          0       2       0       3       1       TA
## 1298          0       2       0       2       1       TA
## 1300          0       1       1       3       1       Gd
## 1304          0       2       0       3       1       Gd
## 1305          0       2       0       3       1       Gd
## 1308          0       1       0       3       1       TA
## 1309          0       1       0       2       1       Gd
## 1310          0       2       0       3       1       Gd
## 1312          0       2       0       3       1       Gd
## 1320          0       1       0       3       1       TA
## 1322          0       1       0       2       1       TA
## 1324          0       1       0       2       1       Fa
## 1326          0       1       0       2       1       TA
## 1327          0       1       0       3       1       Gd
## 1332          0       1       0       3       1       TA
## 1334          0       1       1       2       1       Gd
## 1335          0       1       1       3       1       TA
## 1337          0       2       0       4       2       TA
## 1338          0       1       0       2       1       Fa
## 1339          0       2       1       3       1       Gd
## 1340          0       1       0       3       1       TA
## 1341          0       1       0       3       1       TA
## 1342          0       1       0       3       1       Gd
## 1346          0       1       0       2       1       Fa
## 1350          0       2       0       4       1       TA
## 1351          1       2       2       6       2       TA
## 1353          0       1       0       2       1       TA
## 1357          0       1       0       3       1       TA
## 1359          0       2       1       3       1       Gd
## 1361          0       3       1       4       1       TA
## 1365          0       2       1       2       1       Gd
## 1366          0       2       1       3       1       Gd
## 1367          0       2       1       3       1       Gd
## 1369          0       1       0       1       1       Gd
## 1371          0       1       0       2       1       TA
## 1377          0       1       0       2       1       TA
## 1378          0       2       0       3       1       TA
## 1379          0       1       1       2       1       TA
## 1380          0       2       1       3       1       Gd
## 1381          0       1       0       2       1       TA
## 1383          0       1       1       4       1       Gd
## 1384          0       2       0       3       1       Gd
## 1385          0       1       0       2       1       TA
## 1386          0       1       0       3       1       Gd
## 1391          0       2       0       3       1       Gd
## 1392          0       2       0       4       2       TA
## 1398          0       1       1       4       1       TA
## 1399          0       1       1       3       1       TA
```

```
## 1404            0        2        0            3            1          Gd
## 1405            0        1        0            3            1          TA
## 1407            0        1        0            2            1          TA
## 1408            0        1        0            3            1          TA
## 1409            0        1        0            3            1          TA
## 1411            0        2        1            3            1          Gd
## 1412            0        1        1            3            1          TA
## 1413            0        2        0            2            2          TA
## 1417            0        2        0            4            2          TA
## 1419            0        1        1            3            1          TA
## 1423            0        1        0            1            1          Gd
## 1426            0        1        0            3            1          Gd
## 1432            0        2        0            2            1          TA
## 1433            0        2        0            4            1          TA
## 1437            0        1        0            3            1          TA
## 1439            0        1        0            2            1          TA
## 1445            0        2        0            3            1          Gd
## 1446            0        1        0            3            1          TA
## 1447            0        1        0            3            1          TA
## 1449            0        1        1            2            1          TA
## 1450            0        1        0            1            1          Ex
## 1451            0        2        2            4            2          TA
## 1453            0        1        0            2            1          TA
## 1454            0        1        0            3            1          TA
## 1455            0        2        0            2            1          Gd
## 1459            0        1        0            2            1          Gd
## 1460            0        1        1            3            1          TA
##      TotRmsAbvGrd Functional Fireplaces FireplaceQu GarageType GarageYrBlt
## 1               8        Typ          0        <NA>     Attchd        2003
## 6               5        Typ          0        <NA>     Attchd        1993
## 11              5        Typ          0        <NA>     Detchd        1965
## 13              4        Typ          0        <NA>     Detchd        1962
## 16              5        Typ          0        <NA>     Detchd        1991
## 18              6        Typ          0        <NA>    CarPort        1967
## 19              6        Typ          0        <NA>     Detchd        2004
## 20              6       Min1          0        <NA>     Attchd        1958
## 27              5        Typ          0        <NA>     Detchd        2005
## 30              4        Typ          0        <NA>     Detchd        1920
## 31              6        Typ          0        <NA>     Detchd        1920
## 32              6        Typ          0        <NA>     Attchd        1966
## 33              7        Typ          0        <NA>     Attchd        2007
## 37              6        Typ          0        <NA>     Attchd        1995
## 39              5        Typ          0        <NA>     Detchd        1953
## 40              6        Typ          0        <NA>       <NA>          NA
## 43              5        Typ          0        <NA>     Attchd        1983
## 44              5        Typ          0        <NA>     Detchd        1977
## 45              6        Typ          0        <NA>     Attchd        1959
## 48              7        Typ          0        <NA>     Attchd        2006
## 49              8        Typ          0        <NA>       <NA>          NA
## 50              6        Typ          0        <NA>     Attchd        1966
## 51              6        Typ          0        <NA>     Attchd        1997
## 53              5        Typ          0        <NA>    CarPort        1963
## 57              7        Typ          0        <NA>     Attchd        1999
## 58              7        Typ          0        <NA>     Attchd        2004
```

```
## 60              4        Typ          0        <NA>     Detchd        1973
## 61              5        Typ          0        <NA>     Detchd        2006
## 62              6        Typ          0        <NA>     Detchd        1935
## 64              9        Typ          0        <NA>     Detchd        1990
## 65              8        Typ          0        <NA>     Attchd        1998
## 68              7        Typ          0        <NA>     Attchd        2003
## 69              4        Typ          0        <NA>     Attchd        1945
## 72              4        Typ          0        <NA>     Detchd        1987
## 74              6        Typ          0        <NA>     Attchd        1989
## 75              8        Typ          0        <NA>     Detchd        1915
## 76              5        Typ          0        <NA>    BuiltIn        1973
## 77              4        Typ          0        <NA>     Detchd        1956
## 78              6       Min1          0        <NA>     Detchd        1948
## 79              8        Typ          0        <NA>       <NA>          NA
## 80              5        Typ          0        <NA>     Detchd        1966
## 82              5        Typ          0        <NA>     Attchd        1998
## 84              6        Typ          0        <NA>     Detchd        1974
## 88              4        Typ          0        <NA>     Detchd        2009
## 89              6        Typ          0        <NA>       <NA>          NA
## 90              5        Typ          0        <NA>       <NA>          NA
## 91              4        Typ          0        <NA>     Detchd        1950
## 92              6        Typ          0        <NA>     Attchd        1961
## 93              5        Typ          0        <NA>     Detchd        1921
## 95              7        Typ          0        <NA>     Attchd        1997
## 97              6        Typ          0        <NA>     Attchd        1999
## 98              6        Typ          0        <NA>     Attchd        1965
## 99              5        Typ          0        <NA>    Basment        1920
## 100             6        Typ          0        <NA>       <NA>          NA
## 103             8        Typ          0        <NA>     Attchd        1979
## 104             6        Typ          0        <NA>     Attchd        2009
## 107             6        Typ          0        <NA>     Detchd        1954
## 108             5        Typ          0        <NA>     Detchd        1948
## 109             7        Typ          0        <NA>       <NA>          NA
## 111             7        Typ          0        <NA>     Attchd        1954
## 118             5        Typ          0        <NA>     Attchd        2007
## 122             4        Typ          0        <NA>     Detchd        1979
## 123             5        Typ          0        <NA>     Attchd        1958
## 124             5        Typ          0        <NA>     Attchd        1993
## 126             5        Typ          0        <NA>       <NA>          NA
## 130             6        Typ          0        <NA>     2Types        1998
## 133             7        Typ          0        <NA>     Detchd        1974
## 134             6        Typ          0        <NA>     Attchd        2001
## 138             9        Typ          0        <NA>     2Types        1989
## 140             7        Typ          0        <NA>     Attchd        1997
## 142             7        Typ          0        <NA>     Attchd        2005
## 143             6        Typ          0        <NA>     Detchd        2000
## 144             6        Typ          0        <NA>     Attchd        1999
## 145            10        Typ          0        <NA>     Detchd        1963
## 146             7       Maj1          0        <NA>     Detchd        2004
## 147             5        Typ          0        <NA>     Detchd        1931
## 149             6        Typ          0        <NA>       <NA>          NA
## 150             7        Typ          0        <NA>     Detchd        1936
## 151             5        Typ          0        <NA>     Attchd        1975
## 155             7        Typ          0        <NA>     Detchd        1923
```

```
## 156              5        Typ          0        <NA>       <NA>          NA
## 157              5        Typ          0        <NA>     Detchd        1950
## 161              6        Typ          0        <NA>     Attchd        1984
## 164              4        Typ          0        <NA>       <NA>          NA
## 165              5        Typ          0        <NA>     Detchd        1926
## 166              6        Typ          0        <NA>       <NA>          NA
## 171              7        Typ          0        <NA>     Detchd        1991
## 180              5        Typ          0        <NA>     Detchd        1935
## 184              6        Mod          0        <NA>     Detchd        2003
## 185              5        Typ          0        <NA>     Attchd        1986
## 187              6        Typ          0        <NA>     Attchd        1990
## 188              8       Min2          0        <NA>     Detchd        1916
## 192              7        Typ          0        <NA>     Attchd        1972
## 193              6        Typ          0        <NA>     Attchd        1999
## 194              7       Maj1          0        <NA>     Detchd        2004
## 195              5        Typ          0        <NA>     Detchd        1989
## 199              8        Typ          0        <NA>       <NA>          NA
## 201              5        Typ          0        <NA>     Attchd        2003
## 203              6       Min1          0        <NA>     Attchd        1924
## 205              5        Typ          0        <NA>     Detchd        1948
## 206              5        Typ          0        <NA>     Attchd        1990
## 210              6        Typ          0        <NA>     Attchd        1964
## 211              5        Typ          0        <NA>       <NA>          NA
## 212              6        Typ          0        <NA>     Attchd        2009
## 214              5        Typ          0        <NA>     Attchd        1996
## 215              6        Typ          0        <NA>     Attchd        1977
## 217              8        Typ          0        <NA>     Attchd        2004
## 218              8        Typ          0        <NA>     Detchd        1940
## 220              5        Typ          0        <NA>     Attchd        2005
## 221              5        Typ          0        <NA>     Attchd        2006
## 224              4        Typ          0        <NA>     Detchd        1989
## 226              6        Typ          0        <NA>     Detchd        1991
## 228              5        Typ          0        <NA>     Detchd        1987
## 231              6        Typ          0        <NA>     Attchd        1959
## 234              5        Typ          0        <NA>     Attchd        1976
## 236              5        Typ          0        <NA>     Detchd        1971
## 237              6        Typ          0        <NA>     Attchd        2004
## 238              7        Typ          0        <NA>     Attchd        1993
## 239              7        Typ          0        <NA>     Attchd        2007
## 241              7        Typ          0        <NA>     Attchd        2008
## 242              4        Typ          0        <NA>       <NA>          NA
## 243              6        Typ          0        <NA>     Attchd        1940
## 247              9        Typ          0        <NA>     Detchd        1910
## 249              8        Typ          0        <NA>     Attchd        2003
## 251              6        Mod          0        <NA>       <NA>          NA
## 253              6        Typ          0        <NA>     Attchd        2004
## 254              7       Min1          0        <NA>     Attchd        1964
## 255              5        Typ          0        <NA>     Attchd        1957
## 257              7        Typ          0        <NA>     Attchd        2003
## 260              4        Typ          0        <NA>     Detchd        1956
## 264              6        Typ          0        <NA>     Detchd        1974
## 265              4        Typ          0        <NA>     Detchd        1965
## 275              5        Typ          0        <NA>     Attchd        1982
## 276              5        Typ          0        <NA>     Detchd        1978
```

```
## 277            7        Typ          0        <NA>     Attchd        2003
## 278            4        Typ          0        <NA>     Detchd        1951
## 282            5        Typ          0        <NA>     Attchd        2006
## 285            5        Typ          0        <NA>     Attchd        1992
## 286            5        Typ          0        <NA>     Detchd        2006
## 288            5        Typ          0        <NA>       <NA>          NA
## 289            5        Typ          0        <NA>     Detchd        1970
## 290            7        Typ          0        <NA>     Detchd        2003
## 292            9        Typ          0        <NA>       <NA>          NA
## 296            6        Typ          0        <NA>     Detchd        1984
## 297            6        Typ          0        <NA>     Attchd        1950
## 304            5        Typ          0        <NA>     Attchd        1975
## 306            8        Typ          0        <NA>     Attchd        2004
## 308            6        Typ          0        <NA>       <NA>          NA
## 309            4        Typ          0        <NA>     Detchd        1961
## 321            9        Typ          0        <NA>     Attchd        2006
## 324            6        Typ          0        <NA>     Attchd        1955
## 326            5        Typ          0        <NA>     Detchd        1941
## 328            7        Typ          0        <NA>     Attchd        1960
## 329           10        Typ          0        <NA>     Detchd        1930
## 330            6        Typ          0        <NA>     Detchd        1920
## 331           10        Typ          0        <NA>     Detchd        2002
## 332            6        Typ          0        <NA>     Attchd        1958
## 338            7        Typ          0        <NA>     Attchd        2002
## 339            8        Typ          0        <NA>     Attchd        1984
## 340            6        Typ          0        <NA>     Attchd        1958
## 341            9        Typ          0        <NA>     Attchd        2002
## 342            4        Typ          0        <NA>    CarPort        1950
## 343            6        Typ          0        <NA>     Detchd        1949
## 345            4        Typ          0        <NA>     Attchd        1976
## 347            5        Typ          0        <NA>     Attchd        1960
## 349            6        Typ          0        <NA>    BuiltIn        2003
## 353            5        Typ          0        <NA>     Detchd        1941
## 354            5        Typ          0        <NA>     Detchd        2005
## 356            6        Typ          0        <NA>     Attchd        1995
## 357            6        Typ          0        <NA>     Attchd        1992
## 359            6       Min2          0        <NA>    BuiltIn        1958
## 362            8        Typ          0        <NA>     Detchd        1940
## 364            5        Typ          0        <NA>     Detchd        1972
## 366            6        Typ          0        <NA>     Detchd        1964
## 373            4        Typ          0        <NA>     Attchd        1984
## 374            5       Min2          0        <NA>     Attchd        1953
## 376            4       Maj1          0        <NA>       <NA>          NA
## 377            5        Typ          0        <NA>     Detchd        1998
## 383            8        Typ          0        <NA>     Attchd        2006
## 384            5        Typ          0        <NA>     Detchd        1950
## 387            8        Typ          0        <NA>       <NA>          NA
## 389            6        Typ          0        <NA>     Attchd        1999
## 391            7        Typ          0        <NA>     Detchd        1978
## 393            5        Typ          0        <NA>     Attchd        1959
## 395            5        Typ          0        <NA>     Detchd        1940
## 396            6        Typ          0        <NA>     Attchd        1956
## 397            6        Typ          0        <NA>     Detchd        1985
## 399            6       Maj2          0        <NA>     Detchd        1920
```

```
## 400              7        Typ          0        <NA>     Attchd        2007
## 403              4        Typ          0        <NA>     Detchd        1940
## 407              6       Maj2          0        <NA>     Detchd        1936
## 408              8        Typ          0        <NA>     Attchd        1960
## 411              5        Mod          0        <NA>     Attchd        1958
## 412              5        Typ          0        <NA>     Attchd        1955
## 416              6        Typ          0        <NA>     Attchd        2007
## 419              7        Typ          0        <NA>     Detchd        1940
## 421              8        Typ          0        <NA>     Attchd        1997
## 423              4        Typ          0        <NA>     Attchd        1954
## 428              5        Typ          0        <NA>     Detchd        1964
## 429              6        Typ          0        <NA>     Attchd        2007
## 431              4        Typ          0        <NA>     Detchd        1971
## 432              7        Typ          0        <NA>       <NA>          NA
## 433              6       Min1          0        <NA>     Detchd        1971
## 435              3        Typ          0        <NA>       <NA>          NA
## 437              6        Typ          0        <NA>     Detchd        1990
## 438              4        Typ          0        <NA>     Detchd        1926
## 440              7        Typ          0        <NA>     Detchd        2005
## 442              8        Typ          0        <NA>       <NA>          NA
## 450              6        Typ          0        <NA>     Detchd        1981
## 451              5        Typ          0        <NA>     Detchd        1932
## 453              7        Typ          0        <NA>     Attchd        1996
## 454              6        Typ          0        <NA>     Attchd        2008
## 455              8        Typ          0        <NA>     Detchd        1976
## 457              7        Typ          0        <NA>     Detchd        1916
## 461              8        Typ          0        <NA>    BuiltIn        2009
## 462              6        Typ          0        <NA>     Detchd        1971
## 465              5        Typ          0        <NA>       <NA>          NA
## 470              7        Typ          0        <NA>     Attchd        1993
## 471              4        Typ          0        <NA>     Attchd        1985
## 473              5        Typ          0        <NA>    Basment        2005
## 475              6        Typ          0        <NA>     Attchd        2000
## 476              5        Typ          0        <NA>     Detchd        1996
## 480              7        Typ          0        <NA>     Detchd        1995
## 484              5        Typ          0        <NA>     Attchd        1998
## 485              6        Typ          0        <NA>     Detchd        1963
## 487              6        Typ          0        <NA>     Attchd        1965
## 490              3        Typ          0        <NA>     Attchd        1970
## 493              8        Typ          0        <NA>     Attchd        2006
## 495              4        Typ          0        <NA>     Attchd        1938
## 496              4        Typ          0        <NA>       <NA>          NA
## 498              8        Typ          0        <NA>     Detchd        1925
## 499              5        Typ          0        <NA>     Attchd        1967
## 500              5        Typ          0        <NA>     Attchd        1958
## 501              7        Typ          0        <NA>     Detchd        1973
## 502              7        Typ          0        <NA>     Attchd        2005
## 503              6        Typ          0        <NA>     Detchd        1965
## 506             10        Typ          0        <NA>     Detchd        1952
## 508              4        Typ          0        <NA>     Attchd        2009
## 510              6        Typ          0        <NA>     Attchd        1959
## 513              5        Typ          0        <NA>     Detchd        1964
## 514              5        Typ          0        <NA>     Attchd        1983
## 515              5        Typ          0        <NA>     Detchd        1926
```

```
## 519            7        Typ          0        <NA>     Attchd        1998
## 521            7        Typ          0        <NA>       <NA>          NA
## 527            4        Typ          0        <NA>     Attchd        1956
## 529            5        Typ          0        <NA>       <NA>          NA
## 532            6        Typ          0        <NA>     Detchd        1920
## 534            2        Typ          0        <NA>       <NA>          NA
## 536            5        Typ          0        <NA>       <NA>          NA
## 537            8        Typ          0        <NA>     Attchd        1998
## 538            5        Typ          0        <NA>     Detchd        1980
## 544            4        Typ          0        <NA>     Attchd        1998
## 546            9        Typ          0        <NA>     Attchd        1988
## 548            5        Typ          0        <NA>     Detchd        1987
## 549            4        Typ          0        <NA>     Detchd        1963
## 551            4        Typ          0        <NA>     Attchd        1977
## 552            5        Typ          0        <NA>     Attchd        1957
## 554            5        Typ          0        <NA>     Detchd        2002
## 558            7        Typ          0        <NA>    CarPort        1994
## 566            6        Typ          0        <NA>     Detchd        1920
## 568            7        Typ          0        <NA>     Attchd        2004
## 571           10        Typ          0        <NA>     Detchd        1987
## 572            4        Typ          0        <NA>     Attchd        1959
## 573            6        Typ          0        <NA>     Attchd        2009
## 575            5        Typ          0        <NA>    BuiltIn        1971
## 576            6        Typ          0        <NA>     Detchd        1947
## 579            5        Typ          0        <NA>     Detchd        2007
## 580            7        Typ          0        <NA>     Attchd        1954
## 583            5        Typ          0        <NA>       <NA>          NA
## 585            6        Typ          0        <NA>     Detchd        1935
## 587            5        Typ          0        <NA>     Detchd        1961
## 588            4        Typ          0        <NA>     Detchd        1996
## 590            4        Typ          0        <NA>     Detchd        1988
## 591            6        Typ          0        <NA>     Attchd        2004
## 593            4        Typ          0        <NA>     Detchd        1985
## 594            4        Typ          0        <NA>     Attchd        2003
## 595            5        Typ          0        <NA>     Detchd        1981
## 597            7        Typ          0        <NA>     Detchd        1930
## 604            4        Typ          0        <NA>     Detchd        2004
## 607            6        Typ          0        <NA>     Detchd        2000
## 608            8        Typ          0        <NA>     Attchd        1948
## 610            5        Typ          0        <NA>     Attchd        1961
## 614            6        Typ          0        <NA>       <NA>          NA
## 615            3        Typ          0        <NA>       <NA>          NA
## 616            6        Typ          0        <NA>     Attchd        1963
## 618            4        Typ          0        <NA>     Detchd        1962
## 621            5        Typ          0        <NA>       <NA>          NA
## 623            6        Typ          0        <NA>     Detchd        1986
## 626            5        Typ          0        <NA>     Attchd        1962
## 630            6        Typ          0        <NA>     Attchd        1964
## 631            8        Typ          0        <NA>     Detchd        1937
## 634            6        Typ          0        <NA>     Attchd        1954
## 635            4        Typ          0        <NA>     Detchd        1980
## 636           14        Typ          0        <NA>       <NA>          NA
## 638            7        Typ          0        <NA>    BuiltIn        1954
## 639            4        Typ          0        <NA>       <NA>          NA
```

```
## 644              7       Min1          0        <NA>     Attchd        1969
## 646              5        Typ          0        <NA>     Detchd        1979
## 647              7       Min1          0        <NA>     Detchd        1950
## 650              3        Typ          0        <NA>       <NA>          NA
## 651              7        Typ          0        <NA>     Attchd        2007
## 654              7        Typ          0        <NA>     Detchd        1906
## 656              6        Typ          0        <NA>     Detchd        1971
## 657              5        Typ          0        <NA>     Attchd        1959
## 660              7        Typ          0        <NA>     Detchd        1968
## 664              6        Typ          0        <NA>     Detchd        1974
## 671              7        Typ          0        <NA>     Attchd        2005
## 672              6        Typ          0        <NA>     Detchd        1930
## 677              8       Min2          0        <NA>     2Types        1920
## 678              5        Typ          0        <NA>     Detchd        1924
## 680              5        Typ          0        <NA>     Detchd        1963
## 682              6        Typ          0        <NA>     Detchd        1968
## 685              7        Typ          0        <NA>     Attchd        1998
## 687              7        Typ          0        <NA>     Attchd        2007
## 688              4        Typ          0        <NA>     Detchd        2004
## 694              4        Typ          0        <NA>     Detchd        1968
## 695              5        Typ          0        <NA>     Detchd        1995
## 697              4        Typ          0        <NA>     Detchd        1921
## 698              6        Typ          0        <NA>     Detchd        1952
## 700              5        Typ          0        <NA>     Attchd        2004
## 702              6        Typ          0        <NA>     Attchd        1969
## 705              7        Typ          0        <NA>     Attchd        2004
## 706              7        Mod          0        <NA>       <NA>          NA
## 710              6        Typ          0        <NA>     Attchd        1966
## 711              5       Maj2          0        <NA>       <NA>          NA
## 712              7        Typ          0        <NA>     Detchd        1964
## 714              6        Typ          0        <NA>     Detchd        1970
## 715              6        Typ          0        <NA>     Attchd        1976
## 717              8        Typ          0        <NA>     Detchd        1996
## 722              3        Typ          0        <NA>     Attchd        2004
## 723              5        Typ          0        <NA>     Detchd        1994
## 724              7        Typ          0        <NA>     Detchd        1958
## 726              5        Typ          0        <NA>     Detchd        1989
## 728              6        Typ          0        <NA>     Attchd        2007
## 729              9        Typ          0        <NA>     Detchd        1968
## 730              5        Typ          0        <NA>     Detchd        1962
## 735              6        Typ          0        <NA>     Attchd        1968
## 737              6        Typ          0        <NA>     Detchd        1949
## 739              5        Typ          0        <NA>       <NA>          NA
## 740              7        Typ          0        <NA>     Attchd        2004
## 741              7        Typ          0        <NA>     Detchd        1910
## 742              5        Typ          0        <NA>     Detchd        1962
## 743              6        Typ          0        <NA>     Attchd        2000
## 750              9        Mod          0        <NA>     Detchd        1945
## 751              7       Min2          0        <NA>       <NA>          NA
## 752              6        Typ          0        <NA>     Attchd        2003
## 753              6        Typ          0        <NA>     Attchd        1997
## 755              5        Typ          0        <NA>     Detchd        1969
## 756              6        Typ          0        <NA>     Detchd        1999
## 757              7        Typ          0        <NA>     Attchd        2007
```

```
## 759              6        Typ          0        <NA>     Detchd        1999
## 761              5        Typ          0        <NA>     Detchd        2008
## 762              5       Min1          0        <NA>     Detchd        1965
## 763              7        Typ          0        <NA>     Attchd        2009
## 768              7        Mod          0        <NA>     Attchd        1989
## 771              5        Typ          0        <NA>     Detchd        1983
## 772              6        Typ          0        <NA>     Detchd        1951
## 774              5        Typ          0        <NA>     Attchd        1958
## 776              5        Typ          0        <NA>     Attchd        1998
## 777              7        Typ          0        <NA>     Attchd        2005
## 780              4        Typ          0        <NA>     Attchd        1977
## 782              7        Typ          0        <NA>     Attchd        1992
## 783              6        Typ          0        <NA>     Attchd        2001
## 787              7        Typ          0        <NA>     Detchd        1961
## 788              8        Typ          0        <NA>    BuiltIn        2004
## 789              4        Typ          0        <NA>     Detchd        1954
## 790              9        Typ          0        <NA>     Attchd        1966
## 794              7        Typ          0        <NA>     Attchd        2007
## 798              4        Typ          0        <NA>     Attchd        1953
## 801              8        Typ          0        <NA>     Attchd        1997
## 802              5        Typ          0        <NA>     Detchd        1957
## 805              5       Min1          0        <NA>     Attchd        1954
## 806              6        Typ          0        <NA>     Attchd        2008
## 807              6        Typ          0        <NA>     Attchd        1967
## 810             11        Typ          0        <NA>     Detchd        1910
## 813              4        Typ          0        <NA>    Basment        1952
## 814              7        Typ          0        <NA>     Attchd        1958
## 815              7        Typ          0        <NA>     Detchd        1955
## 816              6        Typ          0        <NA>     Attchd        1998
## 819              6        Typ          0        <NA>     Attchd        1971
## 821              6        Typ          0        <NA>     Attchd        2003
## 822              4       Min2          0        <NA>     Detchd        1974
## 827              5        Typ          0        <NA>       <NA>          NA
## 829              7       Min2          0        <NA>     Attchd        1967
## 830              4        Typ          0        <NA>     Detchd        2005
## 832              4        Typ          0        <NA>     Detchd        2005
## 834              6        Typ          0        <NA>     Attchd        1964
## 835              6        Typ          0        <NA>     Attchd        1961
## 836              4       Min2          0        <NA>     Attchd        1996
## 837              5       Min2          0        <NA>     Detchd        1948
## 838              5        Typ          0        <NA>     Detchd        1973
## 839              6        Typ          0        <NA>     Attchd        1999
## 840              6        Typ          0        <NA>     Detchd        1946
## 841              7        Typ          0        <NA>     Detchd        1934
## 843              6        Typ          0        <NA>     Attchd        1966
## 844             10        Typ          0        <NA>       <NA>          NA
## 851              3        Typ          0        <NA>     Attchd        2003
## 856              6        Typ          0        <NA>     Detchd        1962
## 857              5        Typ          0        <NA>     Detchd        1981
## 862              6        Typ          0        <NA>     Attchd        1965
## 863              6        Typ          0        <NA>     Attchd        1986
## 864              6        Typ          0        <NA>     Attchd        1959
## 865              6        Typ          0        <NA>     Attchd        2008
## 866              5        Typ          0        <NA>     Detchd        1973
```

```
## 868              5        Typ          0        <NA>     Attchd        1961
## 871              5        Typ          0        <NA>     Detchd        1962
## 872              7        Typ          0        <NA>     Attchd        1998
## 873              5        Typ          0        <NA>     Attchd        1953
## 875              5        Typ          0        <NA>     Detchd        1941
## 877              5        Typ          0        <NA>     Attchd        1963
## 879              6       Min2          0        <NA>     Detchd        1987
## 880              6        Typ          0        <NA>     Attchd        1978
## 881              5        Typ          0        <NA>     Attchd        2005
## 884             10        Typ          0        <NA>     Detchd        1997
## 885              5        Typ          0        <NA>     Attchd        1967
## 887              8        Typ          0        <NA>     Attchd        2005
## 888              8        Typ          0        <NA>     Attchd        1955
## 893              6        Typ          0        <NA>     Attchd        1963
## 895              8        Typ          0        <NA>     Attchd        1979
## 897              6        Typ          0        <NA>     Detchd        1936
## 898             12        Typ          0        <NA>     Detchd        1979
## 901              4        Typ          0        <NA>     Detchd        1979
## 902              5        Typ          0        <NA>     Detchd        1968
## 905              6        Typ          0        <NA>     Attchd        1967
## 906              6        Typ          0        <NA>     Attchd        1954
## 909              5        Typ          0        <NA>     Attchd        1983
## 911             12        Typ          0        <NA>     Detchd        1960
## 912              5        Typ          0        <NA>     Detchd        1978
## 913              6       Min1          0        <NA>     Detchd        1925
## 914              8        Typ          0        <NA>     2Types        1949
## 915              4        Typ          0        <NA>     Detchd        2009
## 916              6        Typ          0        <NA>     Attchd        1970
## 917              4        Typ          0        <NA>     Detchd        1958
## 918              6        Typ          0        <NA>     Attchd        1956
## 921              7        Typ          0        <NA>     Attchd        1994
## 922              9        Typ          0        <NA>       <NA>          NA
## 926              6        Typ          0        <NA>     Attchd        1977
## 931              7        Typ          0        <NA>     Attchd        2007
## 932              5        Typ          0        <NA>     Detchd        1965
## 934              6        Typ          0        <NA>     Attchd        2004
## 936              5        Typ          0        <NA>     Detchd        1953
## 937              5        Typ          0        <NA>     Attchd        2003
## 939              7        Typ          0        <NA>     Attchd        2006
## 941              8        Typ          0        <NA>     Attchd        1976
## 943              8        Typ          0        <NA>       <NA>          NA
## 944              8        Typ          0        <NA>     Attchd        1967
## 946              7        Typ          0        <NA>     Detchd        1963
## 951              5        Typ          0        <NA>     Detchd        1980
## 952              6        Typ          0        <NA>     Detchd        1979
## 953              5        Typ          0        <NA>     Detchd        1974
## 955              4        Typ          0        <NA>       <NA>          NA
## 956              8        Typ          0        <NA>     Attchd        1946
## 958              6        Typ          0        <NA>     Detchd        1977
## 959              6        Typ          0        <NA>     Attchd        2003
## 960              6        Typ          0        <NA>     Detchd        1999
## 961              4        Typ          0        <NA>       <NA>          NA
## 964              7        Typ          0        <NA>     Attchd        2007
## 968              6        Typ          0        <NA>     Attchd        1955
```

```
## 969             6        Typ          0        <NA>       <NA>          NA
## 970             6        Typ          0        <NA>     Attchd        1958
## 971             6        Typ          0        <NA>       <NA>          NA
## 972             6        Typ          0        <NA>    BuiltIn        2003
## 974             6        Typ          0        <NA>     Attchd        2007
## 975             8        Typ          0        <NA>     Detchd        1997
## 976             6        Typ          0        <NA>     Detchd        2000
## 977             4        Typ          0        <NA>       <NA>          NA
## 978             4        Typ          0        <NA>     Attchd        2007
## 979             5        Typ          0        <NA>     Detchd        1999
## 980             5        Typ          0        <NA>     Detchd        1963
## 981             6        Typ          0        <NA>     Attchd        1961
## 985             8        Typ          0        <NA>     Attchd        1977
## 986             5        Typ          0        <NA>     Detchd        1950
## 987             5        Typ          0        <NA>     Attchd        1950
## 990             6        Typ          0        <NA>     Attchd        2006
## 994             6        Typ          0        <NA>     Attchd        2005
## 996             5        Typ          0        <NA>     Detchd        1946
## 997             6        Typ          0        <NA>     Attchd        1961
## 1000            6        Typ          0        <NA>     Attchd        2006
## 1001            4       Min1          0        <NA>     Detchd        1956
## 1002            4        Typ          0        <NA>     Detchd        1920
## 1004            8        Typ          0        <NA>     Detchd        1976
## 1006            6        Typ          0        <NA>     Attchd        1977
## 1008            6        Typ          0        <NA>     Attchd        1970
## 1010            7        Typ          0        <NA>       <NA>          NA
## 1012            8        Typ          0        <NA>       <NA>          NA
## 1014            4       Maj2          0        <NA>     Detchd        1956
## 1016            6        Typ          0        <NA>     Attchd        2001
## 1021            5        Typ          0        <NA>     Attchd        2005
## 1022            6        Typ          0        <NA>     Attchd        2006
## 1023            6        Typ          0        <NA>     Detchd        1957
## 1026            5        Typ          0        <NA>     Detchd        1980
## 1030            7        Typ          0        <NA>     Detchd        1972
## 1031           10        Typ          0        <NA>       <NA>          NA
## 1034            6        Typ          0        <NA>     Attchd        2002
## 1036            5        Typ          0        <NA>     Detchd        1957
## 1040            3        Typ          0        <NA>     Attchd        1970
## 1042            7        Typ          0        <NA>     Attchd        1966
## 1048            5        Typ          0        <NA>     Detchd        1996
## 1050            6        Typ          0        <NA>     Detchd        1946
## 1051            6        Typ          0        <NA>     Attchd        2007
## 1061            6        Typ          0        <NA>     Attchd        2001
## 1062            6        Typ          0        <NA>     Detchd        1994
## 1063           10       Min2          0        <NA>     Detchd        1945
## 1066            7        Typ          0        <NA>     Attchd        1996
## 1068            7        Typ          0        <NA>     Attchd        1964
## 1070            4        Typ          0        <NA>     Detchd        1985
## 1071            6        Typ          0        <NA>     Attchd        1956
## 1072            8        Typ          0        <NA>     Attchd        1968
## 1074            6        Typ          0        <NA>     Attchd        1977
## 1075            5        Typ          0        <NA>     Attchd        2006
## 1078            6        Typ          0        <NA>     Attchd        1969
## 1080            5        Typ          0        <NA>     Attchd        1996
```

```
## 1081          5        Typ          0        <NA>     Attchd        1971
## 1082          5        Typ          0        <NA>     Attchd        1963
## 1086          5        Typ          0        <NA>     Attchd        1992
## 1087          6        Typ          0        <NA>     Attchd        1973
## 1089          7       Maj1          0        <NA>     Detchd        2004
## 1091          6        Typ          0        <NA>     Detchd        1987
## 1092          4        Typ          0        <NA>     Detchd        1999
## 1094          6        Typ          0        <NA>     Detchd        1977
## 1095          4        Typ          0        <NA>     Attchd        1956
## 1097          7        Typ          0        <NA>       <NA>          NA
## 1098          5        Typ          0        <NA>     Attchd        1987
## 1099          6        Typ          0        <NA>     Detchd        1936
## 1101          3        Typ          0        <NA>     Detchd        1930
## 1102          5        Typ          0        <NA>     Detchd        1981
## 1103          6        Typ          0        <NA>     Attchd        1960
## 1105          6        Typ          0        <NA>     Detchd        1970
## 1113          5        Typ          0        <NA>     Detchd        1957
## 1114          6        Typ          0        <NA>     Attchd        1953
## 1115          4        Typ          0        <NA>     Detchd        1955
## 1118          5        Typ          0        <NA>     Attchd        1967
## 1119          6       Min2          0        <NA>    BuiltIn        1958
## 1120          6        Typ          0        <NA>     Attchd        1959
## 1122          7        Typ          0        <NA>     Attchd        2005
## 1123          5        Typ          0        <NA>    Basment        1956
## 1124          4        Typ          0        <NA>       <NA>          NA
## 1130          4        Typ          0        <NA>     Detchd        1980
## 1132          5        Typ          0        <NA>       <NA>          NA
## 1133          8        Typ          0        <NA>     Detchd        1930
## 1137          6        Typ          0        <NA>     Attchd        1950
## 1138          6        Typ          0        <NA>       <NA>          NA
## 1141          4        Typ          0        <NA>     Detchd        1988
## 1144          5        Typ          0        <NA>       <NA>          NA
## 1145          5        Typ          0        <NA>     Detchd        1941
## 1150          7        Typ          0        <NA>     Detchd        1930
## 1154          5        Typ          0        <NA>     Detchd        2002
## 1159          7        Typ          0        <NA>     Attchd        2008
## 1164          6        Typ          0        <NA>    CarPort        1969
## 1166          7        Typ          0        <NA>     Attchd        2009
## 1167          7        Typ          0        <NA>     Attchd        2008
## 1173          5        Typ          0        <NA>     Detchd        2006
## 1177          5        Typ          0        <NA>     Attchd        1984
## 1178          5        Typ          0        <NA>     Detchd        1926
## 1181          8        Typ          0        <NA>     Attchd        1990
## 1186          7        Typ          0        <NA>     Attchd        1965
## 1187          7        Typ          0        <NA>    CarPort        1920
## 1189          7        Typ          0        <NA>     Attchd        2002
## 1192          5        Typ          0        <NA>     Detchd        1999
## 1193          6        Typ          0        <NA>     Detchd        1925
## 1194          5        Typ          0        <NA>     Attchd        1999
## 1195          7        Typ          0        <NA>     Attchd        1969
## 1196          8        Typ          0        <NA>     Attchd        2005
## 1199          6        Typ          0        <NA>     Attchd        2001
## 1201          5        Typ          0        <NA>     Attchd        1972
## 1202          6        Typ          0        <NA>     Attchd        1998
```

```
## 1205          6       Typ          0       <NA>     Attchd       1975
## 1207          5       Typ          0       <NA>     Detchd       1966
## 1208          7       Typ          0       <NA>     Attchd       2003
## 1209          6       Typ          0       <NA>     Detchd       1980
## 1212          8       Typ          0       <NA>    Basment       1988
## 1213          4       Typ          0       <NA>     Attchd       1941
## 1214          3       Typ          0       <NA>     Attchd       1965
## 1215          6       Typ          0       <NA>     Attchd       1962
## 1216          5       Typ          0       <NA>     Detchd       1966
## 1217          8       Typ          0       <NA>     Attchd       1978
## 1218          6       Typ          0       <NA>     Attchd       2009
## 1219          3       Typ          0       <NA>       <NA>         NA
## 1220          7       Typ          0       <NA>       <NA>         NA
## 1221          5       Typ          0       <NA>     Attchd       1964
## 1224          7       Mod          0       <NA>     Detchd       1951
## 1226          6       Typ          0       <NA>     Attchd       1958
## 1228          5       Typ          0       <NA>     Detchd       1992
## 1230          7      Maj1          0       <NA>    Basment       1960
## 1232          6       Typ          0       <NA>     Attchd       1962
## 1233          6       Typ          0       <NA>    CarPort       1962
## 1234          6       Typ          0       <NA>     Attchd       1959
## 1235          7       Typ          0       <NA>       <NA>         NA
## 1236          9       Typ          0       <NA>     Detchd       1914
## 1237          6       Typ          0       <NA>    BuiltIn       2003
## 1239          6       Typ          0       <NA>     Detchd       2005
## 1241          8       Typ          0       <NA>     Attchd       2003
## 1242          7       Typ          0       <NA>     Attchd       2007
## 1247          6       Typ          0       <NA>     Attchd       2005
## 1248          6       Typ          0       <NA>     Attchd       1976
## 1250          6       Typ          0       <NA>     Attchd       1950
## 1253          5       Typ          0       <NA>     Attchd       1968
## 1258          4       Typ          0       <NA>       <NA>         NA
## 1259          5       Typ          0       <NA>     Attchd       2005
## 1260          6       Typ          0       <NA>     Attchd       1969
## 1262          5       Typ          0       <NA>     Attchd       1956
## 1265          5       Typ          0       <NA>     Attchd       1998
## 1266          6       Typ          0       <NA>     Detchd       1999
## 1270          7       Typ          0       <NA>     Attchd       1958
## 1273          5       Typ          0       <NA>     Attchd       1965
## 1276         10       Typ          0       <NA>     Detchd       1948
## 1280          6       Typ          0       <NA>     Detchd       1980
## 1281          6       Typ          0       <NA>     Attchd       2002
## 1283          5       Typ          0       <NA>     Detchd       1977
## 1284          8       Typ          0       <NA>       <NA>         NA
## 1288          7       Typ          0       <NA>     Attchd       1964
## 1292          6       Typ          0       <NA>     Detchd       1972
## 1293         11      Min2          0       <NA>     Attchd       1985
## 1295          5       Typ          0       <NA>     Detchd       1957
## 1296          5       Typ          0       <NA>     Attchd       1968
## 1297          6       Typ          0       <NA>     Attchd       1963
## 1298          5       Typ          0       <NA>    Basment       2005
## 1300          6       Typ          0       <NA>     Attchd       1959
## 1304          7       Typ          0       <NA>     Attchd       2005
## 1305          7      Maj1          0       <NA>     Detchd       2004
```

```
## 1308           5        Typ          0        <NA>     Detchd        2000
## 1309           6        Typ          0        <NA>     Attchd        1948
## 1310           6        Typ          0        <NA>     Attchd        1991
## 1312           6        Typ          0        <NA>     Attchd        2005
## 1320           5        Typ          0        <NA>     Attchd        1954
## 1322           4        Typ          0        <NA>     Detchd        1955
## 1324           5        Typ          0        <NA>       <NA>          NA
## 1326           5        Typ          0        <NA>       <NA>          NA
## 1327           6        Typ          0        <NA>       <NA>          NA
## 1332           6        Typ          0        <NA>     Detchd        1976
## 1334           6        Typ          0        <NA>     Detchd        1951
## 1335           7       Min1          0        <NA>     Attchd        1970
## 1337           8        Typ          0        <NA>     Detchd        1973
## 1338           4        Typ          0        <NA>       <NA>          NA
## 1339           8        Typ          0        <NA>    BuiltIn        2002
## 1340           5        Typ          0        <NA>     Attchd        1972
## 1341           5        Typ          0        <NA>     Detchd        1974
## 1342           6        Typ          0        <NA>     Detchd        2004
## 1346           5        Typ          0        <NA>     Detchd        1997
## 1350           8        Typ          0        <NA>       <NA>          NA
## 1351          12        Typ          0        <NA>     Detchd        1969
## 1353           4        Typ          0        <NA>     Detchd        1999
## 1357           5        Typ          0        <NA>     Attchd        1966
## 1359           5        Typ          0        <NA>     Detchd        2000
## 1361           8        Typ          0        <NA>    BuiltIn        1998
## 1365           4        Typ          0        <NA>     Detchd        2005
## 1366           7        Typ          0        <NA>     Attchd        2000
## 1367           7        Typ          0        <NA>     Attchd        1999
## 1369           4        Typ          0        <NA>     Attchd        2003
## 1371           6        Typ          0        <NA>     Detchd        1967
## 1377           4        Typ          0        <NA>     Detchd        1925
## 1378           6       Min2          0        <NA>     Detchd        1977
## 1379           5        Typ          0        <NA>     Detchd        1973
## 1380           7        Typ          0        <NA>    BuiltIn        2007
## 1381           5        Typ          0        <NA>     Detchd        1938
## 1383           8        Typ          0        <NA>     Detchd        1989
## 1384           7        Typ          0        <NA>     Attchd        2007
## 1385           6        Typ          0        <NA>     Detchd        1939
## 1386           7        Typ          0        <NA>     Detchd        1922
## 1391           6        Typ          0        <NA>     Attchd        2000
## 1392           8        Mod          0        <NA>     Detchd        1967
## 1398           8        Typ          0        <NA>     Detchd        1933
## 1399           7       Min1          0        <NA>     Attchd        1950
## 1404           6        Typ          0        <NA>     Attchd        2007
## 1405           6        Typ          0        <NA>     Detchd        1998
## 1407           5        Typ          0        <NA>     Detchd        1988
## 1408           5        Typ          0        <NA>       <NA>          NA
## 1409           6        Typ          0        <NA>     Detchd        1966
## 1411           6        Typ          0        <NA>     Attchd        2001
## 1412           6       Min2          0        <NA>     Attchd        1950
## 1413           6        Typ          0        <NA>     Detchd        1956
## 1417          11        Typ          0        <NA>     Detchd        1971
## 1419           6        Typ          0        <NA>     Detchd        1962
## 1423           3        Typ          0        <NA>     Attchd        2003
```

```
## 1426           7        Typ          0        <NA>     Detchd        1960
## 1432           5        Typ          0        <NA>     Attchd        1976
## 1433           5        Typ          0        <NA>     Detchd        1928
## 1437           5        Typ          0        <NA>     Detchd        1974
## 1439           6        Typ          0        <NA>     Attchd        1957
## 1445           7        Typ          0        <NA>     Attchd        2004
## 1446           6        Typ          0        <NA>     Detchd        1990
## 1447           6        Typ          0        <NA>     Attchd        1962
## 1449           6       Min2          0        <NA>     Detchd        1950
## 1450           3        Typ          0        <NA>       <NA>          NA
## 1451           8        Typ          0        <NA>       <NA>          NA
## 1453           5        Typ          0        <NA>    Basment        2005
## 1454           6        Typ          0        <NA>       <NA>          NA
## 1455           6        Typ          0        <NA>     Attchd        2004
## 1459           5        Typ          0        <NA>     Attchd        1950
## 1460           6        Typ          0        <NA>     Attchd        1965
##      GarageFinish GarageCars GarageArea GarageQual GarageCond PavedDrive
## 1             RFn          2        548         TA         TA          Y
## 6             Unf          2        480         TA         TA          Y
## 11            Unf          1        384         TA         TA          Y
## 13            Unf          1        352         TA         TA          Y
## 16            Unf          2        576         TA         TA          Y
## 18            Unf          2        516         TA         TA          Y
## 19            Unf          2        576         TA         TA          Y
## 20            Unf          1        294         TA         TA          Y
## 27            Unf          2        576         TA         TA          Y
## 30            Unf          1        240         Fa         TA          Y
## 31            Unf          1        250         TA         Fa          N
## 32            Unf          1        271         TA         TA          Y
## 33            RFn          2        484         TA         TA          Y
## 37            Unf          2        672         TA         TA          Y
## 39            Unf          1        246         TA         TA          Y
## 40           <NA>          0          0       <NA>       <NA>          N
## 43            RFn          2        504         TA         Gd          Y
## 44            Unf          1        308         TA         TA          Y
## 45            RFn          1        300         TA         TA          Y
## 48            RFn          3        826         TA         TA          Y
## 49           <NA>          0          0       <NA>       <NA>          N
## 50            Unf          1        386         TA         TA          Y
## 51            Fin          2        388         TA         TA          Y
## 53            Unf          2        516         TA         TA          Y
## 57            Fin          2        480         TA         TA          Y
## 58            RFn          2        565         TA         TA          Y
## 60            Unf          1        352         TA         TA          Y
## 61            Unf          2        576         TA         TA          Y
## 62            Unf          1        288         TA         TA          N
## 64            Unf          2        480         TA         TA          Y
## 65            RFn          2        645         TA         TA          Y
## 68            RFn          2        558         TA         TA          Y
## 69            Unf          1        220         TA         TA          Y
## 72            Unf          2        360         TA         TA          Y
## 74            Unf          2        490         TA         TA          Y
## 75            Unf          1        379         TA         TA          Y
## 76            Unf          1        297         TA         TA          Y
```

```
## 77          Unf          1        283         TA         TA          Y
## 78          Unf          1        240         TA         TA          Y
## 79         <NA>          0          0       <NA>       <NA>          Y
## 80          Unf          2        440         TA         TA          Y
## 82          Fin          2        405         TA         TA          Y
## 84          Unf          2        461         TA         TA          Y
## 88          RFn          2        528         TA         TA          Y
## 89         <NA>          0          0       <NA>       <NA>          N
## 90         <NA>          0          0       <NA>       <NA>          Y
## 91          Unf          2        420         TA         TA          Y
## 92          Unf          2        480         TA         TA          Y
## 93          Unf          2        432         TA         TA          Y
## 95          RFn          2        684         TA         TA          Y
## 97          RFn          2        472         TA         TA          Y
## 98          Fin          1        432         TA         TA          P
## 99          Unf          1        366         Fa         TA          Y
## 100        <NA>          0          0       <NA>       <NA>          Y
## 103         Unf          2        410         TA         TA          Y
## 104         RFn          3        740         TA         TA          Y
## 107         Unf          1        273         Fa         Fa          N
## 108         Unf          1        250         TA         TA          Y
## 109        <NA>          0          0       <NA>       <NA>          N
## 111         Unf          1        325         TA         TA          Y
## 118         Unf          2        430         TA         TA          Y
## 122         Unf          1        264         TA         TA          P
## 123         Unf          1        288         TA         TA          Y
## 124         RFn          2        530         TA         TA          Y
## 126        <NA>          0          0       <NA>       <NA>          N
## 130         RFn          2        750         TA         TA          Y
## 133         Unf          2        624         TA         TA          Y
## 134         Fin          2        471         TA         TA          Y
## 138         Unf          3        766         TA         TA          Y
## 140         RFn          2        470         TA         TA          Y
## 142         Fin          2        660         TA         TA          Y
## 143         Unf          2        720         TA         TA          Y
## 144         RFn          2        577         TA         TA          Y
## 145         Unf          2        504         TA         TA          Y
## 146         Unf          2        380         TA         TA          Y
## 147         Unf          1        180         Fa         TA          Y
## 149        <NA>          0          0       <NA>       <NA>          Y
## 150         Unf          1        240         Fa         TA          Y
## 151         Unf          2        440         TA         TA          Y
## 155         Unf          1        312         Fa         Fa          Y
## 156        <NA>          0          0       <NA>       <NA>          N
## 157         Unf          2        625         TA         TA          Y
## 161         Unf          2        516         TA         TA          Y
## 164        <NA>          0          0       <NA>       <NA>          Y
## 165         Unf          1        216         TA         TA          Y
## 166        <NA>          0          0       <NA>       <NA>          Y
## 171         Unf          2        660         TA         TA          Y
## 180         Unf          2        480         Fa         TA          N
## 184         Unf          2        484         TA         TA          N
## 185         Unf          2        576         TA         TA          Y
## 187         Unf          2        497         TA         TA          Y
```

```
## 188          Unf          1         180          Fa          Fa          N
## 192          Fin          2         484          TA          TA          Y
## 193          Fin          2         666          TA          TA          Y
## 194          Unf          2         380          TA          TA          Y
## 195          Unf          1         352          TA          TA          Y
## 199         <NA>          0           0        <NA>        <NA>          Y
## 201          RFn          2         440          TA          TA          Y
## 203          Unf          1         398          TA          TA          Y
## 205          Unf          1         240          TA          TA          Y
## 206          RFn          2         500          TA          TA          Y
## 210          RFn          2         504          TA          Gd          Y
## 211         <NA>          0           0        <NA>        <NA>          Y
## 212          RFn          2         460          TA          TA          Y
## 214          Unf          2         576          TA          TA          Y
## 215          Fin          1         299          TA          TA          Y
## 217          Unf          2         484          TA          TA          Y
## 218          Unf          1         210          TA          TA          Y
## 220          Fin          2         438          TA          TA          Y
## 221          RFn          2         675          TA          TA          Y
## 224          Unf          2         576          TA          TA          Y
## 226          Unf          1         280          TA          TA          Y
## 228          Unf          1         280          TA          TA          Y
## 231          RFn          1         312          TA          TA          Y
## 234          Unf          1         308          TA          TA          Y
## 236          Unf          1         264          TA          TA          Y
## 237          RFn          2         494          TA          TA          Y
## 238          RFn          2         457          TA          TA          Y
## 239          Fin          3         818          TA          TA          Y
## 241          RFn          2         750          TA          TA          Y
## 242         <NA>          0           0        <NA>        <NA>          Y
## 243          Unf          1         352          Fa          TA          Y
## 247          Unf          1         440          Po          Po          Y
## 249          RFn          2         500          TA          TA          Y
## 251         <NA>          0           0        <NA>        <NA>          Y
## 253          RFn          2         520          TA          TA          Y
## 254          RFn          1         309          TA          TA          Y
## 255          RFn          1         294          TA          TA          Y
## 257          RFn          2         673          TA          TA          Y
## 260          Unf          1         308          TA          TA          Y
## 264          Unf          2         484          TA          TA          Y
## 265          Unf          2         504          TA          TA          N
## 275          Unf          1         264          TA          TA          Y
## 276          Unf          2         672          TA          TA          Y
## 277          Fin          2         573          TA          TA          Y
## 278          Unf          2         400          TA          TA          Y
## 282          Fin          2         572          TA          TA          Y
## 285          RFn          2         529          TA          TA          Y
## 286          RFn          2         528          TA          TA          Y
## 288         <NA>          0           0        <NA>        <NA>          Y
## 289          Unf          1         280          TA          TA          Y
## 290          Unf          1         384          TA          TA          Y
## 292         <NA>          0           0        <NA>        <NA>          N
## 296          Unf          2         588          TA          TA          Y
## 297          Unf          1         282          TA          TA          Y
```

```
## 304          Unf          2         552          TA          TA          Y
## 306          Fin          3         888          TA          TA          Y
## 308         <NA>          0           0        <NA>        <NA>          N
## 309          Unf          2         539          TA          TA          Y
## 321          RFn          3         840          TA          TA          Y
## 324          Unf          1         220          Fa          TA          Y
## 326          Unf          2         360          TA          TA          Y
## 328          RFn          1         292          TA          TA          Y
## 329          Unf          2         441          TA          TA          Y
## 330          Unf          1         189          Fa          Fa          N
## 331          Unf          1         352          TA          TA          Y
## 332          RFn          1         308          TA          TA          Y
## 338          RFn          2         532          TA          TA          Y
## 339          RFn          2         440          TA          TA          Y
## 340          Unf          1         297          TA          TA          Y
## 341          Fin          2         431          TA          TA          Y
## 342          Unf          1         294          TA          TA          N
## 343          Unf          2         400          TA          TA          Y
## 345          Unf          1         336          TA          TA          Y
## 347          RFn          1         301          TA          TA          Y
## 349          RFn          2         474          TA          TA          Y
## 353          Unf          1         200          TA          Fa          Y
## 354          Unf          2         484          TA          TA          Y
## 356          RFn          2         521          TA          TA          Y
## 357          RFn          2         400          TA          TA          Y
## 359          Unf          1         288          TA          TA          Y
## 362          Unf          1         240          TA          TA          N
## 364          Unf          1         264          TA          TA          Y
## 366          Unf          1         468          TA          Fa          Y
## 373          Unf          1         264          TA          TA          Y
## 374          Unf          1         270          TA          TA          Y
## 376         <NA>          0           0        <NA>        <NA>          Y
## 377          Unf          2         576          TA          TA          Y
## 383          RFn          2         639          TA          TA          Y
## 384          Unf          2         360          Fa          Fa          N
## 387         <NA>          0           0        <NA>        <NA>          N
## 389          RFn          2         577          TA          TA          Y
## 391          Unf          1         384          TA          TA          Y
## 393          RFn          1         294          TA          TA          Y
## 395          Unf          1         240          TA          TA          Y
## 396          Unf          1         596          TA          TA          Y
## 397          RFn          2         600          TA          TA          Y
## 399          Unf          1         338          Po          Po          N
## 400          Fin          2         438          TA          TA          Y
## 403          Unf          1         240          TA          TA          N
## 407          Unf          1         240          TA          TA          Y
## 408          Unf          1         308          TA          TA          Y
## 411          Unf          1         350          TA          TA          Y
## 412          Fin          2         572          TA          TA          Y
## 416          Fin          2         396          TA          TA          Y
## 419          Unf          1         240          TA          TA          P
## 421          Fin          4         784          TA          TA          Y
## 423          RFn          2         520          TA          TA          N
## 428          Unf          1         352          TA          TA          Y
```

```
## 429          RFn          2         628          TA          TA          Y
## 431          Unf          1         264          TA          TA          Y
## 432         <NA>          0           0        <NA>        <NA>          N
## 433          Unf          2         440          TA          TA          Y
## 435         <NA>          0           0        <NA>        <NA>          Y
## 437          Unf          2         440          TA          TA          Y
## 438          Unf          1         180          TA          TA          Y
## 440          Unf          2         528          TA          TA          Y
## 442         <NA>          0           0        <NA>        <NA>          Y
## 450          Unf          1         308          TA          TA          Y
## 451          Unf          1         270          Fa          Fa          N
## 453          Fin          2         422          TA          TA          Y
## 454          RFn          2         676          TA          TA          Y
## 455          Unf          2         560          TA          TA          Y
## 457          Unf          3         513          Fa          Fa          Y
## 461          Fin          2         552          TA          TA          Y
## 462          RFn          2         576          TA          TA          Y
## 465         <NA>          0           0        <NA>        <NA>          Y
## 470          RFn          2         506          TA          TA          Y
## 471          RFn          2         528          TA          TA          Y
## 473          RFn          2         525          TA          TA          Y
## 475          RFn          2         499          TA          TA          Y
## 476          Unf          2         624          TA          TA          Y
## 480          Unf          2         672          TA          TA          Y
## 484          Unf          2         402          TA          TA          Y
## 485          Unf          1         264          TA          TA          Y
## 487          RFn          2         515          TA          TA          Y
## 490          Unf          1         286          TA          TA          Y
## 493          RFn          2         429          TA          TA          Y
## 495          Unf          1         273          TA          TA          Y
## 496         <NA>          0           0        <NA>        <NA>          N
## 498          Unf          1         240          TA          TA          N
## 499          Fin          1         288          TA          TA          Y
## 500          Fin          1         297          TA          TA          Y
## 501          Unf          1         264          TA          TA          Y
## 502          RFn          2         603          TA          TA          Y
## 503          Unf          2         461          Fa          Fa          Y
## 506          Unf          2         400          TA          TA          N
## 508          Fin          2         676          TA          TA          Y
## 510          RFn          1         270          TA          TA          Y
## 513          Unf          2         624          TA          TA          Y
## 514          Unf          2         484          TA          TA          Y
## 515          Unf          1         200          Po          Po          Y
## 519          RFn          2         546          TA          TA          Y
## 521         <NA>          0           0        <NA>        <NA>          N
## 527          Unf          1         252          TA          TA          Y
## 529         <NA>          0           0        <NA>        <NA>          N
## 532          Fin          2         502          TA          Fa          Y
## 534         <NA>          0           0        <NA>        <NA>          N
## 536         <NA>          0           0        <NA>        <NA>          N
## 537          Fin          2         527          TA          TA          Y
## 538          Unf          2         576          TA          TA          Y
## 544          Fin          1         367          TA          TA          Y
## 546          Unf          3         786          TA          TA          Y
```

```
## 548          Unf          2         624          TA          TA          Y
## 549          RFn          2         720          TA          TA          Y
## 551          RFn          2         440          TA          TA          Y
## 552          Fin          1         288          TA          TA          Y
## 554          Fin          2         520          TA          TA          N
## 558          Unf          1         570          TA          TA          Y
## 566          Unf          1         216          TA          TA          Y
## 568          RFn          2         532          TA          TA          Y
## 571          Unf          2         576          TA          TA          Y
## 572          Unf          1         288          TA          TA          Y
## 573          RFn          2         650          TA          TA          Y
## 575          Unf          1         288          TA          TA          Y
## 576          Unf          1         336          TA          TA          Y
## 579          Unf          2         540          TA          TA          Y
## 580          Unf          1         352          Fa          TA          Y
## 583         <NA>          0           0        <NA>        <NA>          Y
## 585          Unf          1         240          TA          TA          Y
## 587          Fin          1         275          TA          TA          N
## 588          Unf          2         528          TA          TA          Y
## 590          Unf          1         308          TA          TA          P
## 591          RFn          2         520          TA          TA          Y
## 593          Fin          2         816          TA          TA          Y
## 594          Fin          2         420          TA          TA          Y
## 595          Unf          1         280          TA          TA          Y
## 597          Unf          1         216          TA          Fa          N
## 604          RFn          2         480          TA          TA          Y
## 607          Unf          2         576          TA          TA          Y
## 608          Unf          1         230          TA          TA          Y
## 610          Unf          1         261          TA          TA          Y
## 614         <NA>          0           0        <NA>        <NA>          Y
## 615         <NA>          0           0        <NA>        <NA>          Y
## 616          RFn          2         480          TA          TA          Y
## 618          Unf          2         528          TA          TA          Y
## 621         <NA>          0           0        <NA>        <NA>          N
## 623          Unf          2         484          TA          TA          Y
## 626          Unf          2         440          TA          TA          Y
## 630          RFn          2         520          TA          TA          Y
## 631          Unf          1         240          Fa          Po          N
## 634          Unf          1         260          TA          TA          Y
## 635          Unf          2         576          TA          TA          Y
## 636         <NA>          0           0        <NA>        <NA>          N
## 638          Unf          1         256          TA          TA          Y
## 639         <NA>          0           0        <NA>        <NA>          P
## 644          Fin          2         462          TA          TA          Y
## 646          Unf          2         576          TA          TA          Y
## 647          Unf          2         420          TA          TA          Y
## 650         <NA>          0           0        <NA>        <NA>          Y
## 651          RFn          2         562          TA          TA          Y
## 654          Unf          1         216          TA          TA          Y
## 656          Unf          1         264          TA          TA          Y
## 657          RFn          1         312          TA          TA          Y
## 660          Fin          2         480          TA          TA          Y
## 664          RFn          2         588          TA          TA          Y
## 671          Fin          2         540          TA          TA          Y
```

```
## 672          Unf          1         300          TA          TA          Y
## 677          Unf          3         779          Fa          Fa          N
## 678          Unf          1         240          Fa          Fa          N
## 680          Unf          2         572          TA          TA          Y
## 682          Unf          1         281          TA          TA          Y
## 685          Fin          2         486          TA          TA          Y
## 687          Fin          2         578          TA          TA          Y
## 688          Unf          2         480          TA          TA          Y
## 694          Unf          1         326          TA          TA          Y
## 695          Unf          2         576          TA          TA          Y
## 697          Unf          1         205          TA          TA          Y
## 698          Unf          1         308          TA          TA          Y
## 700          RFn          2         530          TA          TA          Y
## 702          Unf          2         528          TA          TA          Y
## 705          RFn          2         606          TA          TA          Y
## 706         <NA>          0           0        <NA>        <NA>          N
## 710          Unf          1         408          TA          TA          Y
## 711         <NA>          0           0        <NA>        <NA>          N
## 712          RFn          1         384          TA          TA          N
## 714          Unf          2         576          TA          TA          Y
## 715          RFn          2         475          TA          TA          Y
## 717          Unf          2         704          TA          TA          P
## 722          RFn          2         420          TA          TA          Y
## 723          Unf          2         463          TA          TA          Y
## 724          Unf          1         548          TA          TA          Y
## 726          Unf          2         660          TA          TA          Y
## 728          RFn          2         632          TA          TA          Y
## 729          Unf          3         888          TA          TA          Y
## 730          Unf          2         539          TA          TA          Y
## 735          Unf          1         300          TA          TA          Y
## 737          Unf          2         400          TA          TA          Y
## 739         <NA>          0           0        <NA>        <NA>          Y
## 740          RFn          2         572          TA          TA          Y
## 741          Unf          2         360          TA          Gd          Y
## 742          Unf          1         288          TA          TA          Y
## 743          Unf          2         539          TA          TA          Y
## 750          Unf          1         240          TA          TA          N
## 751         <NA>          0           0        <NA>        <NA>          N
## 752          Fin          2         400          TA          TA          Y
## 753          RFn          2         576          TA          TA          Y
## 755          RFn          2         440          TA          TA          Y
## 756          Unf          2         440          TA          TA          Y
## 757          RFn          2         578          TA          TA          Y
## 759          Unf          2         440          TA          TA          Y
## 761          Unf          1         300          Ex          Ex          Y
## 762          Unf          2         440          TA          TA          Y
## 763          Unf          2         614          TA          TA          Y
## 768          Unf          1         423          TA          TA          Y
## 771          Unf          2         576          TA          TA          Y
## 772          Unf          2         396          TA          TA          Y
## 774          RFn          1         275          TA          TA          Y
## 776          Fin          2         412          TA          TA          Y
## 777          RFn          3         865          TA          TA          Y
## 780          Unf          2         504          TA          TA          Y
```

```
## 782          RFn          2         484          TA          TA          Y
## 783          RFn          2         605          TA          TA          Y
## 787          Unf          1         416          TA          TA          Y
## 788          RFn          2         618          TA          TA          Y
## 789          Unf          1         281          Fa          TA          Y
## 790          Fin          2         444          TA          TA          Y
## 794          Fin          2         474          TA          TA          Y
## 798          Unf          1         240          TA          TA          Y
## 801          RFn          2         603          TA          TA          Y
## 802          Unf          2         440          TA          TA          Y
## 805          Unf          1         286          TA          TA          Y
## 806          RFn          2         554          TA          TA          Y
## 807          Fin          1         384          TA          TA          Y
## 810          Unf          2         360          Fa          Po          N
## 813          Unf          2         504          TA          TA          N
## 814          RFn          1         301          TA          TA          Y
## 815          Unf          1         280          TA          TA          P
## 816          RFn          2         598          TA          TA          Y
## 819          Unf          2         440          TA          TA          Y
## 821          RFn          2         595          TA          TA          Y
## 822          Unf          2         576          TA          TA          Y
## 827         <NA>          0           0        <NA>        <NA>          Y
## 829          Fin          2         538          TA          TA          Y
## 830          RFn          2         480          TA          TA          Y
## 832          RFn          2         480          TA          TA          Y
## 834          RFn          2         472          TA          TA          Y
## 835          Unf          2         456          TA          TA          Y
## 836          Unf          2         436          TA          TA          Y
## 837          Unf          2         812          TA          TA          Y
## 838          Unf          1         264          TA          TA          Y
## 839          Unf          1         352          TA          TA          Y
## 840          Unf          1         240          TA          TA          Y
## 841          Unf          1         400          TA          TA          P
## 843          RFn          2         490          Gd          Gd          Y
## 844         <NA>          0           0        <NA>        <NA>          Y
## 851          Fin          2         420          TA          TA          Y
## 856          Unf          1         260          TA          TA          Y
## 857          Unf          2         576          TA          Fa          Y
## 862          Unf          2         504          TA          TA          Y
## 863          Unf          2         480          TA          TA          Y
## 864          Unf          1         672          TA          TA          Y
## 865          Fin          2         529          TA          TA          Y
## 866          Unf          2         902          TA          TA          Y
## 868          RFn          2         544          TA          TA          Y
## 871          Unf          1         308          TA          TA          Y
## 872          RFn          2         523          TA          TA          Y
## 873          Unf          2         414          TA          TA          Y
## 875          Unf          1         200          TA          TA          Y
## 877          Unf          2         648          TA          TA          Y
## 879          Unf          2         576          TA          TA          Y
## 880          Unf          1         336          TA          TA          Y
## 881          Fin          2         450          TA          TA          Y
## 884          Unf          1         440          TA          Gd          Y
## 885          RFn          1         288          TA          TA          Y
```

```
## 887          Fin          2         588          TA          TA          Y
## 888          Unf          1         300          TA          TA          Y
## 893          RFn          1         264          TA          TA          Y
## 895          Unf          2         400          TA          TA          Y
## 897          Unf          1         327          TA          TA          Y
## 898          Unf          2         528          TA          TA          Y
## 901          Unf          1         684          TA          TA          Y
## 902          Unf          1         756          TA          TA          Y
## 905          Unf          1         288          TA          TA          Y
## 906          RFn          1         280          TA          TA          Y
## 909          Unf          2         484          TA          TA          Y
## 911          Unf          2         480          TA          TA          Y
## 912          Unf          1         252          TA          TA          Y
## 913          Unf          1         450          TA          TA          Y
## 914          Unf          3         871          TA          TA          Y
## 915          RFn          2         528          TA          TA          Y
## 916          Unf          1         286          TA          TA          Y
## 917          Unf          1         308          TA          TA          Y
## 918          RFn          1         284          TA          TA          Y
## 921          RFn          2         471          TA          TA          Y
## 922         <NA>          0           0        <NA>        <NA>          N
## 926          RFn          2         540          TA          TA          Y
## 931          Fin          3         610          TA          TA          Y
## 932          Unf          1         429          TA          TA          Y
## 934          RFn          2         570          TA          TA          Y
## 936          Unf          2         528          TA          TA          Y
## 937          RFn          2         555          TA          TA          Y
## 939          RFn          3         868          TA          TA          Y
## 941          Unf          2         574          TA          TA          Y
## 943         <NA>          0           0        <NA>        <NA>          N
## 944          Unf          2         576          TA          TA          P
## 946          Unf          2         456          TA          TA          Y
## 951          RFn          2         720          TA          TA          Y
## 952          Unf          1         300          TA          TA          Y
## 953          Fin          1         396          TA          TA          Y
## 955         <NA>          0           0        <NA>        <NA>          Y
## 956          Unf          2         492          TA          TA          Y
## 958          Fin          2         576          TA          TA          Y
## 959          RFn          2         531          TA          TA          Y
## 960          Unf          2         484          TA          TA          Y
## 961         <NA>          0           0        <NA>        <NA>          Y
## 964          Fin          2         702          TA          TA          Y
## 968          Unf          1         260          TA          TA          Y
## 969         <NA>          0           0        <NA>        <NA>          Y
## 970          RFn          1         264          TA          TA          Y
## 971         <NA>          0           0        <NA>        <NA>          Y
## 972          RFn          2         474          TA          TA          Y
## 974          Fin          2         480          TA          TA          Y
## 975          Unf          2         532          TA          TA          Y
## 976          Unf          2         490          TA          TA          Y
## 977         <NA>          0           0        <NA>        <NA>          Y
## 978          Fin          2         569          TA          TA          Y
## 979          Unf          2         400          TA          TA          Y
## 980          Unf          2         480          TA          TA          Y
```

```
## 981          RFn          2         588          TA          TA          Y
## 985          Unf          2         539          TA          TA          Y
## 986          Unf          1         240          TA          TA          Y
## 987          Unf          1         255          Fa          TA          Y
## 990          RFn          2         614          TA          TA          Y
## 994          RFn          2         564          TA          TA          Y
## 996          Unf          1         305          TA          TA          Y
## 997          Unf          1         368          TA          TA          Y
## 1000         RFn          2         632          TA          TA          Y
## 1001         Unf          2         528          TA          Fa          Y
## 1002         Unf          1         216          Fa          TA          N
## 1004         Unf          2         528          TA          TA          Y
## 1006         Unf          1         328          TA          TA          Y
## 1008         RFn          1         286          TA          TA          Y
## 1010        <NA>          0           0        <NA>        <NA>          P
## 1012        <NA>          0           0        <NA>        <NA>          Y
## 1014         Unf          1         280          TA          TA          Y
## 1016         Fin          2         528          TA          TA          Y
## 1021         Fin          2         451          TA          TA          Y
## 1022         RFn          2         632          TA          TA          Y
## 1023         Unf          1         160          Fa          Fa          Y
## 1026         Unf          2         461          TA          TA          Y
## 1030         Unf          1         264          TA          TA          Y
## 1031        <NA>          0           0        <NA>        <NA>          N
## 1034         Unf          3         900          TA          TA          Y
## 1036         Unf          1         290          TA          TA          N
## 1040         Unf          1         286          TA          TA          Y
## 1042         Unf          2         484          TA          TA          Y
## 1048         Unf          2         672          TA          TA          Y
## 1050         Unf          1         308          TA          TA          Y
## 1051         Fin          2         436          TA          TA          Y
## 1061         Fin          2         582          TA          TA          Y
## 1062         RFn          3        1248          TA          TA          Y
## 1063         Unf          2         560          TA          TA          Y
## 1066         RFn          2         533          TA          TA          Y
## 1068         RFn          2         442          TA          TA          Y
## 1070         Unf          2         576          TA          TA          Y
## 1071         Unf          1         286          TA          TA          Y
## 1072         Unf          2         441          TA          TA          Y
## 1074         Fin          2         440          TA          TA          Y
## 1075         RFn          3         826          TA          TA          Y
## 1078         Fin          1         299          TA          TA          Y
## 1080         Unf          1         299          TA          TA          Y
## 1081         RFn          2         528          TA          TA          Y
## 1082         Fin          1         308          TA          TA          Y
## 1086         Unf          2         564          TA          TA          Y
## 1087         RFn          1         286          TA          TA          Y
## 1089         Unf          2         380          TA          TA          Y
## 1091         Unf          2         400          TA          TA          Y
## 1092         Unf          2         462          TA          TA          Y
## 1094         Unf          2         884          TA          TA          Y
## 1095         Fin          1         308          TA          TA          Y
## 1097        <NA>          0           0        <NA>        <NA>          Y
## 1098         RFn          2         461          TA          TA          Y
```

```
## 1099         Unf          1         240          TA          TA          Y
## 1101         Unf          1         246          TA          TA          N
## 1102         Unf          1         280          TA          TA          Y
## 1103         RFn          1         254          TA          TA          Y
## 1105         Unf          2         440          TA          TA          Y
## 1113         Unf          1         308          TA          TA          Y
## 1114         Unf          1         240          TA          TA          Y
## 1115         Unf          1         326          TA          TA          Y
## 1118         RFn          2         450          TA          TA          Y
## 1119         RFn          1         300          TA          TA          Y
## 1120         RFn          1         286          TA          TA          Y
## 1122         RFn          3         782          TA          TA          Y
## 1123         Unf          1         288          TA          TA          Y
## 1124        <NA>          0           0        <NA>        <NA>          Y
## 1130         Unf          2         672          TA          TA          Y
## 1132        <NA>          0           0        <NA>        <NA>          Y
## 1133         Unf          1         205          Fa          TA          N
## 1137         Unf          1         288          TA          TA          Y
## 1138        <NA>          0           0        <NA>        <NA>          N
## 1141         Unf          2         840          TA          TA          Y
## 1144        <NA>          0           0        <NA>        <NA>          Y
## 1145         Unf          1         280          TA          TA          Y
## 1150         Unf          2         324          TA          TA          Y
## 1154         Unf          1         432          TA          TA          Y
## 1159         RFn          3         830          TA          TA          Y
## 1164         Unf          2         400          Fa          TA          Y
## 1166         RFn          2         644          TA          TA          Y
## 1167         RFn          3         776          TA          TA          Y
## 1173         Fin          2         625          TA          TA          Y
## 1177         Unf          1         264          TA          TA          Y
## 1178         Unf          1         210          TA          TA          N
## 1181         Fin          2         693          TA          TA          Y
## 1186         Unf          1         392          TA          TA          Y
## 1187         Unf          2         420          Fa          Fa          Y
## 1189         RFn          2         493          TA          TA          Y
## 1192         Unf          2         492          TA          TA          Y
## 1193         Unf          1         250          TA          Fa          P
## 1194         Fin          2         402          TA          TA          Y
## 1195         Fin          1         299          TA          TA          Y
## 1196         Fin          2         400          TA          TA          Y
## 1199         RFn          2         573          TA          TA          Y
## 1201         Unf          1         280          TA          TA          Y
## 1202         RFn          2         546          TA          TA          Y
## 1205         RFn          2         495          TA          TA          Y
## 1207         Unf          1         384          TA          TA          Y
## 1208         RFn          2         544          TA          TA          Y
## 1209         Unf          2         506          TA          TA          Y
## 1212         RFn          2         492          TA          TA          Y
## 1213         Unf          1         234          TA          TA          N
## 1214         Unf          1         364          TA          TA          Y
## 1215         Unf          1         300          TA          TA          Y
## 1216         RFn          1         384          TA          TA          Y
## 1217         Unf          2         539          TA          TA          Y
## 1218         RFn          2         552          TA          TA          Y
```

```
## 1219        <NA>          0           0       <NA>       <NA>          N
## 1220        <NA>          0           0       <NA>       <NA>          N
## 1221         Unf          1         288         TA         TA          Y
## 1224         Unf          2         528         TA         TA          Y
## 1226         RFn          1         264         TA         TA          Y
## 1228         Unf          2         576         TA         TA          Y
## 1230         Unf          1         404         TA         TA          Y
## 1232         Unf          2         540         TA         TA          Y
## 1233         Unf          2         462         TA         TA          Y
## 1234         RFn          2         531         TA         TA          Y
## 1235        <NA>          0           0       <NA>       <NA>          N
## 1236         Unf          1         180         Fa         Fa          N
## 1237         RFn          2         474         TA         TA          Y
## 1239         Unf          2         484         TA         TA          Y
## 1241         RFn          2         543         TA         TA          Y
## 1242         RFn          3         954         TA         TA          Y
## 1247         RFn          2         615         TA         TA          Y
## 1248         Unf          3         888         TA         TA          Y
## 1250         Unf          1         276         TA         TA          Y
## 1253         RFn          1         288         TA         TA          Y
## 1258        <NA>          0           0       <NA>       <NA>          Y
## 1259         Fin          2         400         TA         TA          Y
## 1260         Unf          2         460         TA         TA          Y
## 1262         Unf          1         338         TA         TA          Y
## 1265         Fin          2         511         TA         TA          Y
## 1266         Unf          2         506         TA         TA          Y
## 1270         Unf          1         315         TA         TA          Y
## 1273         Unf          1         288         TA         TA          Y
## 1276         Unf          2         400         TA         Fa          Y
## 1280         RFn          2         528         TA         TA          Y
## 1281         RFn          2         544         TA         TA          Y
## 1283         Unf          2         484         TA         TA          Y
## 1284        <NA>          0           0       <NA>       <NA>          Y
## 1288         Unf          2         390         TA         TA          N
## 1292         Unf          1         264         TA         TA          Y
## 1293         RFn          1         432         TA         TA          Y
## 1295         Unf          2         572         TA         TA          N
## 1296         RFn          1         288         TA         TA          Y
## 1297         RFn          2         525         TA         TA          Y
## 1298         Fin          2         525         TA         TA          Y
## 1300         RFn          1         305         TA         TA          Y
## 1304         RFn          3         834         TA         TA          Y
## 1305         Unf          2         380         TA         TA          Y
## 1308         Unf          2         480         TA         TA          Y
## 1309         Unf          2         528         TA         TA          Y
## 1310         RFn          2         496         TA         TA          Y
## 1312         RFn          2         508         TA         TA          Y
## 1320         Unf          1         248         TA         TA          Y
## 1322         Unf          1         287         TA         Fa          Y
## 1324        <NA>          0           0       <NA>       <NA>          Y
## 1326        <NA>          0           0       <NA>       <NA>          N
## 1327        <NA>          0           0       <NA>       <NA>          Y
## 1332         Unf          2         576         TA         TA          Y
## 1334         Unf          1         297         TA         TA          Y
```

```
## 1335        Unf          2        440         TA         TA          Y
## 1337        Unf          2        506         TA         TA          Y
## 1338       <NA>          0          0       <NA>       <NA>          N
## 1339        RFn          2        492         TA         TA          Y
## 1340        RFn          1        288         TA         TA          Y
## 1341        Unf          4        480         TA         TA          Y
## 1342        Unf          2        576         TA         TA          Y
## 1346        Unf          1        308         TA         TA          Y
## 1350       <NA>          0          0       <NA>       <NA>          Y
## 1351        Unf          4        968         TA         TA          Y
## 1353        Unf          2        624         TA         TA          N
## 1357        RFn          1        264         TA         TA          Y
## 1359        Unf          2        440         TA         TA          Y
## 1361        RFn          2        621         TA         TA          Y
## 1365        RFn          2        480         TA         TA          Y
## 1366        RFn          2        663         TA         TA          Y
## 1367        RFn          2        588         TA         TA          Y
## 1369        Fin          2        420         TA         TA          Y
## 1371        Fin          1        338         TA         TA          Y
## 1377        Unf          1        160         Fa         TA          Y
## 1378        Unf          2        660         TA         TA          Y
## 1379        Unf          1        264         TA         TA          Y
## 1380        Fin          2        400         TA         TA          Y
## 1381        Unf          1        200         TA         Fa          Y
## 1383        Unf          2        576         TA         TA          N
## 1384        Unf          2        576         TA         TA          N
## 1385        Unf          1        280         TA         TA          P
## 1386        Unf          1        240         TA         TA          N
## 1391        RFn          2        541         TA         TA          Y
## 1392        Unf          3        792         TA         TA          Y
## 1398        Unf          1        180         Fa         Fa          N
## 1399        Unf          1        240         TA         TA          Y
## 1404        Unf          3        754         TA         TA          Y
## 1405        Unf          3        936         TA         TA          Y
## 1407        Unf          2        396         TA         TA          Y
## 1408       <NA>          0          0       <NA>       <NA>          Y
## 1409        Unf          2        528         TA         TA          Y
## 1411        RFn          2        622         TA         TA          Y
## 1412        Unf          1        271         TA         TA          Y
## 1413        Unf          2        420         TA         TA          Y
## 1417        Unf          2        560         TA         TA          N
## 1419        Unf          1        336         TA         TA          Y
## 1423        Fin          2        420         TA         TA          Y
## 1426        Unf          2        528         TA         TA          Y
## 1432        RFn          2        440         TA         TA          Y
## 1433        Unf          1        216         Fa         Fa          Y
## 1437        Unf          2        528         TA         TA          Y
## 1439        Unf          2        923         TA         TA          Y
## 1445        RFn          2        626         TA         TA          Y
## 1446        Unf          1        240         TA         TA          Y
## 1447        Unf          1        312         TA         TA          P
## 1449        Unf          1        384         Fa         TA          Y
## 1450       <NA>          0          0       <NA>       <NA>          Y
## 1451       <NA>          0          0       <NA>       <NA>          Y
```

```
## 1453          Fin          2        525         TA         TA          Y
## 1454         <NA>          0          0       <NA>       <NA>          Y
## 1455          RFn          2        400         TA         TA          Y
## 1459          Unf          1        240         TA         TA          Y
## 1460          Fin          1        276         TA         TA          Y
##      WoodDeckSF OpenPorchSF EnclosedPorch X3SsnPorch ScreenPorch PoolArea
## 1             0          61             0          0           0        0
## 6            40          30             0        320           0        0
## 11            0           0             0          0           0        0
## 13          140           0             0          0         176        0
## 16           48         112             0          0           0        0
## 18            0           0             0          0           0        0
## 19            0         102             0          0           0        0
## 20            0           0             0          0           0        0
## 27          222          32             0          0           0        0
## 30           49           0            87          0           0        0
## 31            0          54           172          0           0        0
## 32            0          65             0          0           0        0
## 33            0          30             0          0           0        0
## 37          392          64             0          0           0        0
## 39            0          52             0          0           0        0
## 40            0           0             0          0           0        0
## 43          240           0             0          0           0        0
## 44          145           0             0          0           0        0
## 45            0           0             0          0           0        0
## 48            0         146             0          0           0        0
## 49            0           0           102          0           0        0
## 50            0           0             0          0           0        0
## 51            0          75             0          0           0        0
## 53          106           0             0          0           0        0
## 57          115           0             0          0           0        0
## 58            0          70             0          0           0        0
## 60          196           0             0          0           0        0
## 61            0          50             0          0           0        0
## 62            0           0           144          0           0        0
## 64           12          11            64          0           0        0
## 65          576          36             0          0           0        0
## 68          144          29             0          0           0        0
## 69            0           0             0          0           0        0
## 72            0           0             0          0           0        0
## 74            0           0             0          0           0        0
## 75            0           0           202          0           0        0
## 76          120         101             0          0           0        0
## 77            0           0             0          0           0        0
## 78            0           0             0          0           0        0
## 79            0           0             0          0           0        0
## 80           74           0           128          0           0        0
## 82            0         199             0          0           0        0
## 84           74           0             0          0           0        0
## 88            0         234             0          0           0        0
## 89            0           0           156          0           0        0
## 90            0           0             0          0           0        0
## 91            0          29             0          0           0        0
## 92            0           0             0          0           0        0
```

```
## 93            0           0          44           0           0           0
## 95            0         162           0           0           0           0
## 97          158          29           0           0           0           0
## 98          120           0           0           0           0           0
## 99            0           0          77           0           0           0
## 100         352           0           0           0           0           0
## 103           0           0           0           0           0           0
## 104           0          36           0           0           0           0
## 107           0           0           0           0           0           0
## 108           0           0           0           0           0           0
## 109           0           0         144           0           0           0
## 111         182           0           0           0           0           0
## 118          80          64           0           0           0           0
## 122           0           0         140           0           0           0
## 123           0           0           0           0         130           0
## 124           0          63           0           0           0           0
## 126          53           0           0           0           0           0
## 130           0          80           0         180           0           0
## 133           0           0           0           0           0           0
## 134         192          25           0           0           0           0
## 138           0           0           0           0           0           0
## 140         276          99           0           0           0           0
## 142         160          24           0           0           0           0
## 143           0           0           0           0           0           0
## 144         144          29           0           0           0           0
## 145           0           0           0           0           0           0
## 146           0          40           0           0           0           0
## 147          48           0           0           0           0           0
## 149           0           0           0           0           0           0
## 150         200         114           0           0           0           0
## 151           0           0           0           0           0           0
## 155           0           0         228           0           0           0
## 156           0           8         128           0           0           0
## 157           0           0           0           0           0           0
## 161           0           0           0           0           0           0
## 164           0           0           0           0           0           0
## 165           0           0         183           0           0           0
## 166         140           0           0           0           0           0
## 171         237           0           0           0           0           0
## 180           0           0         184           0           0           0
## 184         280         238           0           0           0           0
## 185         104           0           0           0           0           0
## 187         168          27           0           0           0           0
## 188           0           0           0         140           0           0
## 192           0          32           0           0           0           0
## 193           0          35           0           0           0           0
## 194           0          40           0           0           0           0
## 195           0           0           0           0           0           0
## 199           0         198          30           0           0           0
## 201         132          64           0           0           0           0
## 203           0           0         126           0           0           0
## 205           0          35           0           0           0           0
## 206           0          34           0         508           0           0
## 210           0           0           0           0           0           0
```

```
## 211          0          0         96          0          0          0
## 212        100         22          0          0          0          0
## 214        224          0          0          0          0          0
## 215          0         36          0          0          0          0
## 217        139         98          0          0          0          0
## 218          0        172         60          0          0          0
## 220        108          0          0          0          0          0
## 221        351         33          0          0          0          0
## 224        216          0          0          0          0          0
## 226          0          0          0          0          0          0
## 228          0          0          0          0          0          0
## 231          0          0        120          0          0          0
## 234        365          0          0          0          0          0
## 236          0          0          0          0          0          0
## 237        132        105          0          0          0          0
## 238        370         70          0        238          0          0
## 239        168        228          0          0          0          0
## 241        144        168          0          0          0          0
## 242         58         42          0          0          0          0
## 243          0          0         77          0          0          0
## 247          0         60        112          0          0          0
## 249        144         68          0          0          0          0
## 251        263          0          0          0          0          0
## 253        138         45          0          0          0          0
## 254        333          0          0          0          0          0
## 255        250          0          0          0          0          0
## 257        216         56          0          0          0          0
## 260          0         45          0          0          0          0
## 264          0          0          0          0          0          0
## 265          0          0          0          0          0          0
## 275        168          0          0          0          0          0
## 276         74          0          0          0        144          0
## 277        100        150          0          0          0          0
## 278          0          0          0          0          0          0
## 282          0        120          0          0          0          0
## 285          0          0         52          0          0          0
## 286          0         54          0          0          0          0
## 288          0          0          0          0          0          0
## 289          0          0          0          0          0          0
## 290          0          0          0          0        259          0
## 292          0        184          0          0          0          0
## 296        120          0          0          0          0          0
## 297        289          0          0          0          0          0
## 304        256          0          0          0          0          0
## 306        168          0          0          0          0          0
## 308          0        144          0          0          0          0
## 309        158          0          0          0          0          0
## 321        240        154          0          0          0          0
## 324        142         98          0          0          0          0
## 326          0          0        244          0          0          0
## 328          0         45          0          0          0          0
## 329          0         60        268          0          0          0
## 330          0          0        137          0          0          0
## 331        155          0          0          0          0          0
```

```
## 332     0     0     0     0     0     0
## 338   192    74     0     0     0     0
## 339   108    45     0     0     0     0
## 340     0     0     0     0   234     0
## 341   135     0     0     0     0     0
## 342   250     0    24     0     0     0
## 343     0     0     0     0     0     0
## 345   182     0     0     0     0     0
## 347     0     0     0     0     0     0
## 349     0    27     0     0     0     0
## 353    48     0     0     0     0     0
## 354   106     0     0     0     0     0
## 356     0    26     0     0     0     0
## 357   120    26     0     0     0     0
## 359   168     0   294     0     0     0
## 362     0     0     0     0     0     0
## 364   250     0     0     0     0     0
## 366     0   128   218     0     0     0
## 373   353     0     0     0    90     0
## 374    66     0     0     0     0     0
## 376     0     0     0     0     0     0
## 377     0     0     0     0     0     0
## 383   144    53     0     0     0     0
## 384     0     0    91     0     0     0
## 387     0   151     0     0     0     0
## 389   120    25     0     0     0     0
## 391     0   130   112     0     0     0
## 393     0     0     0     0     0     0
## 395     0    39     0     0     0     0
## 396    44     0     0     0     0     0
## 397   215     0     0     0     0     0
## 399     0     0     0     0     0     0
## 400     0   168     0     0     0     0
## 403   168     0     0     0     0     0
## 407     0     0     0     0     0     0
## 408     0     0   160     0     0     0
## 411     0     0     0     0     0     0
## 412   264     0     0     0     0     0
## 416   100    30     0     0     0     0
## 419     0     0     0     0     0     0
## 421     0     0     0     0     0     0
## 423     0     0     0     0     0     0
## 428     0     0     0     0     0     0
## 429   105    54     0     0     0     0
## 431     0     0     0     0     0     0
## 432     0    98     0     0     0     0
## 433   240    36     0     0     0     0
## 435    88     0     0     0     0     0
## 437     0     0     0     0     0     0
## 438     0     0   105     0     0     0
## 440     0    46     0     0     0     0
## 442     0     0     0     0     0     0
## 450     0   176     0     0     0     0
## 451     0   113     0     0     0     0
```

```
## 453  144  122    0    0    0    0
## 454    0   30    0    0    0    0
## 455    0    0    0    0    0    0
## 457    0    0   96    0    0    0
## 461    0  150    0    0    0    0
## 462  256    0    0    0    0    0
## 465    0    0    0    0    0    0
## 470  144   70    0    0    0    0
## 471    0   54    0    0  140    0
## 473    0   28    0    0    0    0
## 475   96   48    0    0    0    0
## 476    0   24    0    0  192    0
## 480    0   72    0    0    0    0
## 484    0  125    0    0    0    0
## 485    0  132    0    0    0    0
## 487    0    0    0    0    0    0
## 490    0    0    0    0    0    0
## 493    0    0    0    0    0    0
## 495  144   20   80    0    0    0
## 496    0  523  115    0    0    0
## 498    0  100    0    0    0    0
## 499   64    0    0    0    0    0
## 500   12  285    0    0    0    0
## 501  144   28    0    0    0    0
## 502    0  108    0    0    0    0
## 503    0    0  184    0    0    0
## 506    0    0    0    0    0    0
## 508    0  102    0    0    0    0
## 510  224   88    0    0    0    0
## 513    0    0    0    0    0    0
## 514  120    0  158    0    0    0
## 515    0    0  112    0    0    0
## 519    0   36    0    0    0    0
## 521  220  114  210    0    0    0
## 527  261    0  156    0    0    0
## 529    0    0  144    0    0    0
## 532    0    0   84    0    0    0
## 534    0    0    0    0    0    0
## 536   85    0  148    0    0    0
## 537  120  155    0    0    0    0
## 538  216    0    0    0    0    0
## 544  120   40    0    0    0    0
## 546    0    0    0    0    0    0
## 548  104    0    0    0    0    0
## 549  140   50    0    0    0    0
## 551    0   55    0    0  200    0
## 552    0    0    0    0    0    0
## 554    0   96    0    0    0    0
## 558    0   47  120    0    0    0
## 566    0   66  136    0    0    0
## 568    0    0    0    0    0    0
## 571    0    0    0    0    0    0
## 572  168    0    0    0    0    0
## 573  208  114    0    0    0    0
```

```
## 575          35           0           0           0           0           0
## 576         158           0         102           0           0           0
## 579           0         102           0           0           0           0
## 580           0           0           0           0           0           0
## 583           0          32           0           0           0           0
## 585           0           0          54           0         120           0
## 587           0           0         112           0           0           0
## 588           0           0           0           0           0           0
## 590           0           0           0           0           0           0
## 591           0          45           0           0           0           0
## 593           0           0           0           0           0           0
## 594         140           0           0           0           0           0
## 595           0           0           0           0           0           0
## 597           0         158           0           0           0           0
## 604           0         172           0           0           0           0
## 607         168           0           0           0           0           0
## 608         103           0           0           0           0           0
## 610          64           0          39           0           0           0
## 614           0          30           0           0           0           0
## 615          96          24           0           0           0           0
## 616         120           0           0           0           0           0
## 618           0           0           0           0           0           0
## 621           0           0         100           0           0           0
## 623         192           0           0           0           0           0
## 626           0           0           0           0         385           0
## 630         176           0           0           0           0           0
## 631           0           0         293           0           0           0
## 634         390           0           0           0           0           0
## 635         264          56           0           0           0           0
## 636           0         110           0           0           0           0
## 638           0           0           0           0           0           0
## 639         328           0         164           0           0           0
## 644         208           0           0           0           0           0
## 646           0         312          40           0           0           0
## 647           0          27           0           0           0           0
## 650           0           0           0           0           0           0
## 651           0           0           0           0           0           0
## 654          57           0         239           0           0           0
## 656           0           0           0           0           0           0
## 657           0           0           0           0           0           0
## 660           0           0           0           0           0           0
## 664           0           0         180           0           0           0
## 671         100          35           0           0           0           0
## 672         147           0           0           0           0           0
## 677           0           0          90           0           0           0
## 678         316           0         120           0           0           0
## 680           0           0           0           0           0           0
## 682           0           0          56           0           0           0
## 685           0          81           0           0           0           0
## 687         144         105           0           0           0           0
## 688           0          60           0           0           0           0
## 694           0           0         112           0           0           0
## 695         112           0           0           0           0           0
## 697           0           0         129           0           0           0
```

```
## 698          0          0          0          0          0          0
## 700        156        158          0          0          0          0
## 702          0          0          0          0          0          0
## 705          0         35          0        144          0          0
## 706          0          0          0          0          0          0
## 710          0          0          0          0          0          0
## 711          0          0          0          0          0          0
## 712         68          0         98          0          0          0
## 714          0        288          0          0          0          0
## 715          0         44          0          0          0          0
## 717          0         48        143          0          0          0
## 722        160          0          0          0          0          0
## 723          0          0          0          0          0          0
## 724          0          0          0          0        156          0
## 726         96          0          0          0          0          0
## 728        132          0          0          0          0          0
## 729          0         25          0          0          0          0
## 730          0         23        112          0          0          0
## 735        147          0          0          0          0          0
## 737          0          0          0          0          0          0
## 739        120          0          0          0          0          0
## 740        187         56          0          0          0          0
## 741        270          0        112          0          0          0
## 742        168          0          0          0          0          0
## 743        120         55          0          0          0          0
## 750         92          0        185          0          0          0
## 751          0        160          0          0          0          0
## 752          0         48          0          0          0          0
## 753        168         27          0          0          0          0
## 755        171         48          0          0          0          0
## 756          0         24          0          0          0          0
## 757        144        105          0          0          0          0
## 759          0          0          0          0          0          0
## 761          0          0          0          0          0          0
## 762          0          0          0          0          0          0
## 763        169         45          0          0          0          0
## 768        245          0        156          0          0          0
## 771        120          0          0          0          0          0
## 772          0          0          0          0          0          0
## 774          0          0          0          0          0          0
## 776          0        247          0          0          0          0
## 777        144         59          0          0          0          0
## 780          0          0          0          0          0          0
## 782          0        124          0          0          0          0
## 783          0         33          0          0          0          0
## 787          0          0        196          0          0          0
## 788          0         45          0          0          0          0
## 789          0          0          0          0          0          0
## 790        133        168          0          0          0          0
## 794        168        130          0          0          0          0
## 798          0          0          0          0          0          0
## 801        403        114        185          0          0          0
## 802          0          0          0          0          0          0
## 805          0          0          0          0          0          0
```

```
## 806          0          60           0          0          0          0
## 807         68           0           0          0          0          0
## 810         40         156           0          0          0          0
## 813          0           0           0          0          0          0
## 814          0           0         275          0          0          0
## 815        207           0          96          0          0          0
## 816          0          34           0          0          0          0
## 819          0           0           0          0          0          0
## 821          0          45           0          0          0          0
## 822          0          32         112          0          0          0
## 827          0           0         116          0          0          0
## 829        486           0           0          0        225          0
## 830          0         166           0          0          0          0
## 832          0         166           0          0          0          0
## 834          0           0           0          0        152          0
## 835          0           0           0          0          0          0
## 836        290           0           0          0          0          0
## 837          0         116         230          0          0          0
## 838          0           0           0          0          0          0
## 839        278           0           0          0          0          0
## 840          0           0           0          0          0          0
## 841          0           0         254          0          0          0
## 843          0         129           0          0          0          0
## 844          0           0           0          0          0          0
## 851        140           0           0          0          0          0
## 856          0         104           0          0          0          0
## 857          0           0          34          0          0          0
## 862          0           0           0          0          0          0
## 863          0           0           0          0          0          0
## 864          0           0           0          0          0          0
## 865          0         140           0          0          0          0
## 866          0           0           0          0          0          0
## 868        168           0           0          0          0          0
## 871          0           0           0          0          0          0
## 872          0          77           0          0          0          0
## 873        196           0         150          0          0          0
## 875         26           0           0          0          0          0
## 877          0           0           0          0          0          0
## 879        192           0           0          0          0          0
## 880          0           0           0          0          0          0
## 881          0          49           0          0          0          0
## 884          0         188           0          0          0          0
## 885          0           0           0          0          0          0
## 887        272          54           0          0          0          0
## 888        121           0           0          0        265          0
## 893        192           0           0          0          0          0
## 895          0           0           0          0          0          0
## 897          0          28           0          0          0          0
## 898        154           0           0          0          0          0
## 901          0           0           0          0          0          0
## 902          0           0           0          0          0          0
## 905          0           0           0          0          0          0
## 906          0           0         164          0          0          0
## 909        164           0           0          0          0          0
```

```
## 911          0          0          0          0          0          0
## 912        173          0          0          0          0          0
## 913          0          0        112          0        120          0
## 914          0          0          0          0          0          0
## 915          0        234          0          0          0          0
## 916          0          0          0          0          0          0
## 917          0          0          0          0          0          0
## 918          0          0          0          0          0          0
## 921        300         87          0          0          0          0
## 922          0         70          0          0          0          0
## 926        180          0          0          0          0          0
## 931        100         18          0          0          0          0
## 932          0          0          0          0          0          0
## 934        192         36          0          0          0          0
## 936          0          0         32          0          0          0
## 937          0         41          0          0          0          0
## 939          0         90          0          0          0          0
## 941         40          0          0          0          0          0
## 943        321          0          0          0          0          0
## 944          0          0          0          0          0          0
## 946         48          0        244          0          0          0
## 951        194          0          0          0          0          0
## 952        421          0          0          0          0          0
## 953        192          0          0          0          0          0
## 955          0          0          0          0          0          0
## 956          0          0          0          0          0          0
## 958          0          0          0          0          0          0
## 959          0         39          0          0          0          0
## 960          0         44          0          0          0          0
## 961        117          0          0          0          0          0
## 964        288        136          0          0          0          0
## 968          0          0          0          0          0          0
## 969          0          0          0          0          0          0
## 970          0          0          0          0          0          0
## 971          0          0          0          0          0          0
## 972          0         27          0          0          0          0
## 974          0        120          0          0          0          0
## 975        509        135          0          0          0          0
## 976        153         50          0          0          0          0
## 977          0          0          0          0          0          0
## 978          0        116          0          0          0          0
## 979          0          0          0          0          0          0
## 980          0         80          0          0          0          0
## 981        144         76          0          0          0          0
## 985          0          0          0          0          0          0
## 986          0         48          0          0          0          0
## 987        394          0          0          0          0          0
## 990          0         50          0          0          0          0
## 994          0         35          0          0          0          0
## 996          0         57          0          0         63          0
## 997          0        319          0          0          0          0
## 1000       105         61          0          0          0          0
## 1001         0          0          0          0          0          0
## 1002         0         20         94          0          0          0
```

```
## 1004          0           0           0           0           0           0
## 1006        210           0           0           0           0           0
## 1008        238           0           0           0           0           0
## 1010          0           0         138           0           0           0
## 1012          0           0           0           0           0           0
## 1014          0          30         226           0           0           0
## 1016          0          45           0           0           0           0
## 1021        252          64           0           0           0           0
## 1022        105          54           0           0           0           0
## 1023          0           0         192           0           0           0
## 1026         96           0           0           0           0           0
## 1030          0          28           0           0           0           0
## 1031          0           0         228           0           0           0
## 1034          0         136           0           0           0           0
## 1036        186           0           0           0           0           0
## 1040          0           0           0           0           0           0
## 1042          0          40           0           0           0           0
## 1048          0           0           0           0           0           0
## 1050          0           0           0           0           0           0
## 1051          0          22           0           0           0           0
## 1061          0           0         170           0           0           0
## 1062          0          20           0           0           0           0
## 1063          0          57           0           0           0           0
## 1066        296          44           0           0           0           0
## 1068        328         128           0           0         189           0
## 1070          0           0           0           0           0           0
## 1071          0          20           0           0         192           0
## 1072          0           0           0           0           0           0
## 1074        252           0           0           0           0           0
## 1075        140          93           0           0           0           0
## 1078        240          32           0           0           0           0
## 1080          0          64           0           0           0           0
## 1081         55           0           0         216           0           0
## 1082          0           0         220           0           0           0
## 1086        120           0           0           0           0           0
## 1087        120          96           0           0           0           0
## 1089          0          40           0           0           0           0
## 1091          0           0           0           0           0           0
## 1092          0          48           0           0           0           0
## 1094          0          64           0           0           0           0
## 1095          0           0          80           0         160           0
## 1097        136           0         115           0           0           0
## 1098          0          74         137           0           0           0
## 1099          0           0           0           0           0           0
## 1101          0           0           0           0           0           0
## 1102          0           0           0           0           0           0
## 1103          0          16           0           0           0           0
## 1105          0           0           0           0           0           0
## 1113          0           0           0           0           0           0
## 1114          0          18           0           0           0           0
## 1115          0           0           0           0           0           0
## 1118          0           0           0           0           0           0
## 1119        280          34           0           0           0           0
## 1120        140           0         252           0           0           0
```

```
## 1122        144          20           0           0           0           0
## 1123         64           0           0           0         160           0
## 1124          0         200           0           0           0           0
## 1130         49           0           0           0           0           0
## 1132          0          28           0           0           0           0
## 1133          0          48           0           0           0           0
## 1137          0           0          96           0           0           0
## 1138          0           0         176           0           0           0
## 1141          0           0           0           0           0           0
## 1144          0          24           0           0           0           0
## 1145          0           0           0           0           0           0
## 1150          0           0           0           0           0           0
## 1154          0           0          96           0           0           0
## 1159          0          24           0           0           0           0
## 1164        120           0           0           0           0           0
## 1166          0         114           0           0           0           0
## 1167        160          33           0           0           0           0
## 1173          0          54           0           0           0           0
## 1177        362           0           0           0           0           0
## 1178          0           0         116           0           0           0
## 1181          0           0           0           0           0           0
## 1186          0           0         236           0           0           0
## 1187          0          74           0           0           0           0
## 1189        144          68           0           0           0           0
## 1192        206           0           0           0           0           0
## 1193          0           0          84           0           0           0
## 1194          0         304           0           0           0           0
## 1195        379          36           0           0           0           0
## 1196        100          24           0           0           0           0
## 1199        356           0           0           0           0           0
## 1201          0           0           0           0           0           0
## 1202        198          36           0           0           0           0
## 1205          0          88           0           0           0           0
## 1207          0          42           0           0           0           0
## 1208        192          23           0           0           0           0
## 1209          0           0           0           0           0           0
## 1212        325          12           0           0           0           0
## 1213          0         113           0           0           0           0
## 1214         88           0           0           0           0           0
## 1215        150          72           0           0           0           0
## 1216          0           0           0           0           0           0
## 1217          0           0           0           0           0           0
## 1218        135         112           0           0           0           0
## 1219          0           0           0           0           0           0
## 1220        201           0           0           0           0           0
## 1221          0           0           0           0           0           0
## 1224          0          30           0           0           0           0
## 1226        224           0           0           0           0           0
## 1228          0         240           0           0           0           0
## 1230          0           0           0           0           0           0
## 1232          0          18           0           0           0           0
## 1233          0           0           0           0           0           0
## 1234          0           0           0           0           0           0
## 1235          0         192           0           0           0           0
```

```
## 1236        203          40           0           0           0           0
## 1237          0          27           0           0           0           0
## 1239          0           0           0           0           0           0
## 1241          0          63           0           0           0           0
## 1242          0          56           0           0           0           0
## 1247          0          45           0           0           0           0
## 1248          0           0           0           0           0           0
## 1250          0          80           0           0           0           0
## 1253         33           0           0           0           0           0
## 1258          0          96           0           0           0           0
## 1259        212           0           0           0           0           0
## 1260        180           0           0           0          80           0
## 1262          0           0           0           0           0           0
## 1265        144          68           0           0           0           0
## 1266          0          34           0           0           0           0
## 1270          0           0           0           0           0           0
## 1273        180           0           0           0           0           0
## 1276          0           0           0           0           0           0
## 1280         30           0         164           0           0           0
## 1281          0          72           0           0           0           0
## 1283          0           0           0           0         288           0
## 1284        128           0           0           0           0           0
## 1288        168         198           0           0           0           0
## 1292        185           0           0           0           0           0
## 1293          0         287           0           0           0           0
## 1295          0           0           0           0           0           0
## 1296        356           0           0           0           0           0
## 1297        192          20         123           0           0           0
## 1298          0          44           0           0           0           0
## 1300        218           0           0           0           0           0
## 1304        208          59           0           0           0           0
## 1305          0          40           0           0           0           0
## 1308          0          64           0           0           0           0
## 1309          0          36           0           0           0           0
## 1310        112          51           0           0           0           0
## 1312        264          98           0           0           0           0
## 1320          0           0           0           0           0           0
## 1322          0           0           0           0           0           0
## 1324        164           0           0           0           0           0
## 1326          0           0         100           0           0           0
## 1327          0           0         286           0           0           0
## 1332          0           0           0           0           0           0
## 1334          0          65         190           0           0           0
## 1335          0          36           0           0           0           0
## 1337          0         211           0           0           0           0
## 1338          0          20           0           0           0           0
## 1339        146          91           0           0           0           0
## 1340          0           0           0           0           0           0
## 1341          0           0           0           0           0           0
## 1342          0          78           0           0           0           0
## 1346          0           0         168           0           0           0
## 1350          0          54          20           0           0           0
## 1351          0           0           0           0           0           0
## 1353        210           0           0           0           0           0
```

```
## 1357          0           0             0          0           0        0
## 1359          0          32             0          0           0        0
## 1361        183           0           301          0           0        0
## 1365          0         166             0          0           0        0
## 1366          0          96             0          0           0        0
## 1367          0          88             0          0           0        0
## 1369        140           0             0          0           0        0
## 1371          0           0           198          0           0        0
## 1377          0         141             0          0           0        0
## 1378          0          68             0          0           0        0
## 1379         72           0             0          0           0        0
## 1380        100           0             0          0           0        0
## 1381          0           0            96          0           0        0
## 1383         36           0           221          0           0        0
## 1384          0           0           112          0           0        0
## 1385          0           0             0          0           0        0
## 1386          0          96             0          0           0        0
## 1391        219          36             0          0           0        0
## 1392          0         152             0          0           0        0
## 1398         24           0           150          0           0        0
## 1399          0           0           168          0           0        0
## 1404        168         160             0          0           0        0
## 1405        216           0           160          0           0        0
## 1407         58           0             0          0           0        0
## 1408          0           0             0          0           0        0
## 1409          0           0             0          0         168        0
## 1411          0          45             0          0           0        0
## 1412          0           0             0          0           0        0
## 1413          0           0             0          0           0        0
## 1417          0           0           114          0           0        0
## 1419          0          88             0          0           0        0
## 1423        140           0             0          0           0        0
## 1426          0          39             0          0           0        0
## 1432          0          60             0          0           0        0
## 1433          0           0             0          0           0        0
## 1437          0           0             0          0           0        0
## 1439          0         158           158          0           0        0
## 1445        192          60             0          0           0        0
## 1446          0           0           252          0           0        0
## 1447        261          39             0          0           0        0
## 1449        168          24             0          0           0        0
## 1450          0           0             0          0           0        0
## 1451         32          45             0          0           0        0
## 1453          0          28             0          0           0        0
## 1454         36          56             0          0           0        0
## 1455          0         113             0          0           0        0
## 1459        366           0           112          0           0        0
## 1460        736          68             0          0           0        0
##      PoolQC Fence MiscFeature MiscVal MoSold YrSold SaleType SaleCondition
## 1      <NA>  <NA>        <NA>       0      2   2008       WD        Normal
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## 16     <NA> GdPrv        <NA>       0      7   2007       WD        Normal
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## 698    <NA>  <NA>        <NA>       0      9   2006       WD        Normal
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## 714    <NA>  <NA>        <NA>       0      5   2006       WD        Normal
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## 782    <NA>  <NA>        <NA>       0      7   2006       WD        Normal
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## 1026   <NA> MnPrv        <NA>       0      3   2007       WD        Normal
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## 1145   <NA> MnPrv        <NA>       0      7   2010       WD        Normal
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## 1166   <NA>  <NA>        <NA>       0      9   2009      New       Partial
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## 1276   <NA>  <NA>        <NA>       0      7   2007       WD        Normal
## 1280   <NA>  <NA>        <NA>       0      4   2010      COD       Abnorml
## 1281   <NA>  <NA>        <NA>       0      3   2009       WD        Normal
## 1283   <NA>  <NA>        <NA>       0      9   2009       WD        Normal
## 1284   <NA>  <NA>        <NA>       0      4   2010       WD        Normal
## 1288   <NA>  <NA>        <NA>       0      6   2006       WD        Normal
## 1292   <NA>  <NA>        <NA>       0      2   2009       WD        Normal
## 1293   <NA>  <NA>        <NA>       0     12   2009       WD        Normal
## 1295   <NA>  <NA>        <NA>       0      4   2006       WD        Normal
## 1296   <NA>  GdWo        <NA>       0     11   2006       WD        Normal
## 1297   <NA> MnPrv        <NA>       0     12   2008       WD        Normal
## 1298   <NA>  <NA>        <NA>       0      6   2006      New       Partial
## 1300   <NA> GdPrv        <NA>       0      5   2010       WD        Normal
## 1304   <NA>  <NA>        <NA>       0      4   2006       WD        Normal
## 1305   <NA>  <NA>        <NA>       0      4   2006       WD        Normal
## 1308   <NA>  <NA>        <NA>       0      5   2009       WD        Normal
## 1309   <NA>  GdWo        <NA>       0      5   2008       WD        Normal
## 1310   <NA>  GdWo        <NA>       0      6   2008       WD        Normal
## 1312   <NA>  <NA>        <NA>       0      1   2007      New       Partial
## 1320   <NA>  <NA>        <NA>       0      2   2007       WD        Normal
## 1322   <NA>  <NA>        <NA>       0      7   2008       WD        Normal
## 1324   <NA>  <NA>        <NA>       0     12   2009       WD        Normal
## 1326   <NA> MnPrv        <NA>       0      1   2008       WD        Normal
## 1327   <NA>  <NA>        <NA>       0      5   2007       WD        Normal
## 1332   <NA>  <NA>        <NA>       0      7   2006       WD        Normal
## 1334   <NA> MnPrv        <NA>       0      7   2006       WD        Normal
## 1335   <NA>  <NA>        <NA>       0      5   2009       WD        Normal
## 1337   <NA>  <NA>        <NA>       0     11   2008       WD        Normal
## 1338   <NA>  <NA>        <NA>       0      3   2006       WD        Normal
## 1339   <NA>  <NA>        <NA>       0      6   2006       WD        Normal
## 1340   <NA>  <NA>        <NA>       0      6   2006       WD        Normal
## 1341   <NA>  GdWo        <NA>       0      6   2007       WD        Normal
## 1342   <NA>  <NA>        <NA>       0      7   2008       WD        Normal
## 1346   <NA>  <NA>        <NA>       0      7   2007       WD        Normal
## 1350   <NA>  <NA>        <NA>       0     12   2008       WD        Normal
## 1351   <NA>  <NA>        <NA>       0      8   2009       WD        Normal
## 1353   <NA>  <NA>        <NA>       0      7   2009       WD        Normal
## 1357   <NA>  GdWo        <NA>       0     10   2008       WD        Normal
## 1359   <NA>  <NA>        <NA>       0      6   2010       WD        Normal
## 1361   <NA>  <NA>        <NA>       0      5   2008       WD        Normal
## 1365   <NA>  <NA>        <NA>       0      4   2006       WD        Abnorml
## 1366   <NA>  <NA>        <NA>       0      1   2010       WD        Normal
## 1367   <NA>  <NA>        <NA>       0      6   2008       WD        Abnorml
## 1369   <NA>  <NA>        <NA>       0      6   2009       WD        Normal
## 1371   <NA>  <NA>        <NA>       0     10   2009       WD        Normal
## 1377   <NA>  <NA>        <NA>       0      4   2008       WD        Normal
## 1378   <NA>  <NA>        <NA>       0      7   2009       WD        Normal
## 1379   <NA>  <NA>        <NA>       0      6   2006       WD        Normal
```

```
## 1380   <NA>  <NA>        <NA>       0      5   2008       WD        Normal
## 1381   <NA>  <NA>        <NA>       0      6   2010       WD        Normal
## 1383   <NA>  <NA>        <NA>       0     10   2006       WD        Normal
## 1384   <NA>  <NA>        <NA>       0      8   2007       WD        Normal
## 1385   <NA> MnPrv        <NA>       0     10   2009       WD        Normal
## 1386   <NA> MnPrv        <NA>       0      5   2010       WD        Normal
## 1391   <NA>  <NA>        <NA>       0      9   2006       WD        Normal
## 1392   <NA>  <NA>        <NA>       0      4   2009       WD        Normal
## 1398   <NA>  <NA>        <NA>       0      5   2007       WD        Normal
## 1399   <NA> GdPrv        <NA>       0      5   2009       WD        Normal
## 1404   <NA>  <NA>        <NA>       0      8   2007       WD        Normal
## 1405   <NA> MnPrv        <NA>       0      1   2006       WD        Family
## 1407   <NA> MnPrv        <NA>       0      3   2009       WD        Normal
## 1408   <NA> MnPrv        <NA>       0      3   2009       WD        Normal
## 1409   <NA>  <NA>        <NA>       0      6   2010       WD        Normal
## 1411   <NA>  <NA>        <NA>       0      6   2009       WD        Normal
## 1412   <NA> MnPrv        <NA>       0      9   2009       WD        Normal
## 1413   <NA>  <NA>        <NA>       0      6   2009       WD        Normal
## 1417   <NA>  <NA>        <NA>       0      4   2010       WD        Normal
## 1419   <NA>  <NA>        <NA>       0      8   2008      COD        Normal
## 1423   <NA>  <NA>        <NA>       0      3   2008       WD        Normal
## 1426   <NA>  <NA>        <NA>       0     10   2008       WD        Normal
## 1432   <NA>  <NA>        <NA>       0     10   2009       WD        Normal
## 1433   <NA>  <NA>        <NA>       0      8   2007       WD        Normal
## 1437   <NA>  GdWo        <NA>       0      5   2007       WD        Normal
## 1439   <NA> MnPrv        <NA>       0      4   2010       WD        Normal
## 1445   <NA>  <NA>        <NA>       0     11   2007       WD        Normal
## 1446   <NA>  <NA>        <NA>       0      5   2007       WD        Normal
## 1447   <NA>  <NA>        <NA>       0      4   2010       WD        Normal
## 1449   <NA>  GdWo        <NA>       0      5   2007       WD        Normal
## 1450   <NA>  <NA>        <NA>       0      8   2006       WD       Abnorml
## 1451   <NA>  <NA>        <NA>       0      9   2009       WD        Normal
## 1453   <NA>  <NA>        <NA>       0      5   2006       WD        Normal
## 1454   <NA>  <NA>        <NA>       0      7   2006       WD       Abnorml
## 1455   <NA>  <NA>        <NA>       0     10   2009       WD        Normal
## 1459   <NA>  <NA>        <NA>       0      4   2010       WD        Normal
## 1460   <NA>  <NA>        <NA>       0      6   2008       WD        Normal
##      SalePrice
## 1       208500
## 6       143000
## 11      129500
## 13      144000
## 16      132000
## 18       90000
## 19      159000
## 20      139000
## 27      134800
## 30       68500
## 31       40000
## 32      149350
## 33      179900
## 37      145000
## 39      109000
## 40       82000
```

```
## 43       144000
## 44       130250
## 45       141000
## 48       249700
## 49       113000
## 50       127000
## 51       177000
## 53       110000
## 57       172500
## 58       196500
## 60       124900
## 61       158000
## 62       101000
## 64       140000
## 65       219500
## 68       226000
## 69        80000
## 72       129500
## 74       144900
## 75       107400
## 76        91000
## 77       135750
## 78       127000
## 79       136500
## 80       110000
## 82       153500
## 84       126500
## 88       164500
## 89        85000
## 90       123600
## 91       109900
## 92        98600
## 93       163500
## 95       204750
## 97       214000
## 98        94750
## 99        83000
## 100      128950
## 103      118964
## 104      198900
## 107      100000
## 108      115000
## 109      115000
## 111      136900
## 118      155000
## 122      100000
## 123      136000
## 124      153900
## 126       84500
## 130      150000
## 133      150750
## 134      220000
## 138      171000
## 140      231500
```

```
## 142     260000
## 143     166000
## 144     204000
## 145     125000
## 146     130000
## 147     105000
## 149     141000
## 150     115000
## 151     122000
## 155     125000
## 156      79000
## 157     109500
## 161     162500
## 164     103200
## 165     152000
## 166     127500
## 171     128500
## 180     100000
## 184     200000
## 185     127000
## 187     173000
## 188     135000
## 192     184000
## 193     192000
## 194     130000
## 195     127000
## 199     104000
## 201     140000
## 203     112000
## 205     110000
## 206     180500
## 210     145000
## 211      98000
## 212     186000
## 214     156000
## 215     161750
## 217     210000
## 218     107000
## 220     167240
## 221     204900
## 224      97000
## 226     112000
## 228     106000
## 231     148000
## 234     128200
## 236      89500
## 237     185500
## 238     194500
## 239     318000
## 241     262500
## 242     110500
## 243      79000
## 247     137000
## 249     180000
```

```
## 251      76500
## 253     173000
## 254     158000
## 255     145000
## 257     207500
## 260      97000
## 264     130000
## 265      73000
## 275     124500
## 276     205000
## 277     201000
## 278     141000
## 282     185000
## 285     179200
## 286     164700
## 288      88000
## 289     122000
## 290     153575
## 292     135900
## 296     142500
## 297     152000
## 304     149900
## 306     305900
## 308      89500
## 309      82500
## 321     342643
## 324     126175
## 326      87000
## 328     145250
## 329     214500
## 330      78000
## 331     119000
## 332     139000
## 338     214000
## 339     202500
## 340     155000
## 341     202900
## 342      82000
## 343      87500
## 345      85000
## 347     151500
## 349     154000
## 353      95000
## 354     105900
## 356     177500
## 357     173000
## 359     130000
## 362     145000
## 364     118000
## 366     147000
## 373     125000
## 374     123000
## 376      61000
## 377     148000
```

```
## 383     213500
## 384      76000
## 387      81000
## 389     191000
## 391     119000
## 393     106500
## 395     109000
## 396     129000
## 397     123000
## 399      67000
## 400     241000
## 403     108000
## 407     115000
## 408     177000
## 411      60000
## 412     145000
## 416     181134
## 419     126000
## 421     206300
## 423     113000
## 428     109008
## 429     195400
## 431      85400
## 432      79900
## 433     122500
## 435      81000
## 437     116000
## 438     119000
## 440     110000
## 442     118000
## 450     120000
## 451     110000
## 453     204000
## 454     210000
## 455     188000
## 457      98000
## 461     263435
## 462     155000
## 465     124000
## 470     187000
## 471     212000
## 473     148000
## 475     251000
## 476     132500
## 480      89471
## 484     164000
## 485     132500
## 487     156000
## 490      86000
## 493     172785
## 495      91300
## 496      34900
## 498     184000
## 499     130000
```

```
## 500     120000
## 501     113000
## 502     226700
## 503     140000
## 506     124500
## 508     208300
## 510     124500
## 513     129900
## 514     134000
## 515      96500
## 519     211000
## 521     106250
## 527     132000
## 529      86000
## 532     128000
## 534      39300
## 536     107500
## 537     188000
## 538     111250
## 544     133000
## 546     229000
## 548     129500
## 549     125000
## 551     140000
## 552     112500
## 554     108000
## 558     108000
## 566     128000
## 568     214000
## 571     142600
## 572     120000
## 573     224500
## 575     139000
## 576     118500
## 579     146000
## 580     131500
## 583     118500
## 585     133000
## 587     130000
## 588     137000
## 590      79500
## 591     185900
## 593     138000
## 594     140000
## 595     110000
## 597     114504
## 604     151000
## 607     152000
## 608     225000
## 610     118500
## 614     147000
## 615      75500
## 616     137500
## 618     105500
```

```
## 621      67000
## 623     135000
## 626     160000
## 630     168500
## 631     124000
## 634     139400
## 635     144000
## 636     200000
## 638      93000
## 639      85000
## 644     152000
## 646     143250
## 647      98300
## 650      84500
## 651     205950
## 654     135000
## 656      88000
## 657     145500
## 660     167000
## 664     137500
## 671     173500
## 672     103600
## 677      87000
## 678     109500
## 680     128500
## 682     159434
## 685     221000
## 687     227875
## 688     148800
## 694     108480
## 695     141500
## 697      89000
## 698     123500
## 700     196000
## 702     140000
## 705     213000
## 706      55000
## 710     109900
## 711      52000
## 712     102776
## 714     129000
## 715     130500
## 717     159500
## 722     143000
## 723     124500
## 724     135000
## 726     120500
## 728     194500
## 729     110000
## 730     103000
## 735     108000
## 737      93500
## 739     179000
## 740     190000
```

```
## 741     132000
## 742     142000
## 743     179000
## 750      98000
## 751      96500
## 752     162000
## 753     217000
## 755     156000
## 756     172500
## 757     212000
## 759     179400
## 761     127500
## 762     100000
## 763     215200
## 768     160000
## 771     134900
## 772     102000
## 774     114500
## 776     162000
## 777     221500
## 780     135000
## 782     175900
## 783     187100
## 787     139000
## 788     233000
## 789     107900
## 790     187500
## 794     225000
## 798     110000
## 801     200000
## 802     109900
## 805     118000
## 806     227680
## 807     135500
## 810     106000
## 813      55993
## 814     157900
## 815     116000
## 816     224900
## 819     155000
## 821     183000
## 822      93000
## 827     109500
## 829     185000
## 830     147400
## 832     151000
## 834     167000
## 835     139950
## 836     128000
## 837     153500
## 838     100000
## 839     144000
## 840     130500
## 841     140000
```

```
## 843     174900
## 844     141000
## 851     131500
## 856     127000
## 857     147000
## 862     131500
## 863     152000
## 864     132500
## 865     250580
## 866     148500
## 868     129000
## 871     109500
## 872     200500
## 873     116000
## 875      66500
## 877     132250
## 879     148000
## 880     136500
## 881     157000
## 884     118500
## 885     100000
## 887     145000
## 888     135500
## 893     154500
## 895     118858
## 897     106500
## 898     142953
## 901     110000
## 902     153000
## 905     125500
## 906     128000
## 909     131000
## 911     154300
## 912     143500
## 913      88000
## 914     145000
## 915     173733
## 916      75000
## 917      35311
## 918     135000
## 921     201000
## 922     145900
## 926     175000
## 931     201000
## 932     117500
## 934     190000
## 936      79900
## 937     184900
## 939     239799
## 941     150900
## 943     150000
## 944     143000
## 946     124900
## 951     129000
```

```
## 952     119900
## 953     133900
## 955     127500
## 956     145000
## 958     132000
## 959     185000
## 960     155000
## 961     116500
## 964     239000
## 968     135000
## 969      37900
## 970     140000
## 971     135000
## 972     173000
## 974     182000
## 975     167500
## 976     165000
## 977      85500
## 978     199900
## 979     110000
## 980     139000
## 981     178400
## 985     126000
## 986     125000
## 987     117000
## 990     197000
## 994     173900
## 996     121600
## 997     136500
## 1000    206000
## 1001     82000
## 1002     86000
## 1004    136905
## 1006    149900
## 1008     88000
## 1010    102000
## 1012    100000
## 1014     85000
## 1016    227000
## 1021    176000
## 1022    194000
## 1023     87000
## 1026    112500
## 1030    118000
## 1031    160000
## 1034    230000
## 1036     84000
## 1040     80000
## 1042    173000
## 1048    145000
## 1050     84900
## 1051    176485
## 1061    213500
## 1062     81000
```

```
## 1063     90000
## 1066    328000
## 1068    167900
## 1070    135000
## 1071    135000
## 1072    154000
## 1074    159500
## 1075    194000
## 1078    138800
## 1080    126000
## 1081    145000
## 1082    133000
## 1086    147000
## 1087     83500
## 1089    137500
## 1091     92900
## 1092    160000
## 1094    146000
## 1095    129000
## 1097    127000
## 1098    170000
## 1099    128000
## 1101     60000
## 1102    119500
## 1103    135000
## 1105    106000
## 1113    129900
## 1114    134500
## 1115    117000
## 1118    130000
## 1119    140000
## 1120    133700
## 1122    212900
## 1123    112000
## 1124    118000
## 1130    140000
## 1132     93500
## 1133    117500
## 1137    119000
## 1138     94000
## 1141    139000
## 1144     80000
## 1145     80000
## 1150    143000
## 1154    120500
## 1159    235128
## 1164    108959
## 1166    233170
## 1167    245350
## 1173    171900
## 1177    119500
## 1178    115000
## 1181    250000
## 1186    104900
```

```
## 1187     95000
## 1189    195000
## 1192    174000
## 1193    125000
## 1194    165000
## 1195    158000
## 1196    176000
## 1199    178000
## 1201    116050
## 1202    197900
## 1205    153500
## 1207    107000
## 1208    200000
## 1209    140000
## 1212    164000
## 1213    113000
## 1214    145000
## 1215    134500
## 1216    125000
## 1217    112000
## 1218    229456
## 1219     80500
## 1220     91500
## 1221    115000
## 1224    137900
## 1226    145000
## 1228    147000
## 1230    127000
## 1232    132500
## 1233    101800
## 1234    142000
## 1235    130000
## 1236    138887
## 1237    175500
## 1239    142500
## 1241    224900
## 1242    248328
## 1247    186500
## 1248    169900
## 1250    119000
## 1253    130000
## 1258     99900
## 1259    190000
## 1260    151000
## 1262    128900
## 1265    181000
## 1266    183900
## 1270    144000
## 1273    137000
## 1276    137000
## 1280     68400
## 1281    227000
## 1283    150500
## 1284    139000
```

```
## 1288    190000
## 1292    119500
## 1293    107500
## 1295    115000
## 1296    138500
## 1297    155000
## 1298    140000
## 1300    154000
## 1304    232000
## 1305    130000
## 1308    138000
## 1309    147000
## 1310    179200
## 1312    203000
## 1320    111000
## 1322     72500
## 1324     82500
## 1326     55000
## 1327     79000
## 1332    132500
## 1334    125500
## 1335    125000
## 1337    135000
## 1338     52500
## 1339    200000
## 1340    128500
## 1341    123000
## 1342    155000
## 1346    108500
## 1350    122000
## 1351    200000
## 1353    134900
## 1357    110000
## 1359    177500
## 1361    189000
## 1365    144152
## 1366    216000
## 1367    193000
## 1369    144000
## 1371    105000
## 1377     91000
## 1378    117000
## 1379     83000
## 1380    167500
## 1381     58500
## 1383    157000
## 1384    112000
## 1385    105000
## 1386    125500
## 1391    235000
## 1392    124000
## 1398    137500
## 1399    138000
## 1404    282922
```

```
## 1405    105000
## 1407    133000
## 1408    112000
## 1409    125500
## 1411    230000
## 1412    140000
## 1413     90000
## 1417    122500
## 1419    124000
## 1423    136500
## 1426    142000
## 1432    143750
## 1433     64500
## 1437    120500
## 1439    149700
## 1445    179600
## 1446    129000
## 1447    157900
## 1449    112000
## 1450     92000
## 1451    136000
## 1453    145000
## 1454     84500
## 1455    185000
## 1459    142125
## 1460    147500
```

```r
#All columns that have NA in fireplaceQu which from data description means no fireplace have quantity 0

# Replace NA with "No basement" in the fireplace quality column
train[,57][is.na(train[,57])] <- "No basement"

colSums(is.na(train[57]))
```

```
## FireplaceQu
##           0
```

```r
#For the garage datatypes NA was for no garage so we will replace NA with no garage for all columns exc

cols_3 <- c("GarageType","GarageFinish","GarageQual",   "GarageCond")

# Replace NA with "No basement" in the specified columns
train[, cols_3] <- lapply(train[, cols_3], function(col) {
  col[is.na(col)] <- "No Garage"
  return(col)
})

#For GarageYrBlt NA replace with median
# Calculate the median, ignoring NA values
median_year_built <- median(train$GarageYrBlt, na.rm = TRUE)

# Replace NA with the median year built
train$GarageYrBlt[is.na(train$GarageYrBlt)] <- round(median_year_built)
```

```
#"GarageYrBlt"

colSums(is.na(train))
```

```
##    MSSubClass      MSZoning   LotFrontage       LotArea        Street
##             0             0           259             0             0
##         Alley      LotShape   LandContour     Utilities     LotConfig
##          1369             0             0             0             0
##     LandSlope  Neighborhood    Condition1    Condition2      BldgType
##             0             0             0             0             0
##    HouseStyle   OverallQual   OverallCond     YearBuilt  YearRemodAdd
##             0             0             0             0             0
##     RoofStyle      RoofMatl   Exterior1st   Exterior2nd    MasVnrType
##             0             0             0             0             8
##    MasVnrArea     ExterQual     ExterCond    Foundation      BsmtQual
##             8             0             0             0             0
##      BsmtCond  BsmtExposure  BsmtFinType1    BsmtFinSF1  BsmtFinType2
##             0             0             0             0             0
##    BsmtFinSF2     BsmtUnfSF   TotalBsmtSF       Heating     HeatingQC
##             0             0             0             0             0
##    CentralAir    Electrical     X1stFlrSF     X2ndFlrSF  LowQualFinSF
##             0             1             0             0             0
##     GrLivArea  BsmtFullBath  BsmtHalfBath      FullBath      HalfBath
##             0             0             0             0             0
##  BedroomAbvGr  KitchenAbvGr   KitchenQual  TotRmsAbvGrd    Functional
##             0             0             0             0             0
##    Fireplaces   FireplaceQu    GarageType   GarageYrBlt  GarageFinish
##             0             0             0             0             0
##    GarageCars    GarageArea    GarageQual    GarageCond    PavedDrive
##             0             0             0             0             0
##    WoodDeckSF   OpenPorchSF EnclosedPorch    X3SsnPorch   ScreenPorch
##             0             0             0             0             0
##      PoolArea        PoolQC         Fence   MiscFeature       MiscVal
##             0          1453          1179          1406             0
##        MoSold        YrSold      SaleType SaleCondition     SalePrice
##             0             0             0             0             0
```

```
# Replace NA in LotFrontage, Alley,PoolQC,Fence and MiscFeature

#LotFrontage
# Replace with mean
mean_lot <- round(mean(train$LotFrontage, na.rm = TRUE))
train$LotFrontage[is.na(train$LotFrontage)] <- mean_lot

#Alley
train[,6][is.na(train[,6])] <- "No alley access"

#PoolQC
train[,72][is.na(train[,72])] <- "No Pool"

#Fence
train[,73][is.na(train[,73])] <- "No Fence"
```

```r
#MiscFeature
train[,74][is.na(train[,74])] <- "None"

colSums(is.na(train))
```

```
##    MSSubClass      MSZoning   LotFrontage       LotArea        Street
##             0             0             0             0             0
##         Alley      LotShape   LandContour     Utilities     LotConfig
##             0             0             0             0             0
##     LandSlope  Neighborhood    Condition1    Condition2      BldgType
##             0             0             0             0             0
##    HouseStyle   OverallQual   OverallCond     YearBuilt  YearRemodAdd
##             0             0             0             0             0
##     RoofStyle      RoofMatl   Exterior1st   Exterior2nd    MasVnrType
##             0             0             0             0             8
##    MasVnrArea     ExterQual     ExterCond    Foundation      BsmtQual
##             8             0             0             0             0
##      BsmtCond  BsmtExposure  BsmtFinType1    BsmtFinSF1  BsmtFinType2
##             0             0             0             0             0
##    BsmtFinSF2     BsmtUnfSF   TotalBsmtSF       Heating     HeatingQC
##             0             0             0             0             0
##    CentralAir    Electrical     X1stFlrSF     X2ndFlrSF  LowQualFinSF
##             0             1             0             0             0
##     GrLivArea  BsmtFullBath  BsmtHalfBath      FullBath      HalfBath
##             0             0             0             0             0
##  BedroomAbvGr  KitchenAbvGr   KitchenQual  TotRmsAbvGrd    Functional
##             0             0             0             0             0
##    Fireplaces   FireplaceQu    GarageType   GarageYrBlt  GarageFinish
##             0             0             0             0             0
##    GarageCars    GarageArea    GarageQual    GarageCond    PavedDrive
##             0             0             0             0             0
##    WoodDeckSF   OpenPorchSF EnclosedPorch    X3SsnPorch   ScreenPorch
##             0             0             0             0             0
##      PoolArea        PoolQC         Fence   MiscFeature       MiscVal
##             0             0             0             0             0
##        MoSold        YrSold      SaleType SaleCondition     SalePrice
##             0             0             0             0             0
```

```r
#replace missing values of MasVnrType with None and MasVnrArea with the mean

#MasVnrType
train[,25][is.na(train[,25])] <- "None"

# Replace MasVnrArea with mean
mean_area <- round(mean(train$MasVnrArea, na.rm = TRUE))
train$MasVnrArea[is.na(train$MasVnrArea)] <- mean_area

#drop remaining missing value in te electrical column
train <- na.omit(train)
```

```r
sum(is.na(train))
```

```
## [1] 0
```

There are no missing values.

```
dim(train)
```

```
## [1] 1459   80
```

- Check Data type

```
#check for data types

str(train)
```

```
## 'data.frame':    1459 obs. of  80 variables:
##  $ MSSubClass   : int  60 20 60 70 60 50 20 60 50 190 ...
##  $ MSZoning     : chr  "RL" "RL" "RL" "RL" ...
##  $ LotFrontage  : num  65 80 68 60 84 85 75 70 51 50 ...
##  $ LotArea      : int  8450 9600 11250 9550 14260 14115 10084 10382 6120 7420 ...
##  $ Street       : chr  "Pave" "Pave" "Pave" "Pave" ...
##  $ Alley        : chr  "No alley access" "No alley access" "No alley access" "No alley access" ...
##  $ LotShape     : chr  "Reg" "Reg" "IR1" "IR1" ...
##  $ LandContour  : chr  "Lvl" "Lvl" "Lvl" "Lvl" ...
##  $ Utilities    : chr  "AllPub" "AllPub" "AllPub" "AllPub" ...
##  $ LotConfig    : chr  "Inside" "FR2" "Inside" "Corner" ...
##  $ LandSlope    : chr  "Gtl" "Gtl" "Gtl" "Gtl" ...
##  $ Neighborhood : chr  "CollgCr" "Veenker" "CollgCr" "Crawfor" ...
##  $ Condition1   : chr  "Norm" "Feedr" "Norm" "Norm" ...
##  $ Condition2   : chr  "Norm" "Norm" "Norm" "Norm" ...
##  $ BldgType     : chr  "1Fam" "1Fam" "1Fam" "1Fam" ...
##  $ HouseStyle   : chr  "2Story" "1Story" "2Story" "2Story" ...
##  $ OverallQual  : int  7 6 7 7 8 5 8 7 7 5 ...
##  $ OverallCond  : int  5 8 5 5 5 5 5 6 5 6 ...
##  $ YearBuilt    : int  2003 1976 2001 1915 2000 1993 2004 1973 1931 1939 ...
##  $ YearRemodAdd : int  2003 1976 2002 1970 2000 1995 2005 1973 1950 1950 ...
##  $ RoofStyle    : chr  "Gable" "Gable" "Gable" "Gable" ...
##  $ RoofMatl     : chr  "CompShg" "CompShg" "CompShg" "CompShg" ...
##  $ Exterior1st  : chr  "VinylSd" "MetalSd" "VinylSd" "Wd Sdng" ...
##  $ Exterior2nd  : chr  "VinylSd" "MetalSd" "VinylSd" "Wd Shng" ...
##  $ MasVnrType   : chr  "BrkFace" "None" "BrkFace" "None" ...
##  $ MasVnrArea   : num  196 0 162 0 350 0 186 240 0 0 ...
##  $ ExterQual    : chr  "Gd" "TA" "Gd" "TA" ...
##  $ ExterCond    : chr  "TA" "TA" "TA" "TA" ...
##  $ Foundation   : chr  "PConc" "CBlock" "PConc" "BrkTil" ...
##  $ BsmtQual     : chr  "Gd" "Gd" "Gd" "TA" ...
##  $ BsmtCond     : chr  "TA" "TA" "TA" "Gd" ...
##  $ BsmtExposure : chr  "No" "Gd" "Mn" "No" ...
##  $ BsmtFinType1 : chr  "GLQ" "ALQ" "GLQ" "ALQ" ...
##  $ BsmtFinSF1   : int  706 978 486 216 655 732 1369 859 0 851 ...
##  $ BsmtFinType2 : chr  "Unf" "Unf" "Unf" "Unf" ...
##  $ BsmtFinSF2   : int  0 0 0 0 0 0 0 32 0 0 ...
##  $ BsmtUnfSF    : int  150 284 434 540 490 64 317 216 952 140 ...
##  $ TotalBsmtSF  : int  856 1262 920 756 1145 796 1686 1107 952 991 ...
##  $ Heating      : chr  "GasA" "GasA" "GasA" "GasA" ...
##  $ HeatingQC    : chr  "Ex" "Ex" "Ex" "Gd" ...
```

```
##  $ CentralAir   : chr  "Y" "Y" "Y" "Y" ...
##  $ Electrical   : chr  "SBrkr" "SBrkr" "SBrkr" "SBrkr" ...
##  $ X1stFlrSF    : int  856 1262 920 961 1145 796 1694 1107 1022 1077 ...
##  $ X2ndFlrSF    : int  854 0 866 756 1053 566 0 983 752 0 ...
##  $ LowQualFinSF : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ GrLivArea    : int  1710 1262 1786 1717 2198 1362 1694 2090 1774 1077 ...
##  $ BsmtFullBath : int  1 0 1 1 1 1 1 1 0 1 ...
##  $ BsmtHalfBath : int  0 1 0 0 0 0 0 0 0 0 ...
##  $ FullBath     : int  2 2 2 1 2 1 2 2 2 1 ...
##  $ HalfBath     : int  1 0 1 0 1 1 0 1 0 0 ...
##  $ BedroomAbvGr : int  3 3 3 3 4 1 3 3 2 2 ...
##  $ KitchenAbvGr : int  1 1 1 1 1 1 1 1 2 2 ...
##  $ KitchenQual  : chr  "Gd" "TA" "Gd" "Gd" ...
##  $ TotRmsAbvGrd : int  8 6 6 7 9 5 7 7 8 5 ...
##  $ Functional   : chr  "Typ" "Typ" "Typ" "Typ" ...
##  $ Fireplaces   : int  0 1 1 1 1 0 1 2 2 2 ...
##  $ FireplaceQu  : chr  "No basement" "TA" "TA" "Gd" ...
##  $ GarageType   : chr  "Attchd" "Attchd" "Attchd" "Detchd" ...
##  $ GarageYrBlt  : num  2003 1976 2001 1998 2000 ...
##  $ GarageFinish : chr  "RFn" "RFn" "RFn" "Unf" ...
##  $ GarageCars   : int  2 2 2 3 3 2 2 2 2 1 ...
##  $ GarageArea   : int  548 460 608 642 836 480 636 484 468 205 ...
##  $ GarageQual   : chr  "TA" "TA" "TA" "TA" ...
##  $ GarageCond   : chr  "TA" "TA" "TA" "TA" ...
##  $ PavedDrive   : chr  "Y" "Y" "Y" "Y" ...
##  $ WoodDeckSF   : int  0 298 0 0 192 40 255 235 90 0 ...
##  $ OpenPorchSF  : int  61 0 42 35 84 30 57 204 0 4 ...
##  $ EnclosedPorch: int  0 0 0 272 0 0 0 228 205 0 ...
##  $ X3SsnPorch   : int  0 0 0 0 0 320 0 0 0 0 ...
##  $ ScreenPorch  : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ PoolArea     : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ PoolQC       : chr  "No Pool" "No Pool" "No Pool" "No Pool" ...
##  $ Fence        : chr  "No Fence" "No Fence" "No Fence" "No Fence" ...
##  $ MiscFeature  : chr  "None" "None" "None" "None" ...
##  $ MiscVal      : int  0 0 0 0 0 700 0 350 0 0 ...
##  $ MoSold       : int  2 5 9 2 12 10 8 11 4 1 ...
##  $ YrSold       : int  2008 2007 2008 2006 2008 2009 2007 2009 2008 2008 ...
##  $ SaleType     : chr  "WD" "WD" "WD" "WD" ...
##  $ SaleCondition: chr  "Normal" "Normal" "Normal" "Abnorml" ...
##  $ SalePrice    : int  208500 181500 223500 140000 250000 143000 307000 200000 129900 118000 ...
##  - attr(*, "na.action")= 'omit' Named int 1380
##   ..- attr(*, "names")= chr "1380"
```

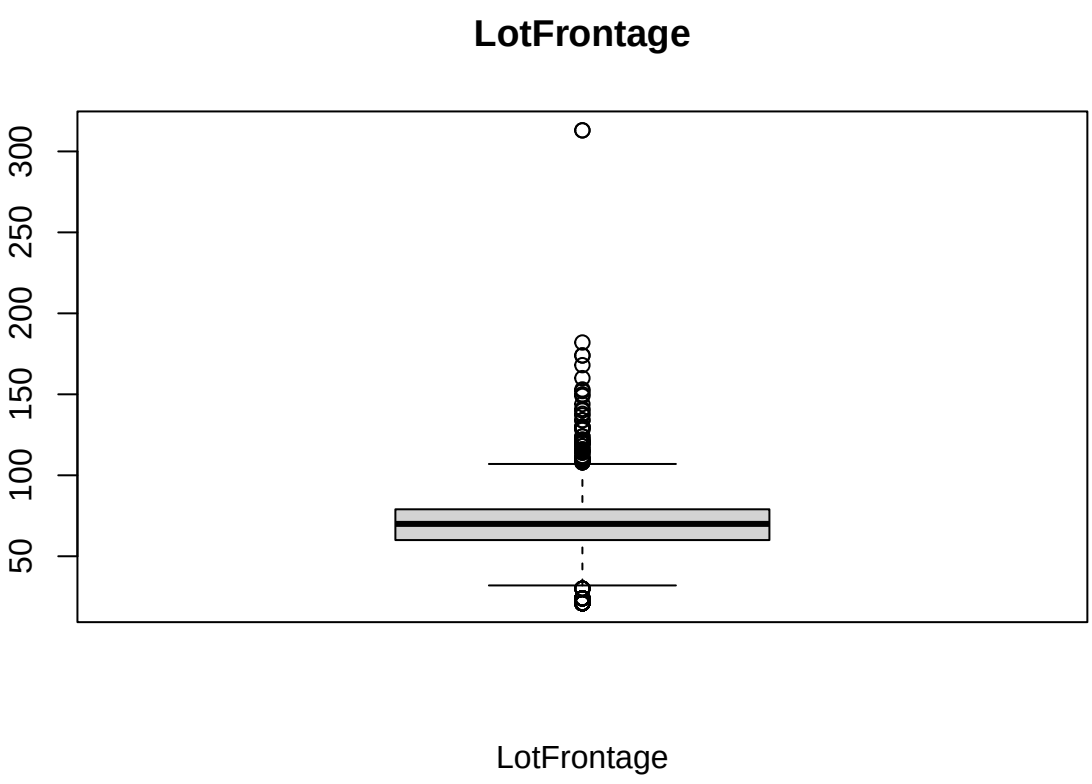
```r
# Extract columns with character datatype
col1 <- train[, sapply(train, is.character)]

col <- colnames(col1)

factor_columns <- c('MSSubClass','OverallQual','OverallCond',col)

# Convert specified columns from factor
train[factor_columns] <- lapply(train[factor_columns], as.factor)

str(train)
```

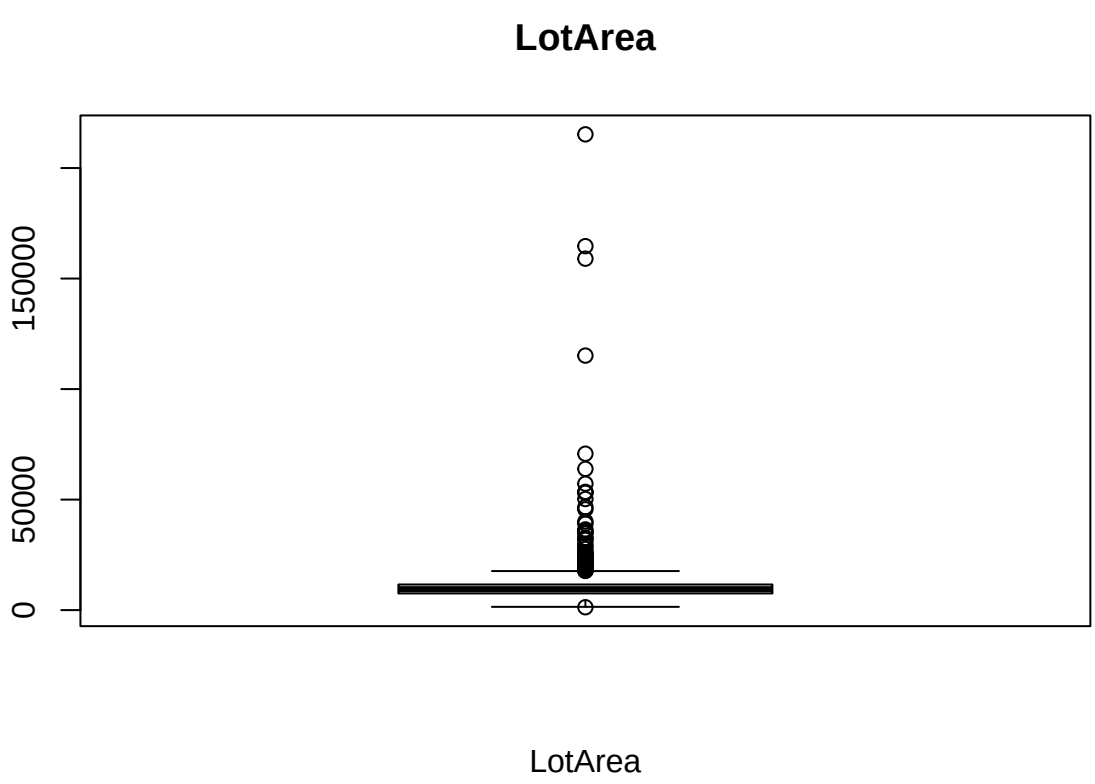
```
## 'data.frame':    1459 obs. of  80 variables:
##  $ MSSubClass   : Factor w/ 15 levels "20","30","40",..: 6 1 6 7 6 5 1 6 5 15 ...
##  $ MSZoning     : Factor w/ 5 levels "C (all)","FV",..: 4 4 4 4 4 4 4 4 5 4 ...
##  $ LotFrontage  : num  65 80 68 60 84 85 75 70 51 50 ...
##  $ LotArea      : int  8450 9600 11250 9550 14260 14115 10084 10382 6120 7420 ...
##  $ Street       : Factor w/ 2 levels "Grvl","Pave": 2 2 2 2 2 2 2 2 2 2 ...
##  $ Alley        : Factor w/ 3 levels "Grvl","No alley access",..: 2 2 2 2 2 2 2 2 2 2 ...
##  $ LotShape     : Factor w/ 4 levels "IR1","IR2","IR3",..: 4 4 1 1 1 1 4 1 4 4 ...
##  $ LandContour  : Factor w/ 4 levels "Bnk","HLS","Low",..: 4 4 4 4 4 4 4 4 4 4 ...
##  $ Utilities    : Factor w/ 2 levels "AllPub","NoSeWa": 1 1 1 1 1 1 1 1 1 1 ...
##  $ LotConfig    : Factor w/ 5 levels "Corner","CulDSac",..: 5 3 5 1 3 5 5 1 5 1 ...
##  $ LandSlope    : Factor w/ 3 levels "Gtl","Mod","Sev": 1 1 1 1 1 1 1 1 1 1 ...
##  $ Neighborhood : Factor w/ 25 levels "Blmngtn","Blueste",..: 6 25 6 7 14 12 21 17 18 4 ...
##  $ Condition1   : Factor w/ 9 levels "Artery","Feedr",..: 3 2 3 3 3 3 3 5 1 1 ...
##  $ Condition2   : Factor w/ 8 levels "Artery","Feedr",..: 3 3 3 3 3 3 3 3 3 1 ...
##  $ BldgType     : Factor w/ 5 levels "1Fam","2fmCon",..: 1 1 1 1 1 1 1 1 1 2 ...
##  $ HouseStyle   : Factor w/ 8 levels "1.5Fin","1.5Unf",..: 6 3 6 6 6 1 3 6 1 2 ...
##  $ OverallQual  : Factor w/ 10 levels "1","2","3","4",..: 7 6 7 7 8 5 8 7 7 5 ...
##  $ OverallCond  : Factor w/ 9 levels "1","2","3","4",..: 5 8 5 5 5 5 5 6 5 6 ...
##  $ YearBuilt    : int  2003 1976 2001 1915 2000 1993 2004 1973 1931 1939 ...
##  $ YearRemodAdd : int  2003 1976 2002 1970 2000 1995 2005 1973 1950 1950 ...
##  $ RoofStyle    : Factor w/ 6 levels "Flat","Gable",..: 2 2 2 2 2 2 2 2 2 2 ...
##  $ RoofMatl     : Factor w/ 8 levels "ClyTile","CompShg",..: 2 2 2 2 2 2 2 2 2 2 ...
##  $ Exterior1st  : Factor w/ 15 levels "AsbShng","AsphShn",..: 13 9 13 14 13 13 13 7 4 9 ...
##  $ Exterior2nd  : Factor w/ 16 levels "AsbShng","AsphShn",..: 14 9 14 16 14 14 14 7 16 9 ...
##  $ MasVnrType   : Factor w/ 4 levels "BrkCmn","BrkFace",..: 2 3 2 3 2 3 4 4 3 3 ...
##  $ MasVnrArea   : num  196 0 162 0 350 0 186 240 0 0 ...
##  $ ExterQual    : Factor w/ 4 levels "Ex","Fa","Gd",..: 3 4 3 4 3 4 3 4 4 4 ...
##  $ ExterCond    : Factor w/ 5 levels "Ex","Fa","Gd",..: 5 5 5 5 5 5 5 5 5 5 ...
##  $ Foundation   : Factor w/ 6 levels "BrkTil","CBlock",..: 3 2 3 1 3 6 3 2 1 1 ...
##  $ BsmtQual     : Factor w/ 5 levels "Ex","Fa","Gd",..: 3 3 3 5 3 3 1 3 5 5 ...
##  $ BsmtCond     : Factor w/ 5 levels "Fa","Gd","No basement",..: 5 5 5 2 5 5 5 5 5 5 ...
##  $ BsmtExposure : Factor w/ 5 levels "Av","Gd","Mn",..: 4 2 3 4 1 4 1 3 4 4 ...
##  $ BsmtFinType1 : Factor w/ 7 levels "ALQ","BLQ","GLQ",..: 3 1 3 1 3 3 3 1 7 3 ...
##  $ BsmtFinSF1   : int  706 978 486 216 655 732 1369 859 0 851 ...
##  $ BsmtFinType2 : Factor w/ 7 levels "ALQ","BLQ","GLQ",..: 7 7 7 7 7 7 7 2 7 7 ...
##  $ BsmtFinSF2   : int  0 0 0 0 0 0 0 32 0 0 ...
##  $ BsmtUnfSF    : int  150 284 434 540 490 64 317 216 952 140 ...
##  $ TotalBsmtSF  : int  856 1262 920 756 1145 796 1686 1107 952 991 ...
##  $ Heating      : Factor w/ 6 levels "Floor","GasA",..: 2 2 2 2 2 2 2 2 2 2 ...
##  $ HeatingQC    : Factor w/ 5 levels "Ex","Fa","Gd",..: 1 1 1 3 1 1 1 1 3 1 ...
##  $ CentralAir   : Factor w/ 2 levels "N","Y": 2 2 2 2 2 2 2 2 2 2 ...
##  $ Electrical   : Factor w/ 5 levels "FuseA","FuseF",..: 5 5 5 5 5 5 5 5 2 5 ...
##  $ X1stFlrSF    : int  856 1262 920 961 1145 796 1694 1107 1022 1077 ...
##  $ X2ndFlrSF    : int  854 0 866 756 1053 566 0 983 752 0 ...
##  $ LowQualFinSF : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ GrLivArea    : int  1710 1262 1786 1717 2198 1362 1694 2090 1774 1077 ...
##  $ BsmtFullBath : int  1 0 1 1 1 1 1 1 0 1 ...
##  $ BsmtHalfBath : int  0 1 0 0 0 0 0 0 0 0 ...
##  $ FullBath     : int  2 2 2 1 2 1 2 2 2 1 ...
##  $ HalfBath     : int  1 0 1 0 1 1 0 1 0 0 ...
##  $ BedroomAbvGr : int  3 3 3 3 4 1 3 3 2 2 ...
##  $ KitchenAbvGr : int  1 1 1 1 1 1 1 1 2 2 ...
##  $ KitchenQual  : Factor w/ 4 levels "Ex","Fa","Gd",..: 3 4 3 3 3 4 3 4 4 4 ...
```

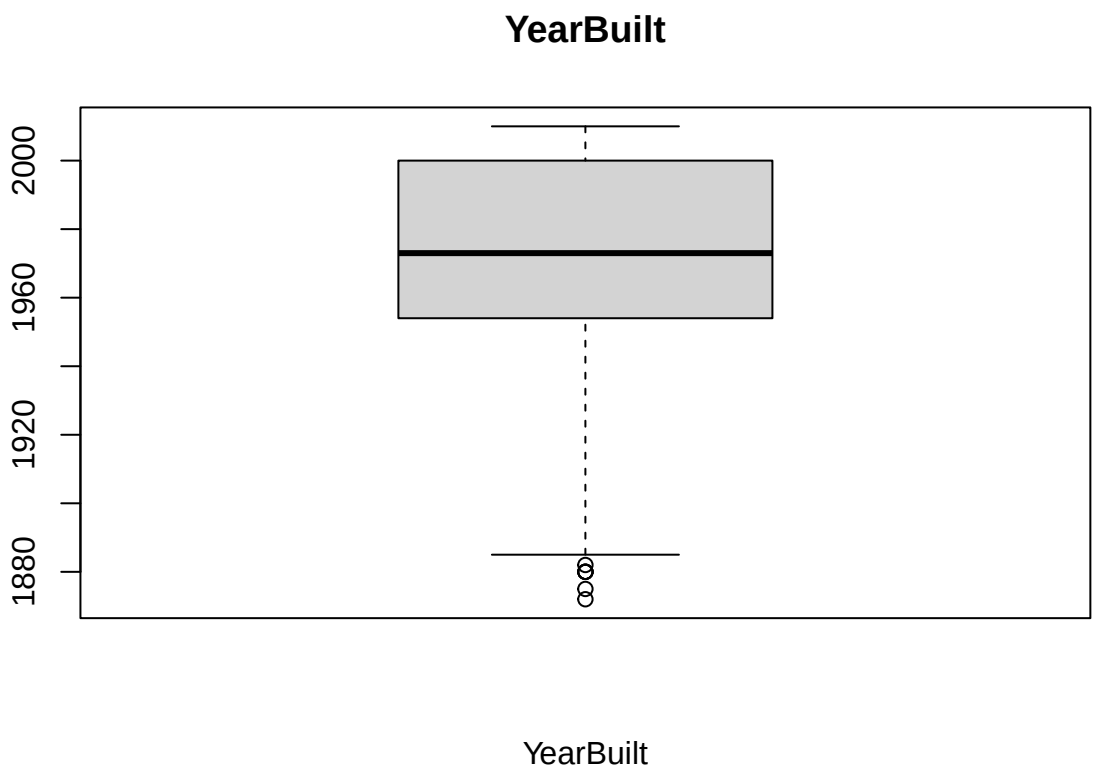
```
##  $ TotRmsAbvGrd : int  8 6 6 7 9 5 7 7 8 5 ...
##  $ Functional   : Factor w/ 7 levels "Maj1","Maj2",..: 7 7 7 7 7 7 7 7 3 7 ...
##  $ Fireplaces   : int  0 1 1 1 1 0 1 2 2 2 ...
##  $ FireplaceQu  : Factor w/ 6 levels "Ex","Fa","Gd",..: 4 6 6 3 6 4 3 6 6 6 ...
##  $ GarageType   : Factor w/ 7 levels "2Types","Attchd",..: 2 2 2 6 2 2 2 2 6 2 ...
##  $ GarageYrBlt  : num  2003 1976 2001 1998 2000 ...
##  $ GarageFinish : Factor w/ 4 levels "Fin","No Garage",..: 3 3 3 4 3 4 3 3 4 3 ...
##  $ GarageCars   : int  2 2 2 3 3 2 2 2 2 1 ...
##  $ GarageArea   : int  548 460 608 642 836 480 636 484 468 205 ...
##  $ GarageQual   : Factor w/ 6 levels "Ex","Fa","Gd",..: 6 6 6 6 6 6 6 6 2 3 ...
##  $ GarageCond   : Factor w/ 6 levels "Ex","Fa","Gd",..: 6 6 6 6 6 6 6 6 6 6 ...
##  $ PavedDrive   : Factor w/ 3 levels "N","P","Y": 3 3 3 3 3 3 3 3 3 3 ...
##  $ WoodDeckSF   : int  0 298 0 0 192 40 255 235 90 0 ...
##  $ OpenPorchSF  : int  61 0 42 35 84 30 57 204 0 4 ...
##  $ EnclosedPorch: int  0 0 0 272 0 0 0 228 205 0 ...
##  $ X3SsnPorch   : int  0 0 0 0 0 320 0 0 0 0 ...
##  $ ScreenPorch  : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ PoolArea     : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ PoolQC       : Factor w/ 4 levels "Ex","Fa","Gd",..: 4 4 4 4 4 4 4 4 4 4 ...
##  $ Fence        : Factor w/ 5 levels "GdPrv","GdWo",..: 5 5 5 5 5 3 5 5 5 5 ...
##  $ MiscFeature  : Factor w/ 5 levels "Gar2","None",..: 2 2 2 2 2 4 2 4 2 2 ...
##  $ MiscVal      : int  0 0 0 0 0 700 0 350 0 0 ...
##  $ MoSold       : int  2 5 9 2 12 10 8 11 4 1 ...
##  $ YrSold       : int  2008 2007 2008 2006 2008 2009 2007 2009 2008 2008 ...
##  $ SaleType     : Factor w/ 9 levels "COD","Con","ConLD",..: 9 9 9 9 9 9 9 9 9 9 ...
##  $ SaleCondition: Factor w/ 6 levels "Abnorml","AdjLand",..: 5 5 5 1 5 5 5 5 1 5 ...
##  $ SalePrice    : int  208500 181500 223500 140000 250000 143000 307000 200000 129900 118000 ...
##  - attr(*, "na.action")= 'omit' Named int 1380
##   ..- attr(*, "names")= chr "1380"
```

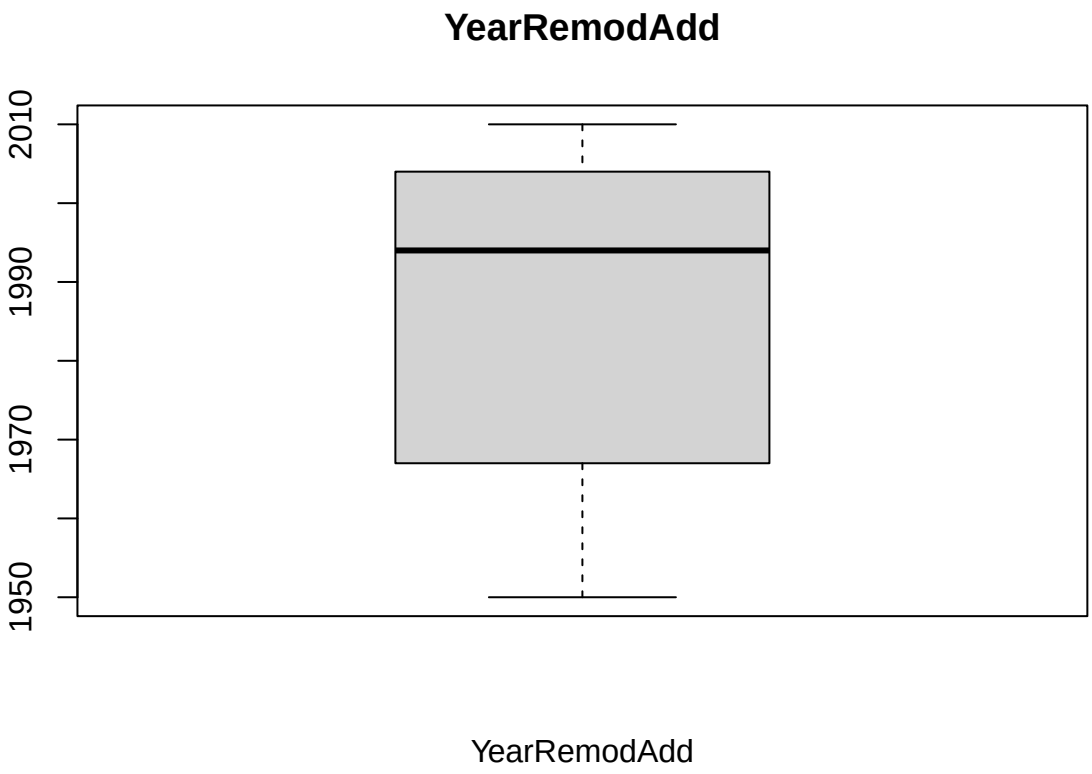
- Check outliers

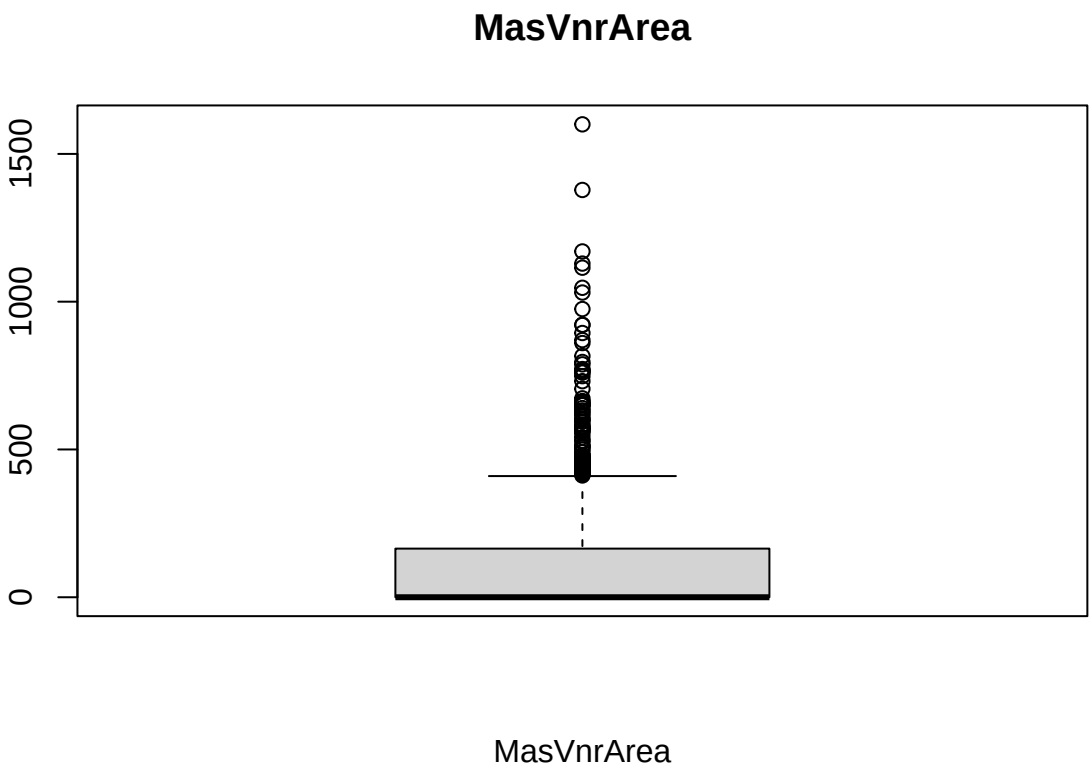
```
#Numeric values
num_cols <- train[, sapply(train, is.numeric)]
num_c <- colnames(num_cols)

# Create boxplots for each variable in the dataset
for(i in 1 : length(num_c)) {
boxplot(num_cols[[i]], main = num_c[i],
xlab = num_c[i])
}
```

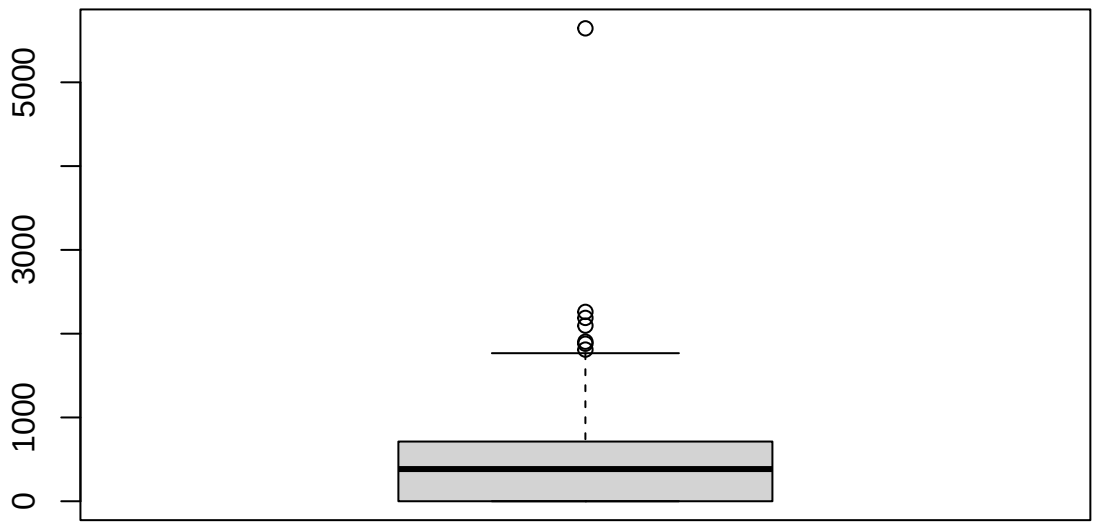

LotFrontage
300
250
200
150
100
50
LotFrontage

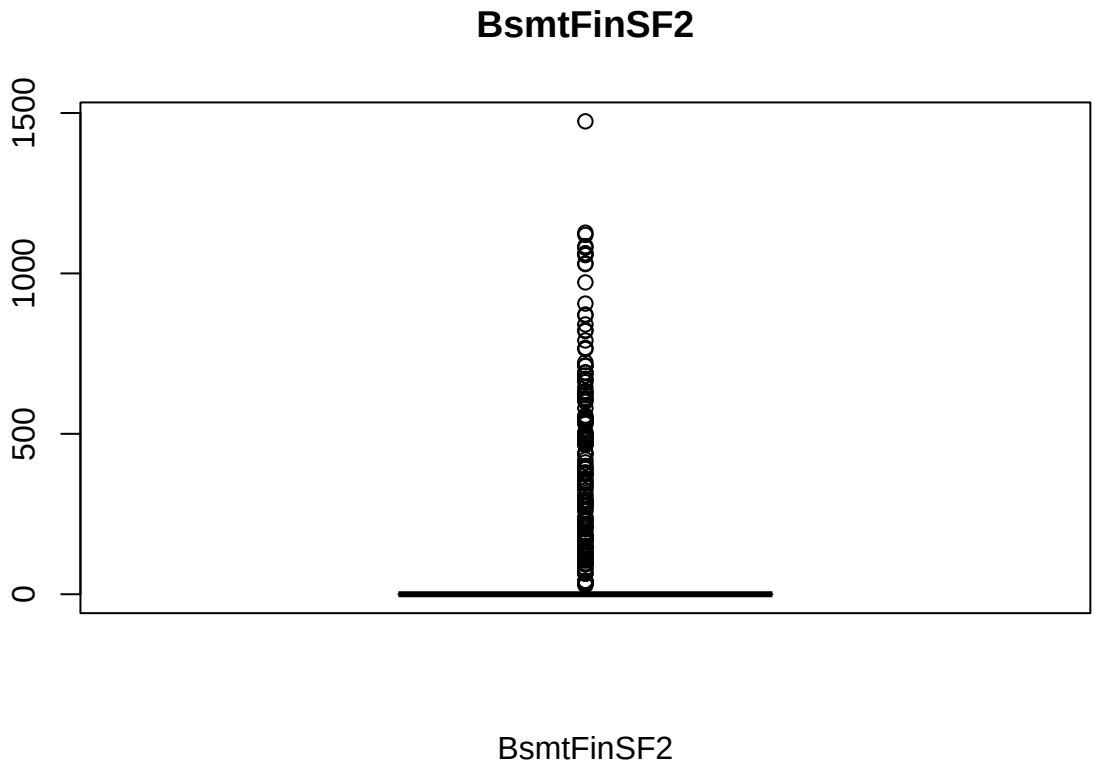

LotArea
0
50000
150000
LotArea

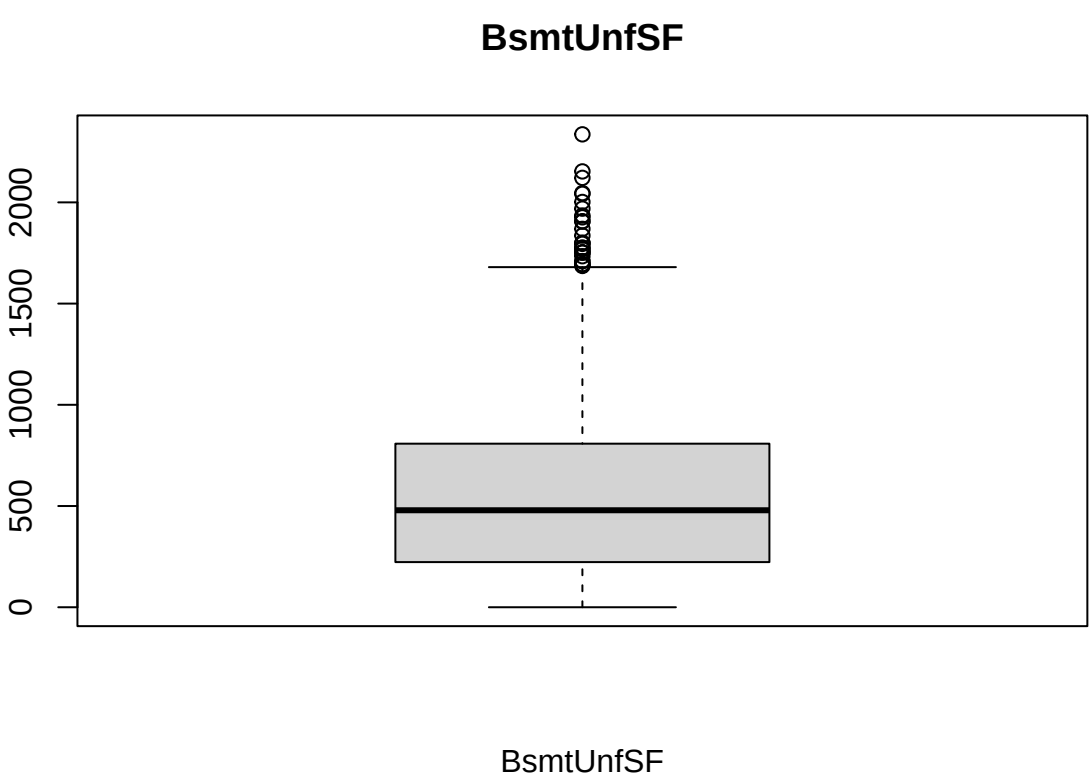

YearBuilt
2000
1960
1920
1880
YearBuilt

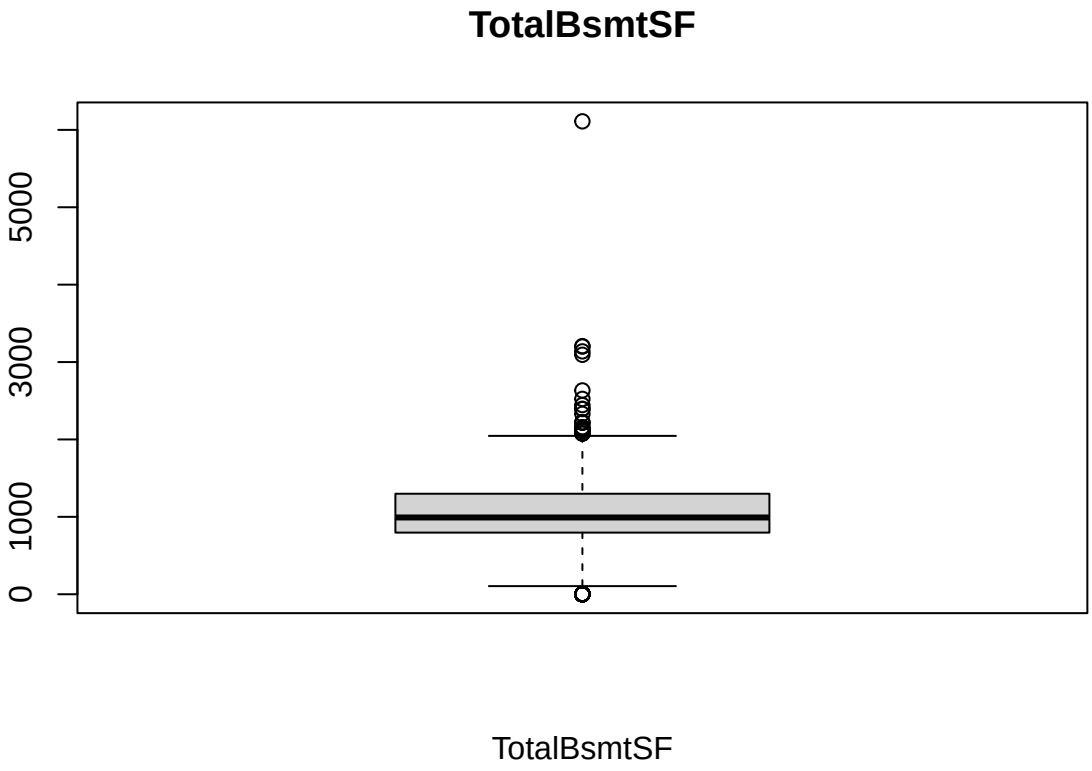

YearRemodAdd
2010
1990
1970
1950
YearRemodAdd

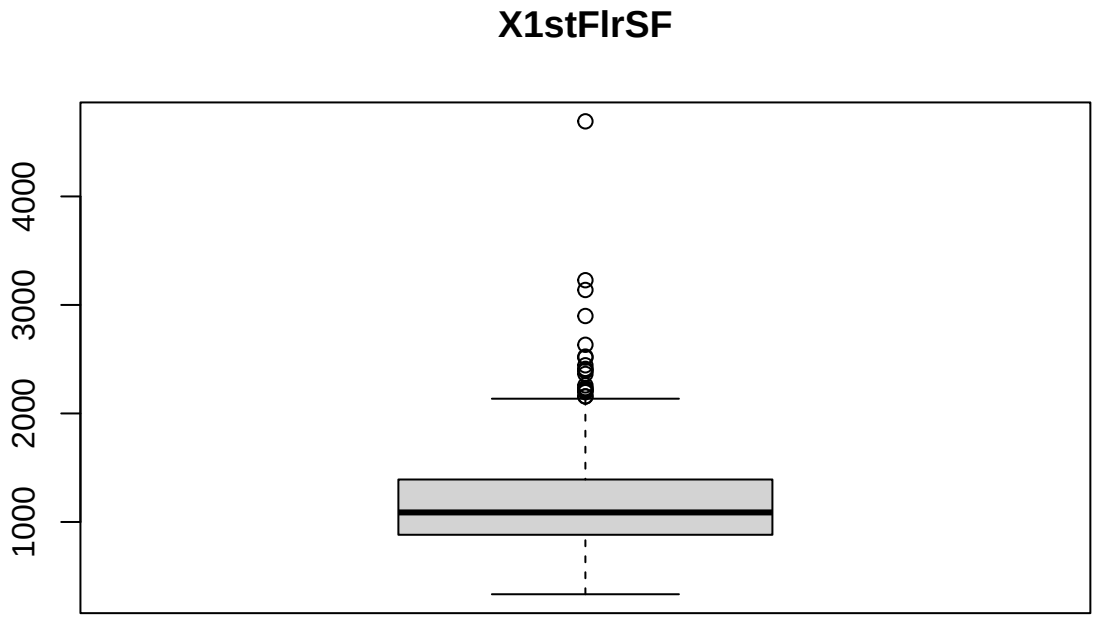

MasVnrArea
0
500
1000
1500
MasVnrArea

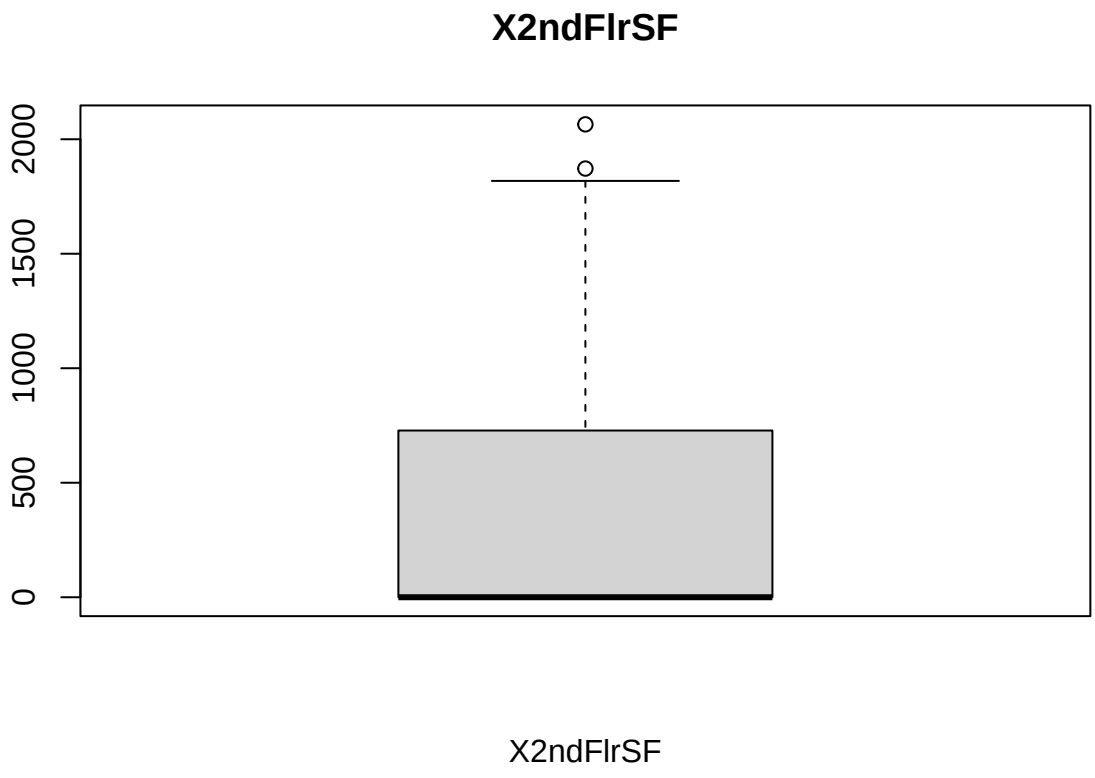

BsmtFinSF1
0
1000
3000
5000
BsmtFinSF1

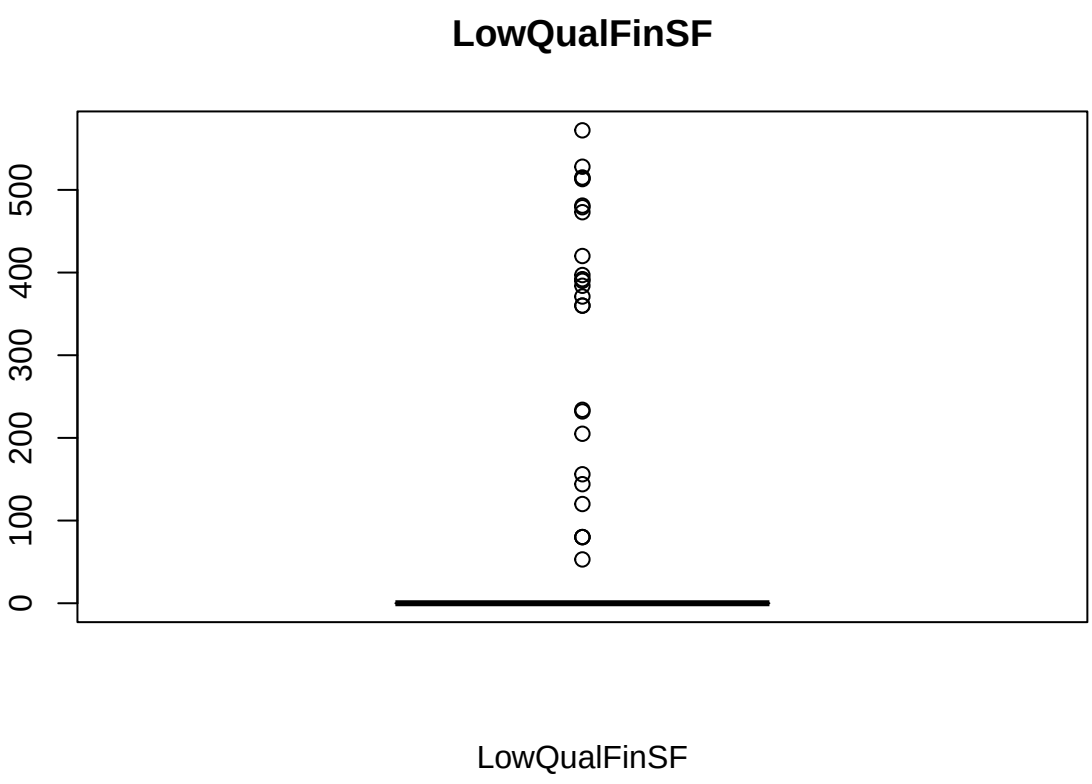

BsmtFinSF2
1500
1000
500
0
BsmtFinSF2

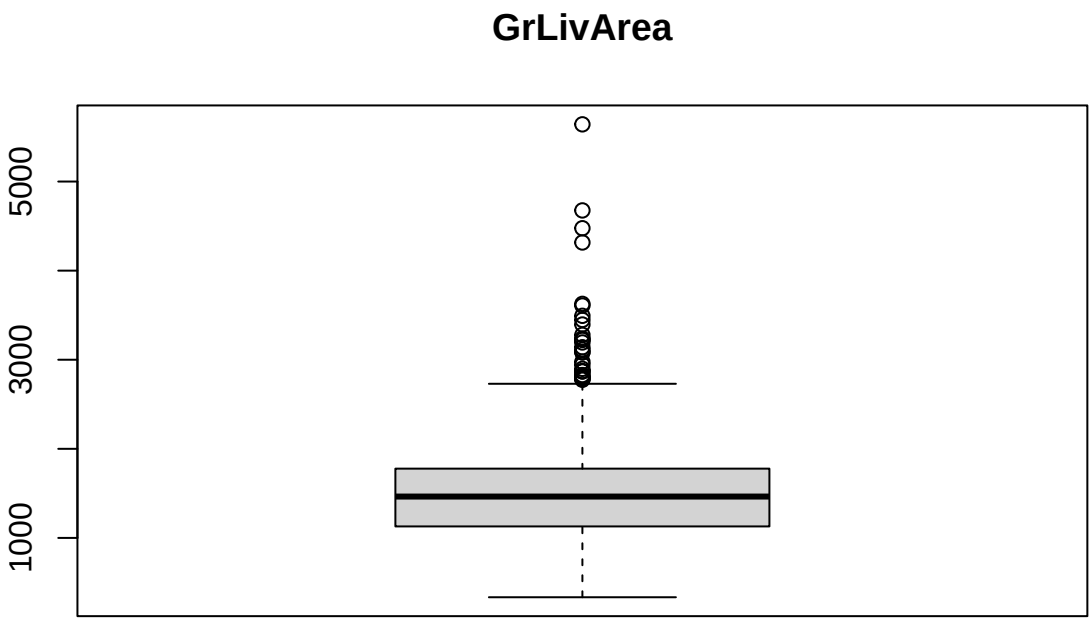

BsmtUnfSF
0
500
1000
1500
2000
BsmtUnfSF

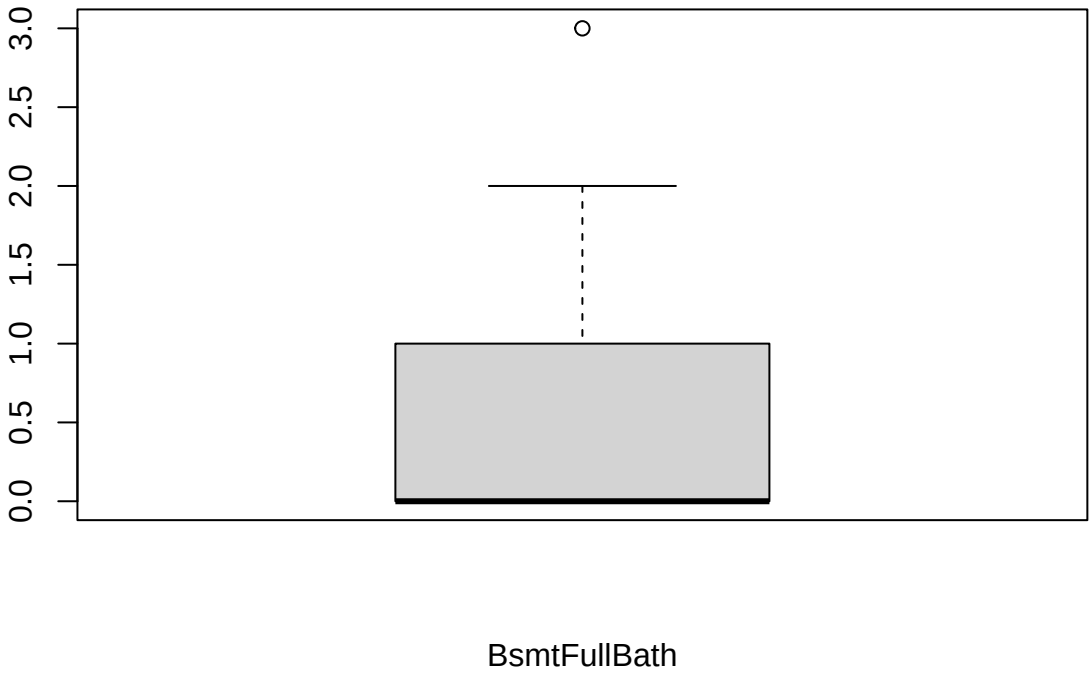

TotalBsmtSF
0
1000
3000
5000
TotalBsmtSF

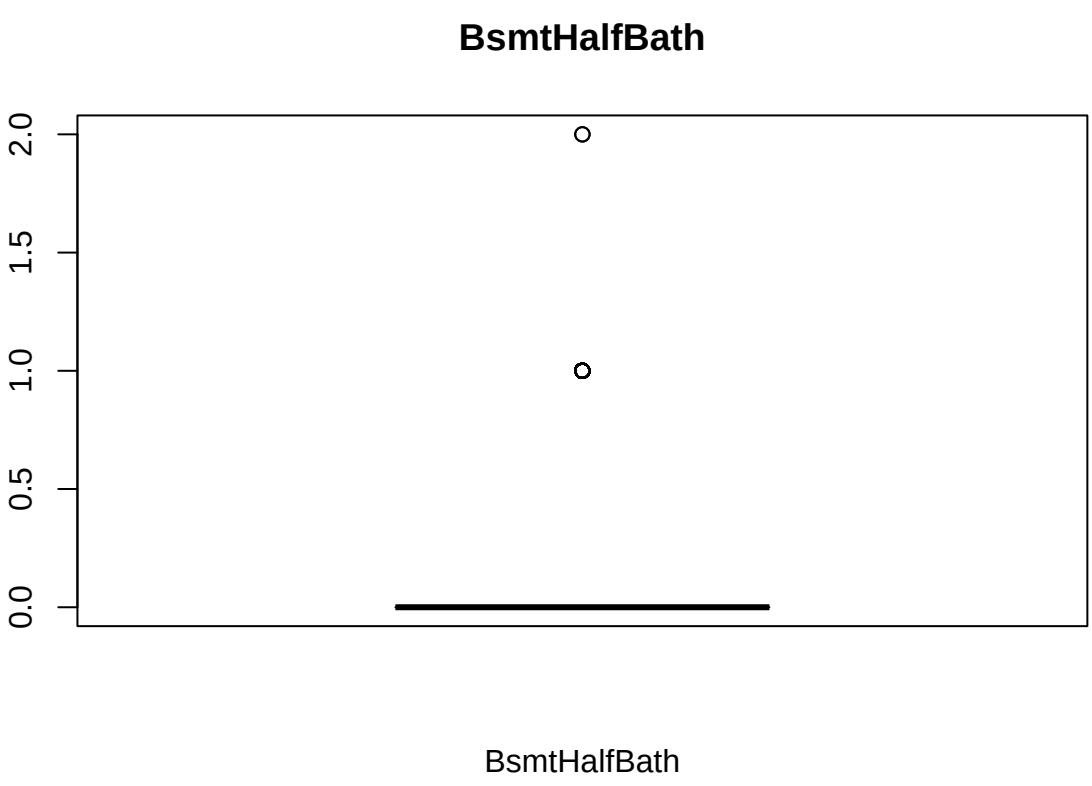

X1stFlrSF
1000
2000
3000
4000
X1stFlrSF

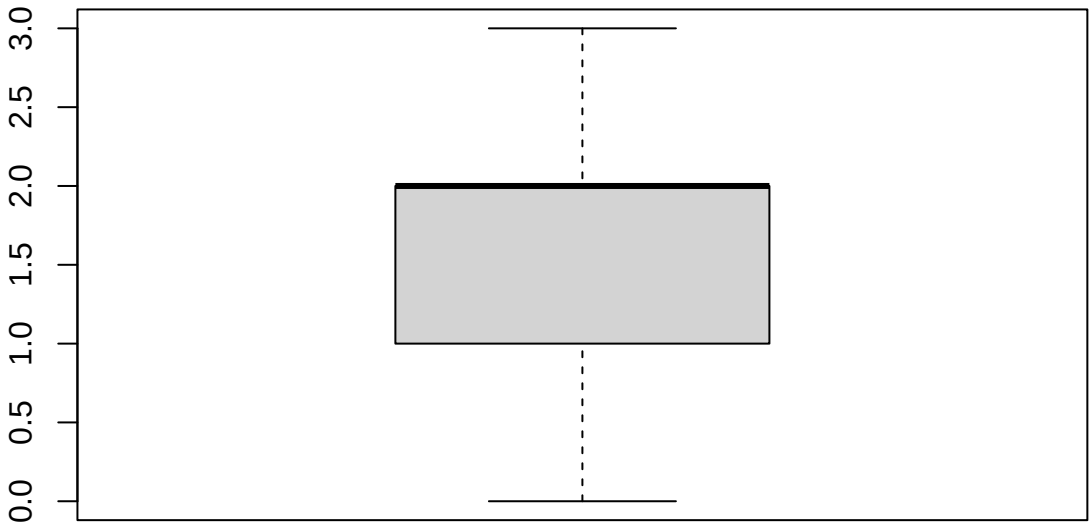

X2ndFlrSF
0
500
1000
1500
2000
X2ndFlrSF

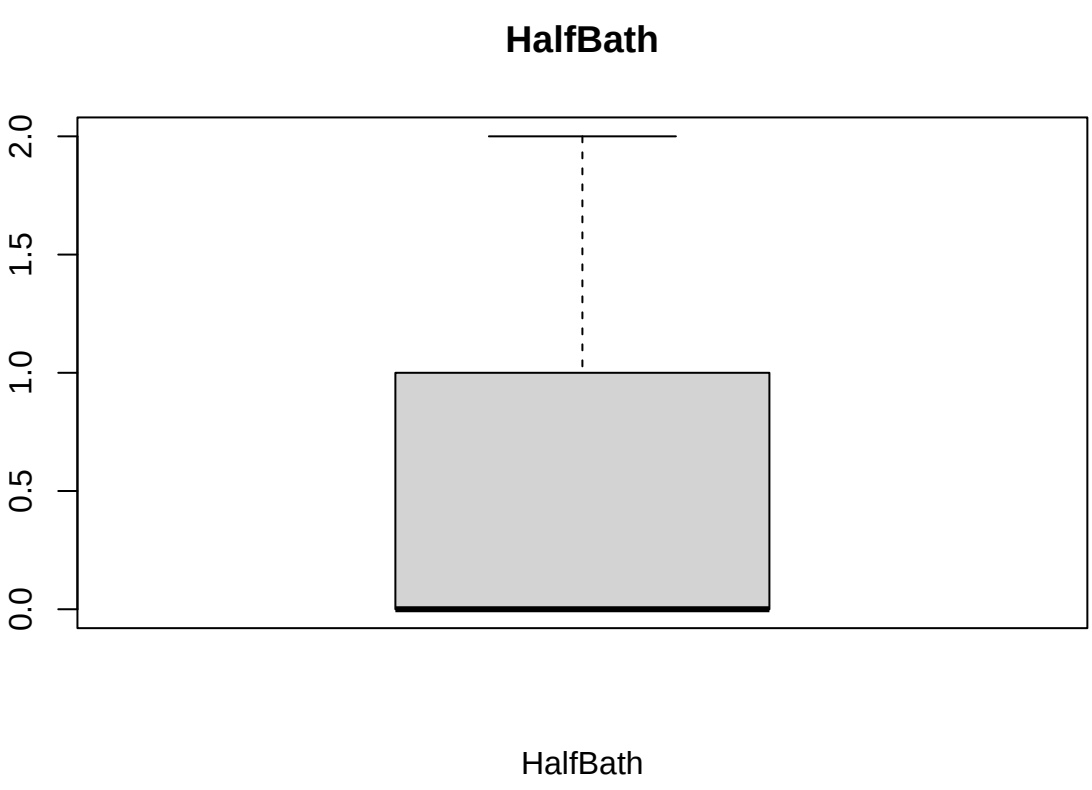

LowQualFinSF
0
100
200
300
400
500
LowQualFinSF


GrLivArea
5000
3000
1000
GrLivArea

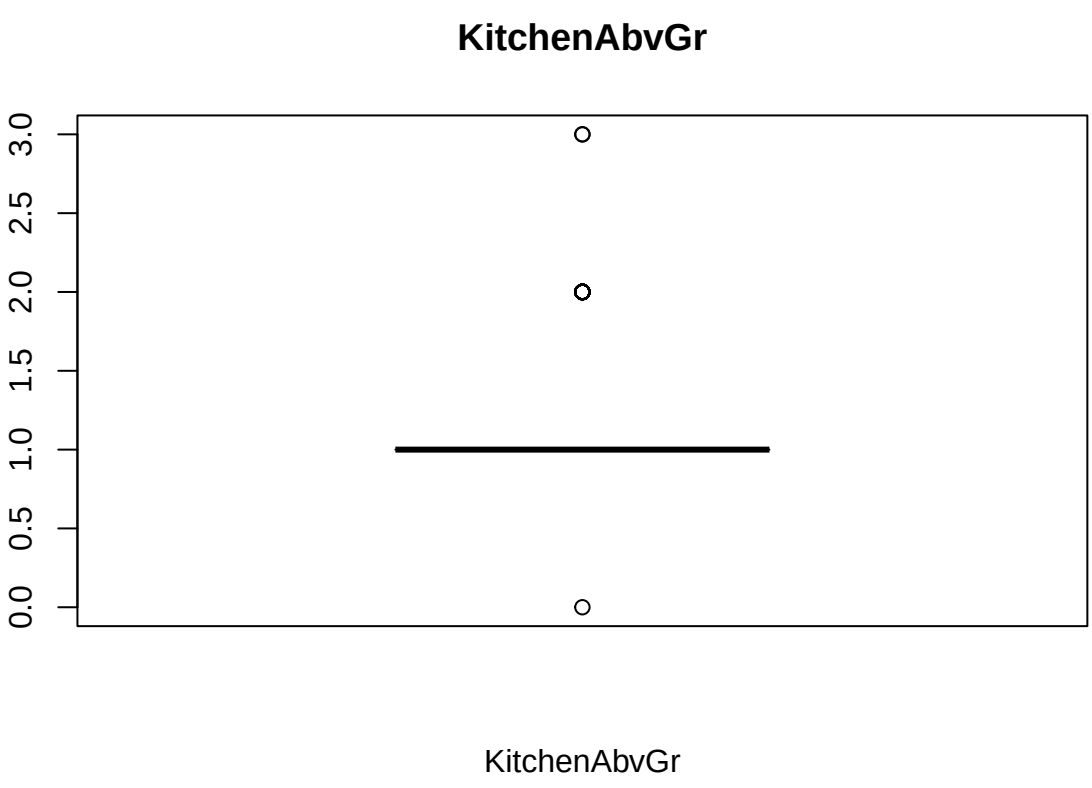

BsmtFullBath
0.0
0.5
1.0
1.5
2.0
2.5
3.0
BsmtFullBath

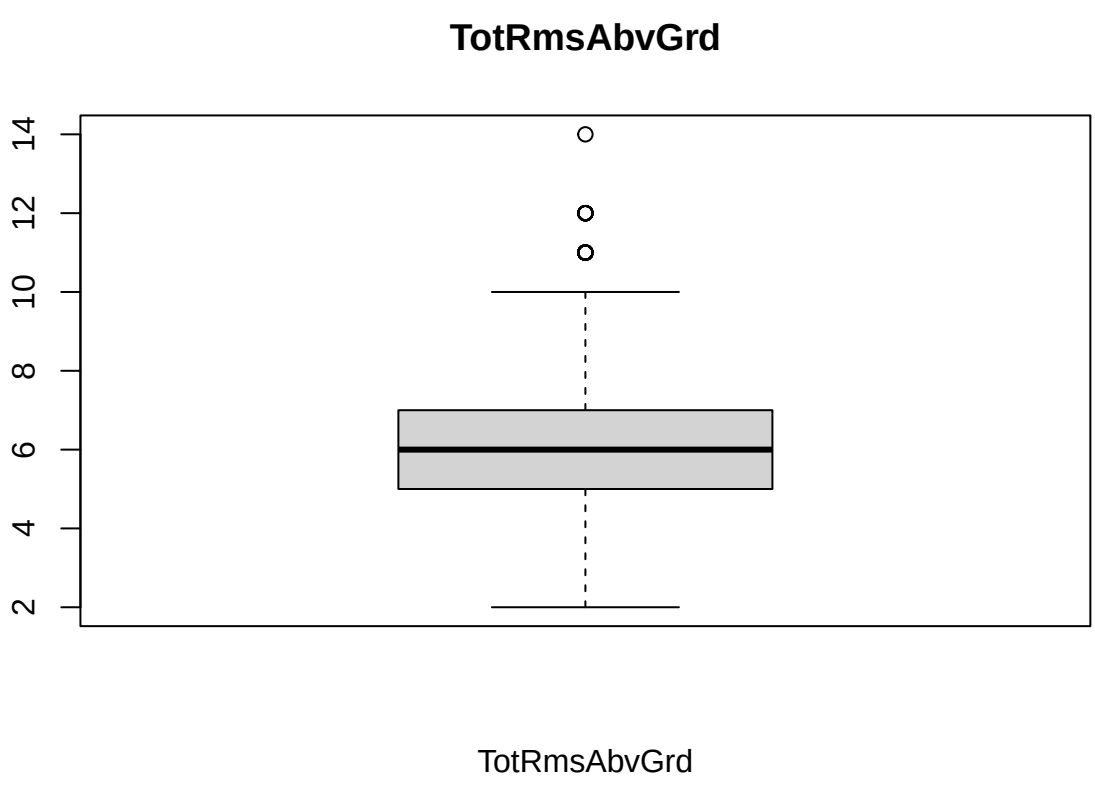

BsmtHalfBath
0.0
0.5
1.0
1.5
2.0
BsmtHalfBath

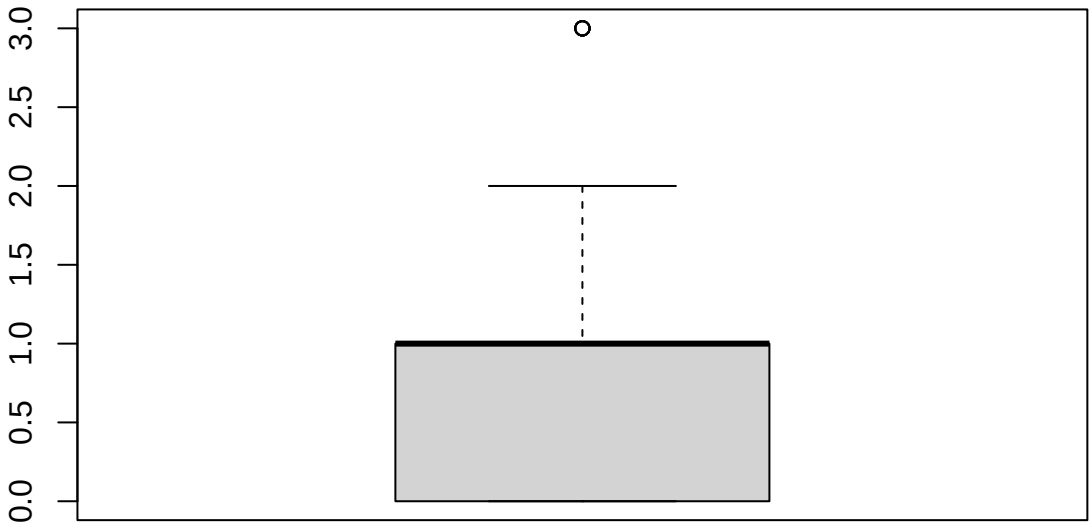

FullBath
0.0
0.5
1.0
1.5
2.0
2.5
3.0
FullBath

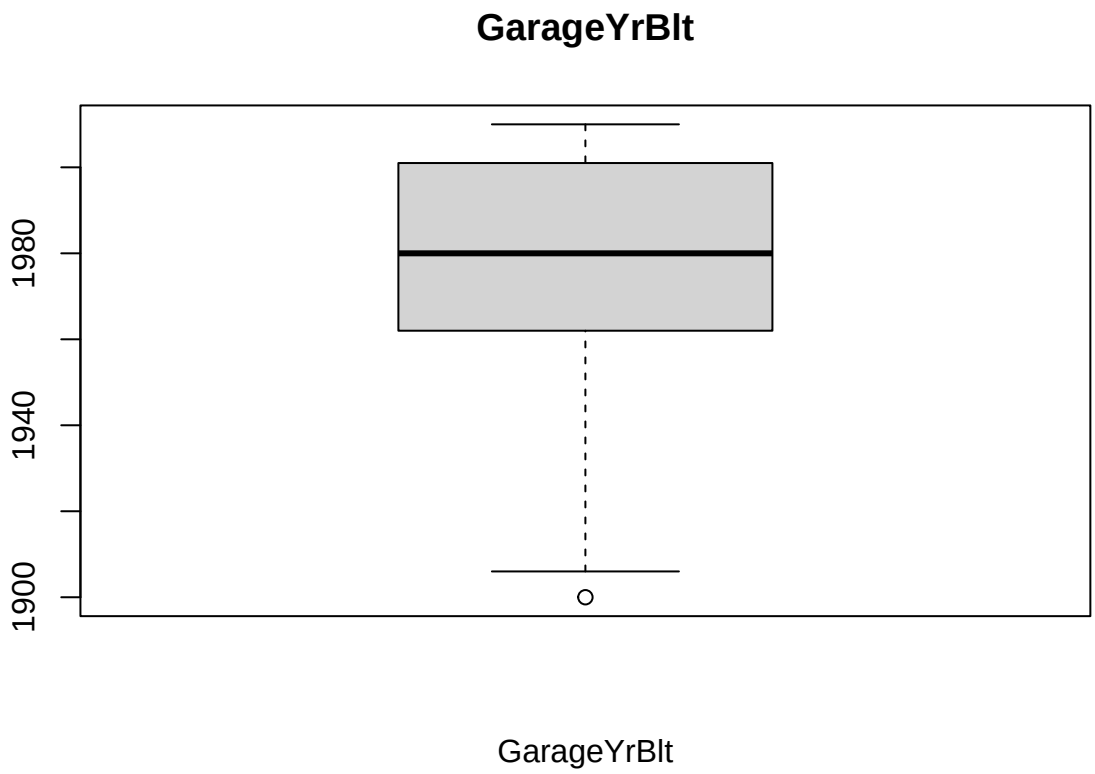

HalfBath
2.0
1.5
1.0
0.5
0.0
HalfBath

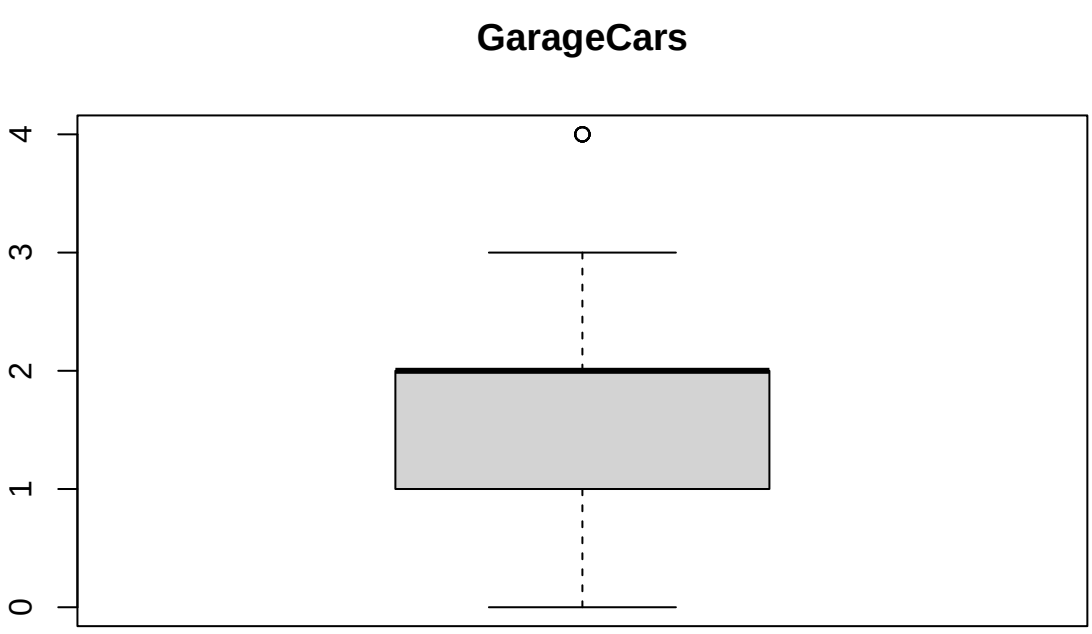
BedroomAbvGr
0
2
4
6
8
BedroomAbvGr

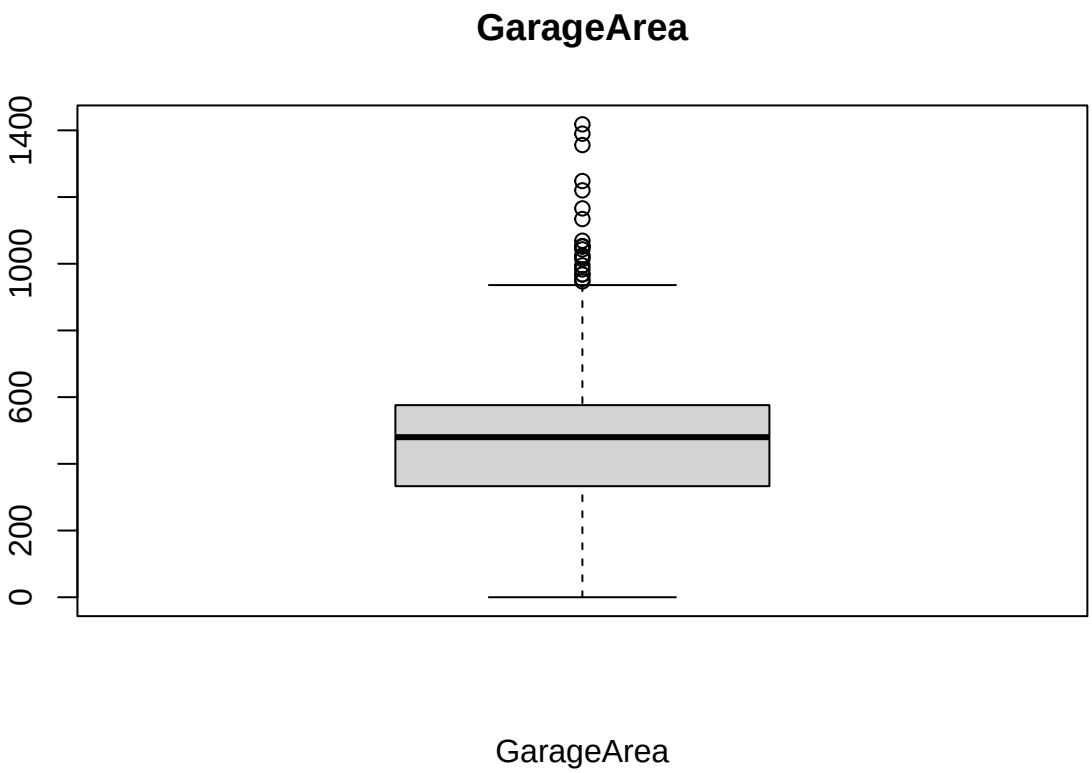

KitchenAbvGr
0.0
0.5
1.0
1.5
2.0
2.5
3.0
KitchenAbvGr

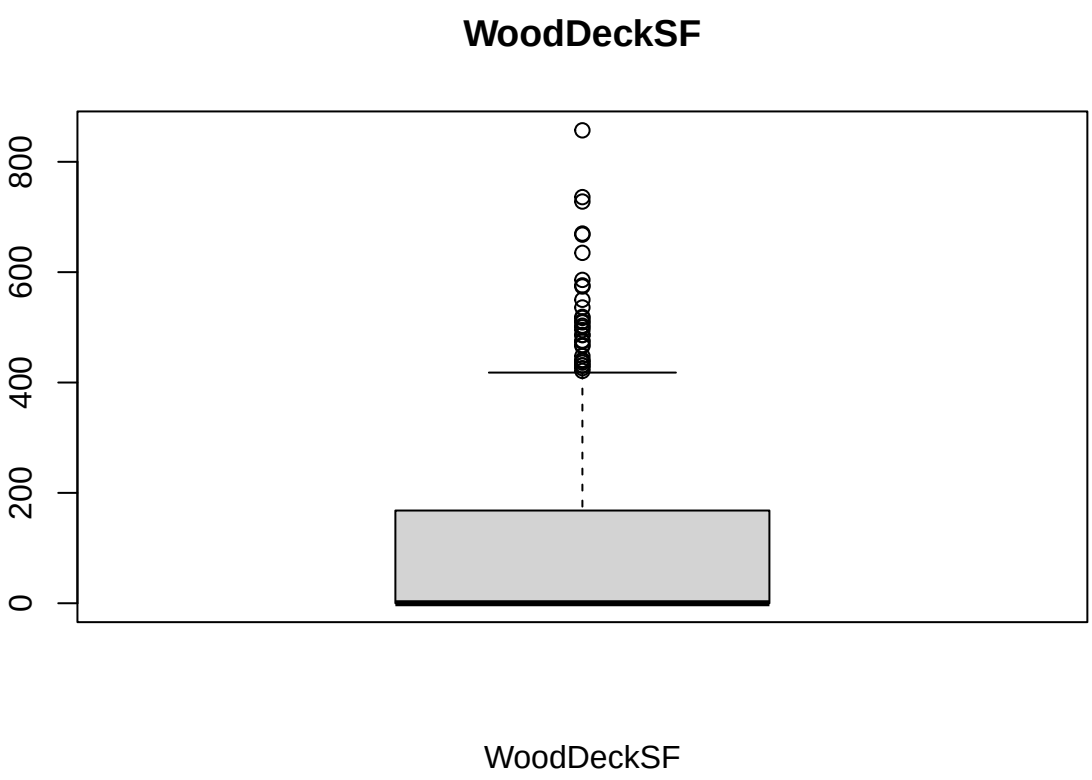

TotRmsAbvGrd
2
4
6
8
10
12
14
TotRmsAbvGrd

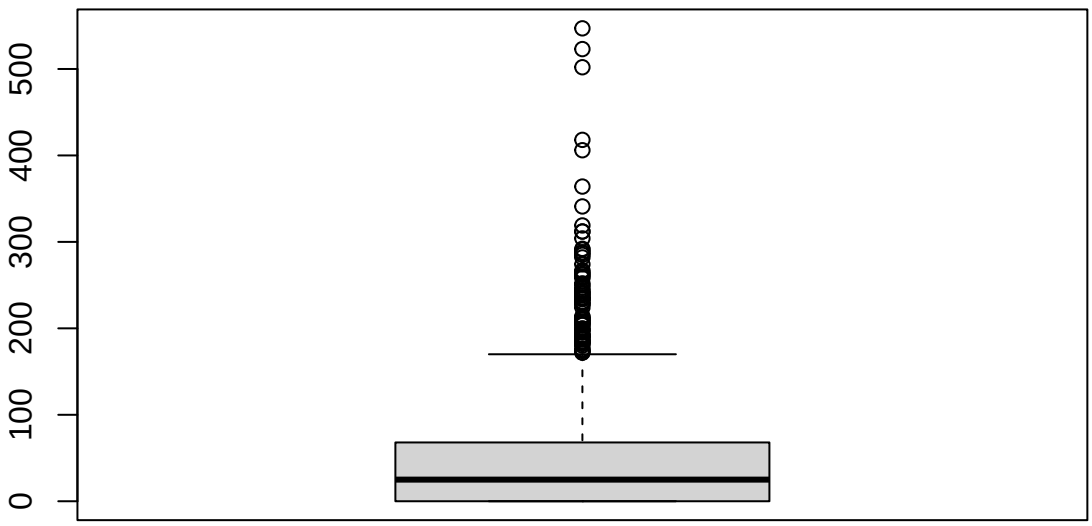

Fireplaces
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Fireplaces

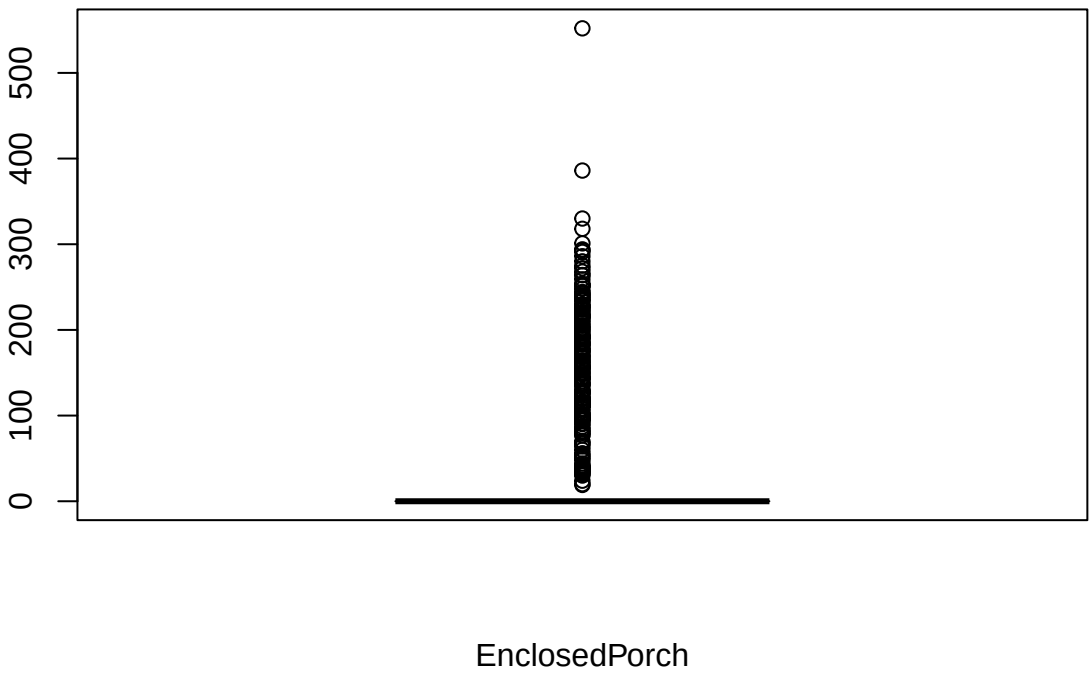

GarageYrBlt
1900
1940
1980
GarageYrBlt

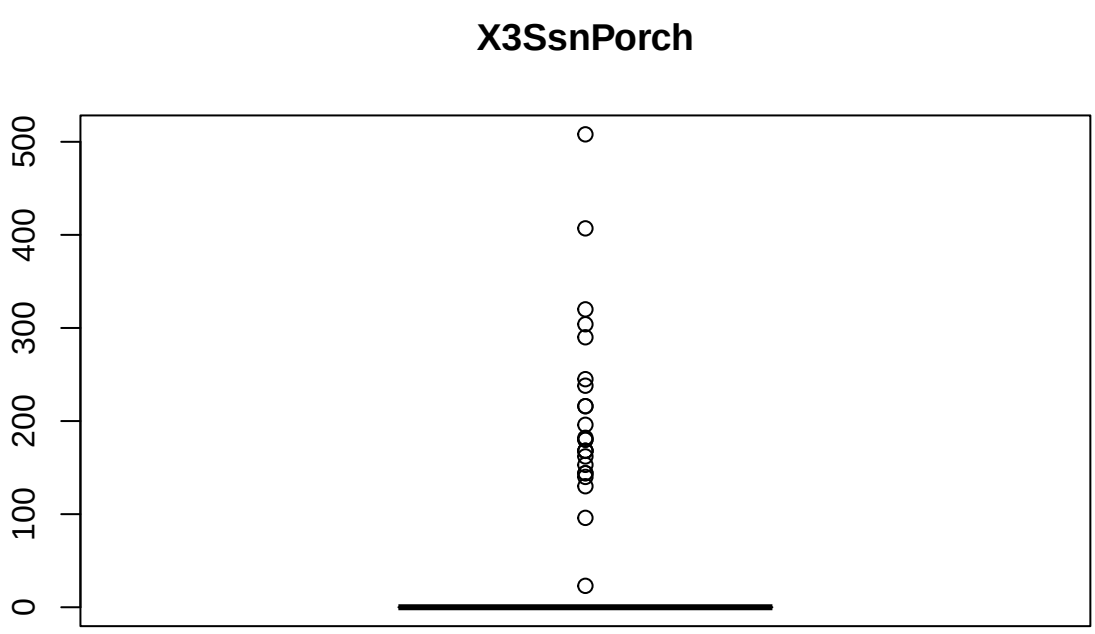

GarageCars
0
1
2
3
4
GarageCars

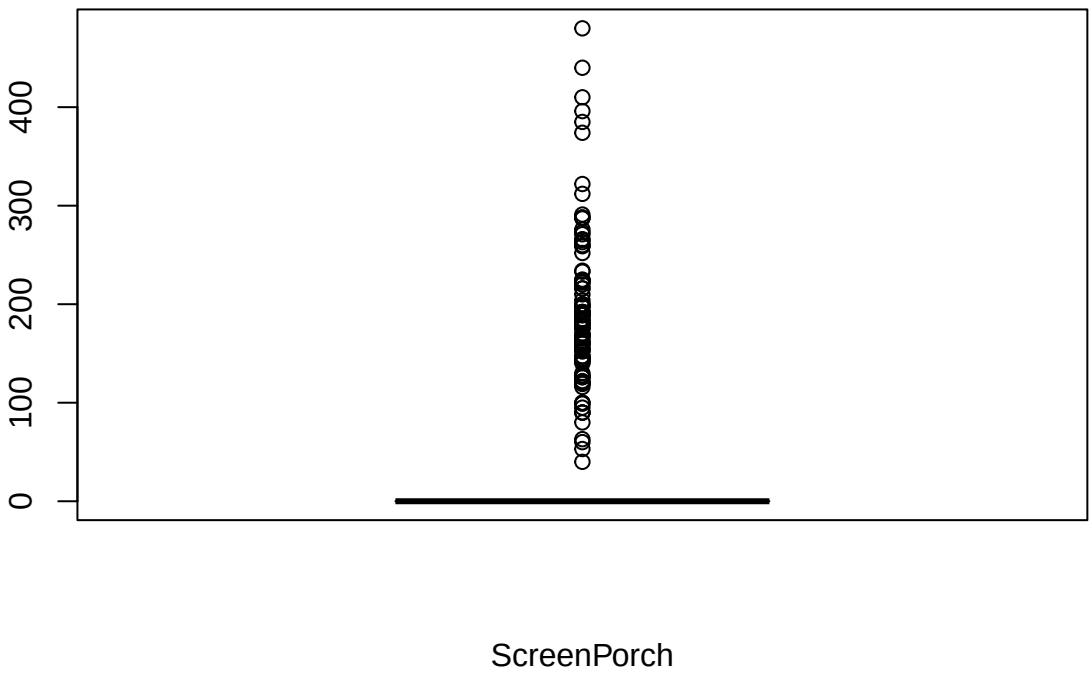

GarageArea
0
200
600
1000
1400
GarageArea

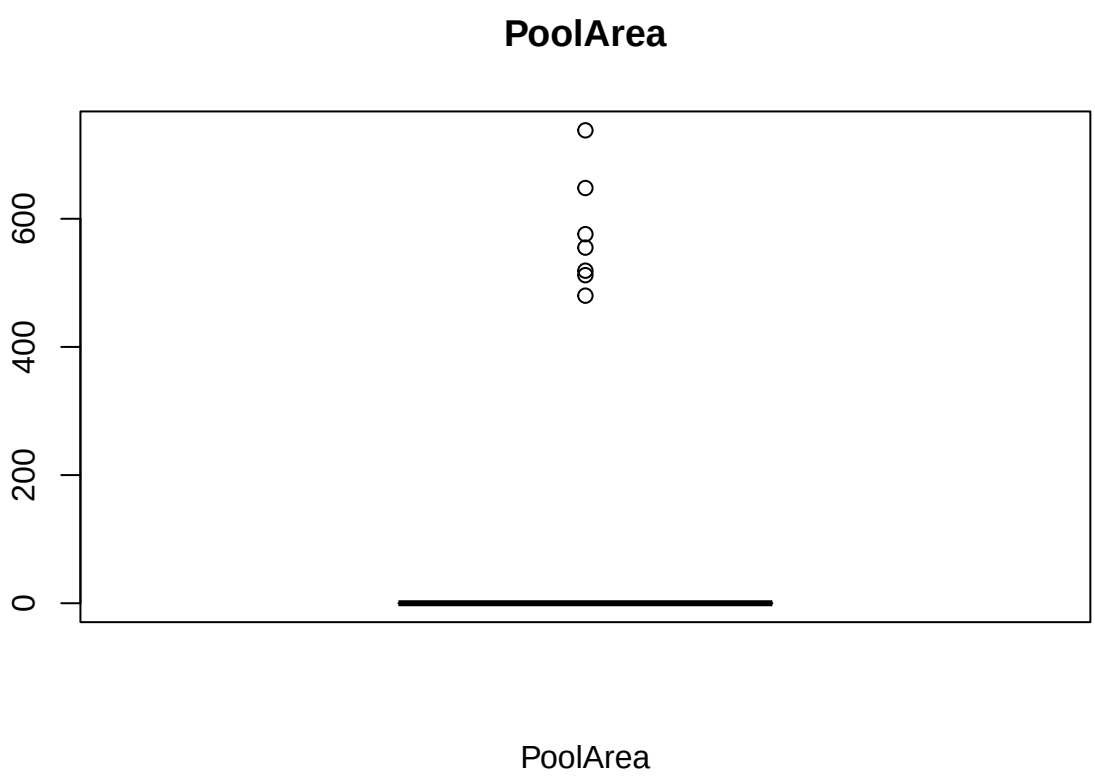

WoodDeckSF
0
200
400
600
800
WoodDeckSF

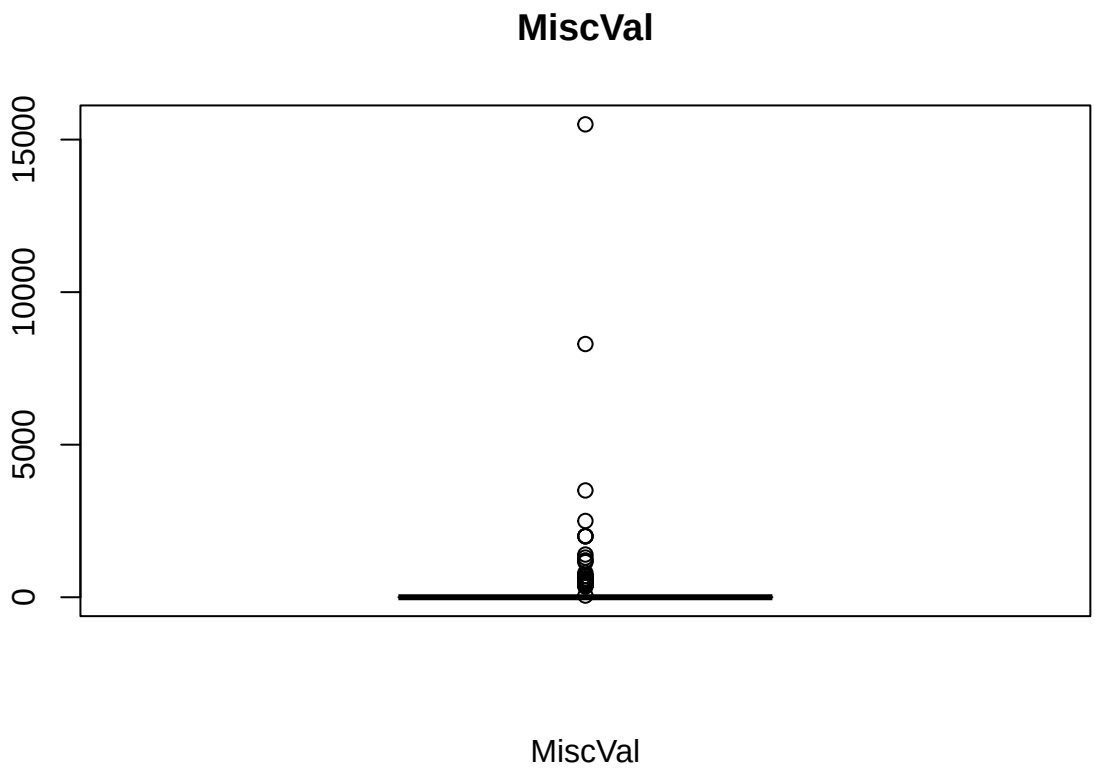

OpenPorchSF
0
100
200
300
400
500
OpenPorchSF

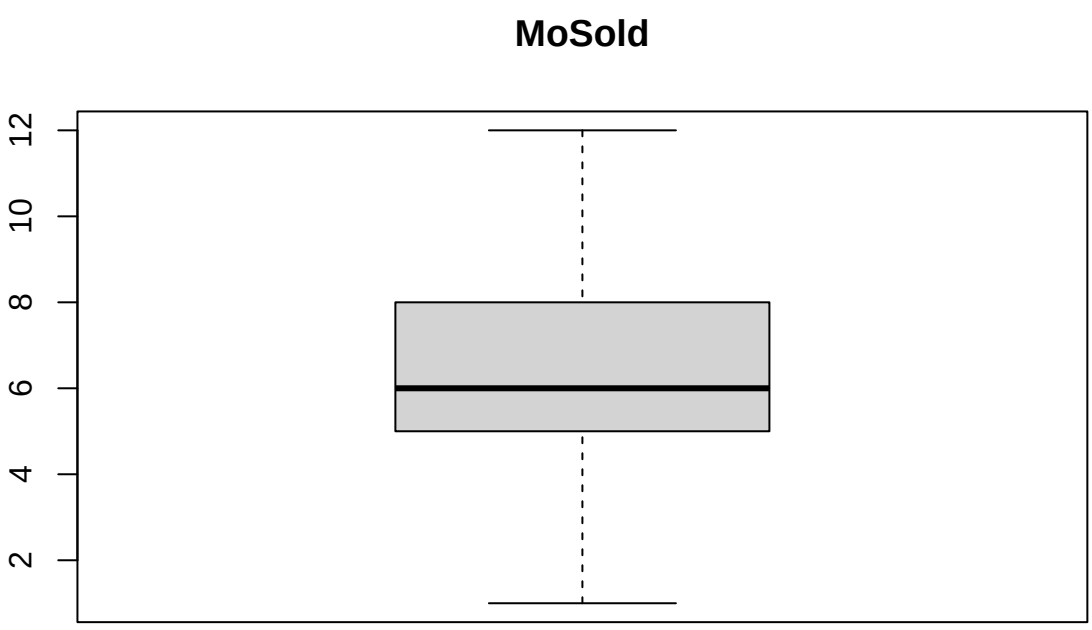

EnclosedPorch
0
100
200
300
400
500
EnclosedPorch

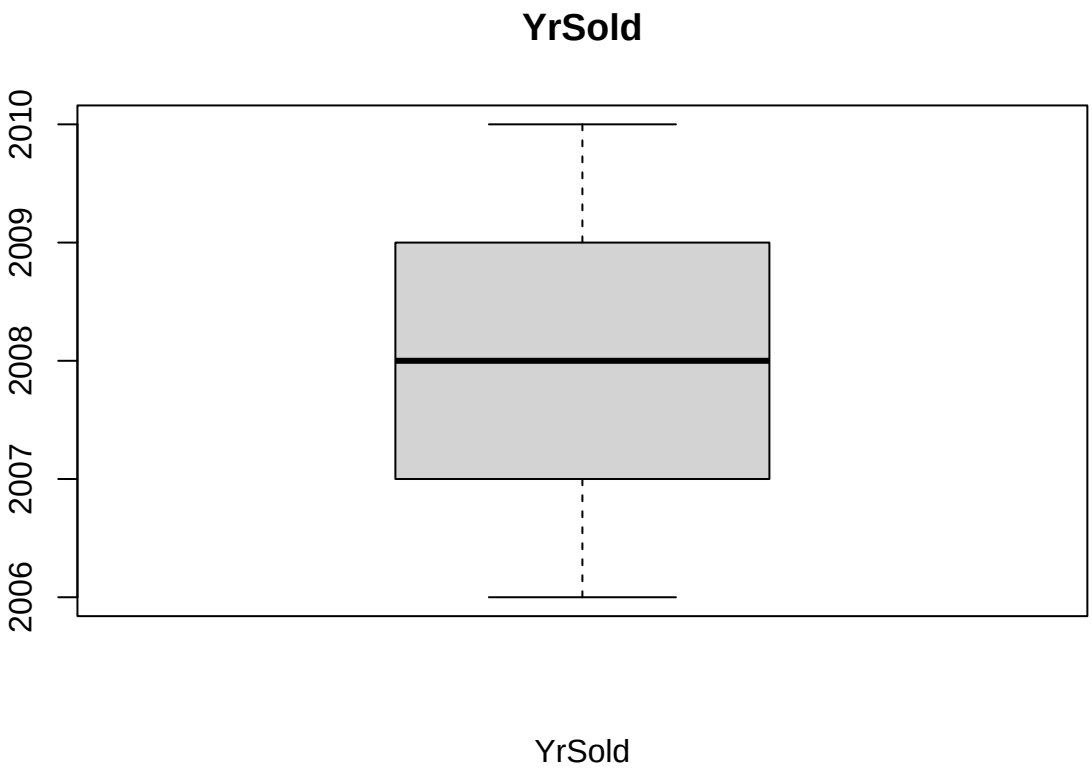

X3SsnPorch
0
100
200
300
400
500
X3SsnPorch


ScreenPorch
0
100
200
300
400
ScreenPorch


PoolArea
0
200
400
600
PoolArea


MiscVal
0
5000
10000
15000
MiscVal


MoSold
2
4
6
8
10
12
MoSold


YrSold
2006
2007
2008
2009
2010
YrSold

Most of our numerical variables have outliers which we will deal with later

```
summary(train)
```

```
##    MSSubClass      MSZoning     LotFrontage        LotArea        Street
##  20     :536   C (all):  10   Min.   : 21.00   Min.   :  1300   Grvl:   6
##  60     :299   FV     :  65   1st Qu.: 60.00   1st Qu.:  7549   Pave:1453
##  50     :144   RH     :  16   Median : 70.00   Median :  9477
##  120    : 87   RL     :1150   Mean   : 70.04   Mean   : 10517
##  30     : 69   RM     : 218   3rd Qu.: 79.00   3rd Qu.: 11603
##  160    : 63                  Max.   :313.00   Max.   :215245
##  (Other):261
##              Alley      LotShape  LandContour  Utilities      LotConfig
##  Grvl           :  50   IR1:484   Bnk:  63    AllPub:1458   Corner : 263
##  No alley access:1368   IR2: 41   HLS:  50    NoSeWa:   1   CulDSac:  94
##  Pave           :  41   IR3: 10   Low:  36                  FR2    :  47
##                         Reg:924   Lvl:1310                  FR3    :   4
##                                                             Inside :1051
##
##
##  LandSlope   Neighborhood   Condition1     Condition2     BldgType
##  Gtl:1381   NAmes  :225   Norm   :1259   Norm   :1444   1Fam  :1219
##  Mod:  65   CollgCr:150   Feedr  :  81   Feedr  :   6   2fmCon:  31
##  Sev:  13   OldTown:113   Artery :  48   Artery :   2   Duplex:  52
##             Edwards:100   RRAn   :  26   PosN   :   2   Twnhs :  43
##             Somerst: 86   PosN   :  19   RRNn   :   2   TwnhsE: 114
```

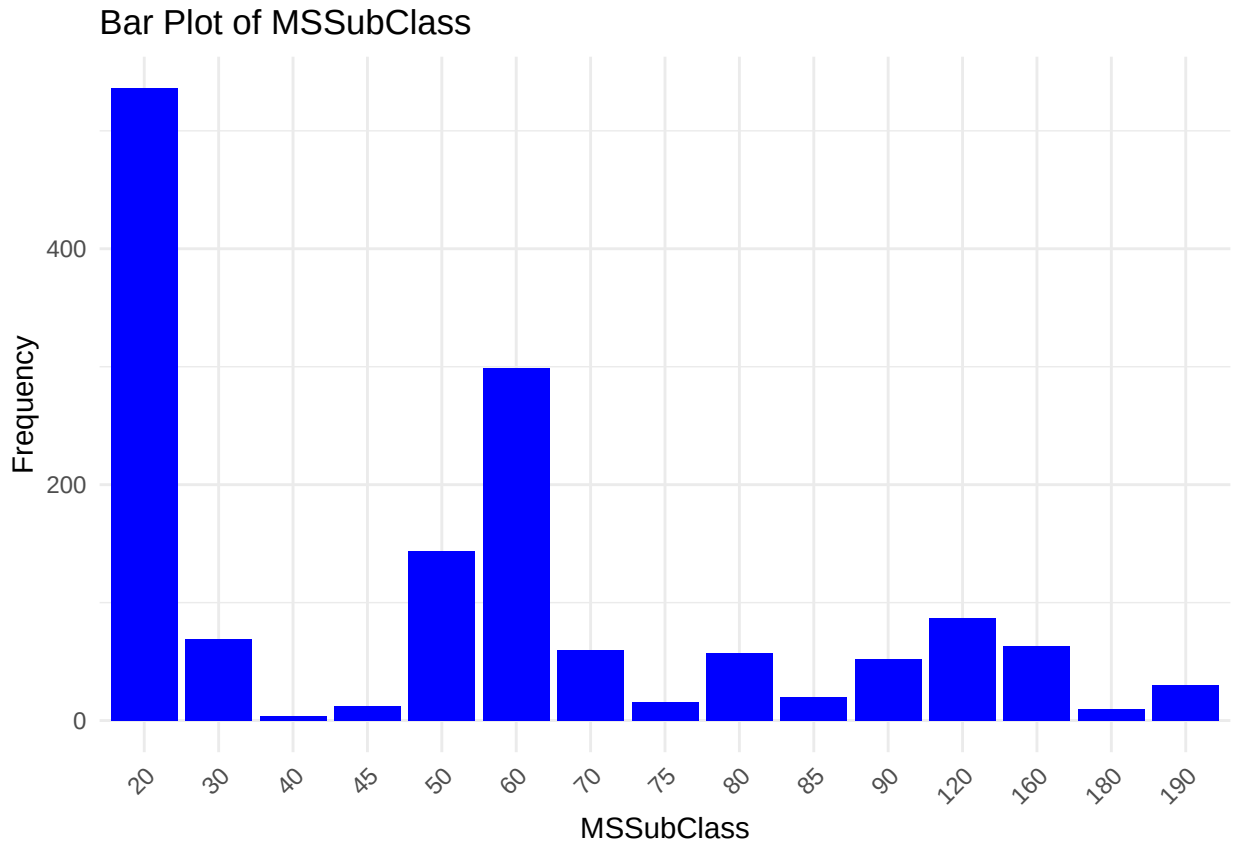
```
##             Gilbert: 79   RRAe   :  11   PosA   :   1
##             (Other):706   (Other):  15   (Other):   2
##    HouseStyle   OverallQual   OverallCond    YearBuilt     YearRemodAdd
##  1Story :726   5      :396   5      :820   Min.   :1872   Min.   :1950
##  2Story :445   6      :374   6      :252   1st Qu.:1954   1st Qu.:1967
##  1.5Fin :154   7      :319   7      :205   Median :1973   Median :1994
##  SLvl   : 64   8      :168   8      : 72   Mean   :1971   Mean   :1985
##  SFoyer : 37   4      :116   4      : 57   3rd Qu.:2000   3rd Qu.:2004
##  1.5Unf : 14   9      : 43   3      : 25   Max.   :2010   Max.   :2010
##  (Other): 19   (Other): 43   (Other): 28
##    RoofStyle       RoofMatl     Exterior1st   Exterior2nd    MasVnrType
##  Flat   :  13   CompShg:1433   VinylSd:514   VinylSd:503   BrkCmn : 15
##  Gable  :1140   Tar&Grv:  11   HdBoard:222   MetalSd:214   BrkFace:445
##  Gambrel:  11   WdShngl:   6   MetalSd:220   HdBoard:207   None   :871
##  Hip    : 286   WdShake:   5   Wd Sdng:206   Wd Sdng:197   Stone  :128
##  Mansard:   7   ClyTile:   1   Plywood:108   Plywood:142
##  Shed   :   2   Membran:   1   CemntBd: 61   CmentBd: 60
##                 (Other):   2   (Other):128   (Other):136
##    MasVnrArea     ExterQual ExterCond  Foundation         BsmtQual
##  Min.   :   0.0   Ex: 52    Ex:   3   BrkTil:146   Ex         :121
##  1st Qu.:   0.0   Fa: 14    Fa:  28   CBlock:634   Fa         : 35
##  Median :   0.0   Gd:488    Gd: 146   PConc :646   Gd         :617
##  Mean   : 103.8   TA:905    Po:   1   Slab  : 24   No basement: 37
##  3rd Qu.: 164.5             TA:1281   Stone :  6   TA         :649
##  Max.   :1600.0                       Wood  :  3
##
##        BsmtCond         BsmtExposure      BsmtFinType1   BsmtFinSF1
##  Fa         :  45   Av         :221   ALQ        :220   Min.   :   0.0
##  Gd         :  65   Gd         :134   BLQ        :148   1st Qu.:   0.0
##  No basement:  37   Mn         :114   GLQ        :418   Median : 384.0
##  Po         :   2   No         :953   LwQ        : 74   Mean   : 443.9
##  TA         :1310   No basement: 37   No basement: 37   3rd Qu.: 712.5
##                                       Rec        :133   Max.   :5644.0
##                                       Unf        :429
##      BsmtFinType2    BsmtFinSF2        BsmtUnfSF       TotalBsmtSF
##  ALQ        :  19   Min.   :   0.00   Min.   :   0.0   Min.   :   0
##  BLQ        :  33   1st Qu.:   0.00   1st Qu.: 223.0   1st Qu.: 796
##  GLQ        :  14   Median :   0.00   Median : 479.0   Median : 992
##  LwQ        :  46   Mean   :  46.58   Mean   : 567.4   Mean   :1058
##  No basement:  38   3rd Qu.:   0.00   3rd Qu.: 808.0   3rd Qu.:1298
##  Rec        :  54   Max.   :1474.00   Max.   :2336.0   Max.   :6110
##  Unf        :1255
##   Heating     HeatingQC CentralAir Electrical     X1stFlrSF      X2ndFlrSF
##  Floor:   1   Ex:741    N:  95     FuseA:  94   Min.   : 334   Min.   :   0.0
##  GasA :1427   Fa: 49    Y:1364     FuseF:  27   1st Qu.: 882   1st Qu.:   0.0
##  GasW :  18   Gd:240               FuseP:   3   Median :1088   Median :   0.0
##  Grav :   7   Po:  1               Mix  :   1   Mean   :1163   Mean   : 346.8
##  OthW :   2   TA:428               SBrkr:1334   3rd Qu.:1392   3rd Qu.: 728.0
##  Wall :   4                                    Max.   :4692   Max.   :2065.0
##
##   LowQualFinSF       GrLivArea     BsmtFullBath     BsmtHalfBath
##  Min.   :  0.000   Min.   : 334   Min.   :0.0000   Min.   :0.00000
##  1st Qu.:  0.000   1st Qu.:1129   1st Qu.:0.0000   1st Qu.:0.00000
##  Median :  0.000   Median :1464   Median :0.0000   Median :0.00000
```

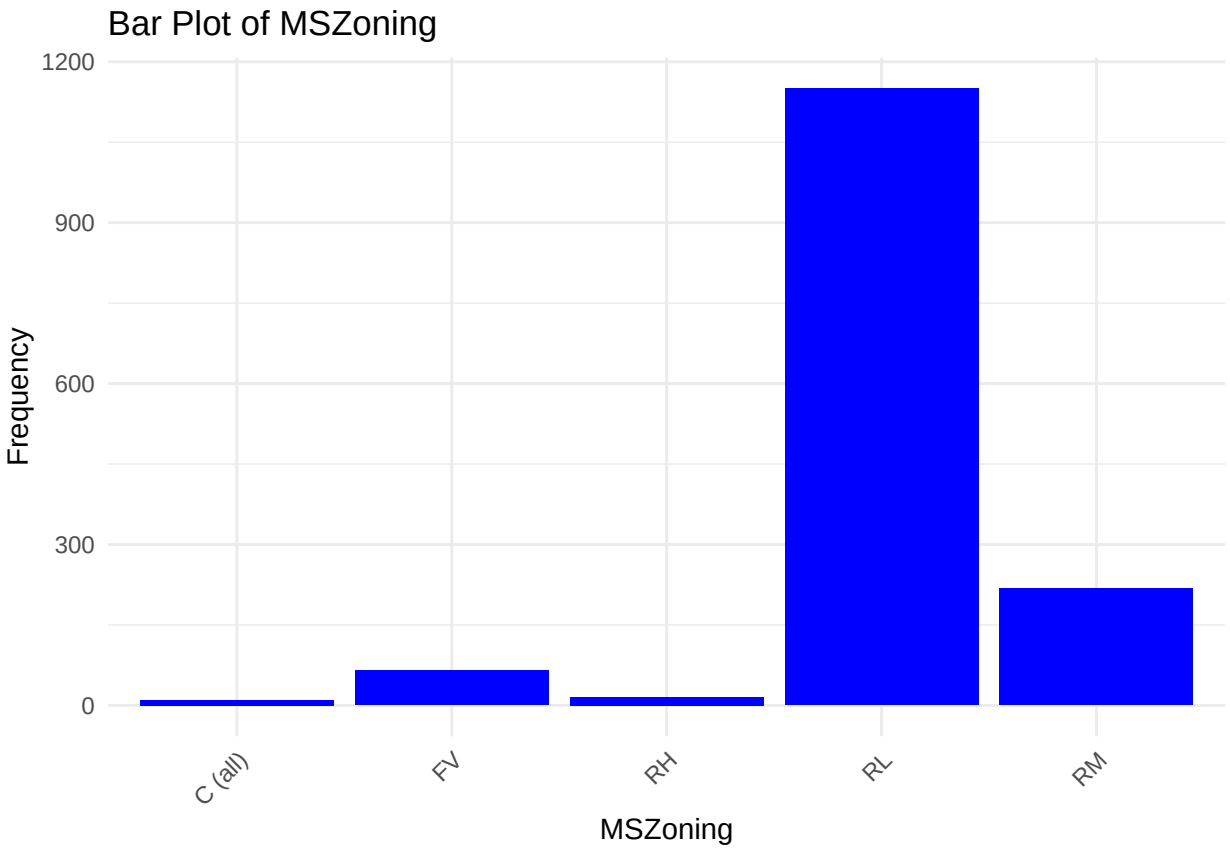
```
##  Mean   :  5.848   Mean   :1516   Mean   :0.4256   Mean   :0.05757
##  3rd Qu.:  0.000   3rd Qu.:1778   3rd Qu.:1.0000   3rd Qu.:0.00000
##  Max.   :572.000   Max.   :5642   Max.   :3.0000   Max.   :2.00000
##
##     FullBath        HalfBath       BedroomAbvGr    KitchenAbvGr   KitchenQual
##  Min.   :0.000   Min.   :0.0000   Min.   :0.000   Min.   :0.000   Ex:100
##  1st Qu.:1.000   1st Qu.:0.0000   1st Qu.:2.000   1st Qu.:1.000   Fa: 39
##  Median :2.000   Median :0.0000   Median :3.000   Median :1.000   Gd:585
##  Mean   :1.565   Mean   :0.3825   Mean   :2.866   Mean   :1.047   TA:735
##  3rd Qu.:2.000   3rd Qu.:1.0000   3rd Qu.:3.000   3rd Qu.:1.000
##  Max.   :3.000   Max.   :2.0000   Max.   :8.000   Max.   :3.000
##
##   TotRmsAbvGrd    Functional    Fireplaces          FireplaceQu
##  Min.   : 2.000   Maj1:  14   Min.   :0.0000   Ex         : 24
##  1st Qu.: 5.000   Maj2:   5   1st Qu.:0.0000   Fa         : 33
##  Median : 6.000   Min1:  31   Median :1.0000   Gd         :380
##  Mean   : 6.517   Min2:  34   Mean   :0.6134   No basement:689
##  3rd Qu.: 7.000   Mod :  15   3rd Qu.:1.0000   Po         : 20
##  Max.   :14.000   Sev :   1   Max.   :3.0000   TA         :313
##                   Typ :1359
##     GarageType   GarageYrBlt      GarageFinish   GarageCars      GarageArea
##  2Types   :  6   Min.   :1900   Fin      :351   Min.   :0.000   Min.   :   0
##  Attchd   :870   1st Qu.:1962   No Garage: 81   1st Qu.:1.000   1st Qu.: 333
##  Basment  : 19   Median :1980   RFn      :422   Median :2.000   Median : 480
##  BuiltIn  : 87   Mean   :1979   Unf      :605   Mean   :1.767   Mean   : 473
##  CarPort  :  9   3rd Qu.:2001                   3rd Qu.:2.000   3rd Qu.: 576
##  Detchd   :387   Max.   :2010                   Max.   :4.000   Max.   :1418
##  No Garage: 81
##     GarageQual       GarageCond   PavedDrive   WoodDeckSF      OpenPorchSF
##  Ex       :   3   Ex       :   2   N:  90     Min.   :  0.00   Min.   :  0.00
##  Fa       :  48   Fa       :  35   P:  30     1st Qu.:  0.00   1st Qu.:  0.00
##  Gd       :  14   Gd       :   9   Y:1339     Median :  0.00   Median : 25.00
##  No Garage:  81   No Garage:  81              Mean   : 94.24   Mean   : 46.69
##  Po       :   3   Po       :   7              3rd Qu.:168.00   3rd Qu.: 68.00
##  TA       :1310   TA       :1325              Max.   :857.00   Max.   :547.00
##
##  EnclosedPorch      X3SsnPorch       ScreenPorch        PoolArea
##  Min.   :  0.00   Min.   :  0.000   Min.   :  0.00   Min.   :  0.000
##  1st Qu.:  0.00   1st Qu.:  0.000   1st Qu.:  0.00   1st Qu.:  0.000
##  Median :  0.00   Median :  0.000   Median :  0.00   Median :  0.000
##  Mean   : 21.97   Mean   :  3.412   Mean   : 15.07   Mean   :  2.761
##  3rd Qu.:  0.00   3rd Qu.:  0.000   3rd Qu.:  0.00   3rd Qu.:  0.000
##  Max.   :552.00   Max.   :508.000   Max.   :480.00   Max.   :738.000
##
##     PoolQC          Fence      MiscFeature    MiscVal             MoSold
##  Ex     :   2   GdPrv   :  59   Gar2:   2   Min.   :    0.00   Min.   : 1.000
##  Fa     :   2   GdWo    :  54   None:1405   1st Qu.:    0.00   1st Qu.: 5.000
##  Gd     :   3   MnPrv   : 157   Othr:   2   Median :    0.00   Median : 6.000
##  No Pool:1452   MnWw    :  11   Shed:  49   Mean   :   43.52   Mean   : 6.323
##                 No Fence:1178   TenC:   1   3rd Qu.:    0.00   3rd Qu.: 8.000
##                                             Max.   :15500.00   Max.   :12.000
##
##     YrSold        SaleType    SaleCondition    SalePrice
##  Min.   :2006   WD     :1266   Abnorml: 101   Min.   : 34900
```

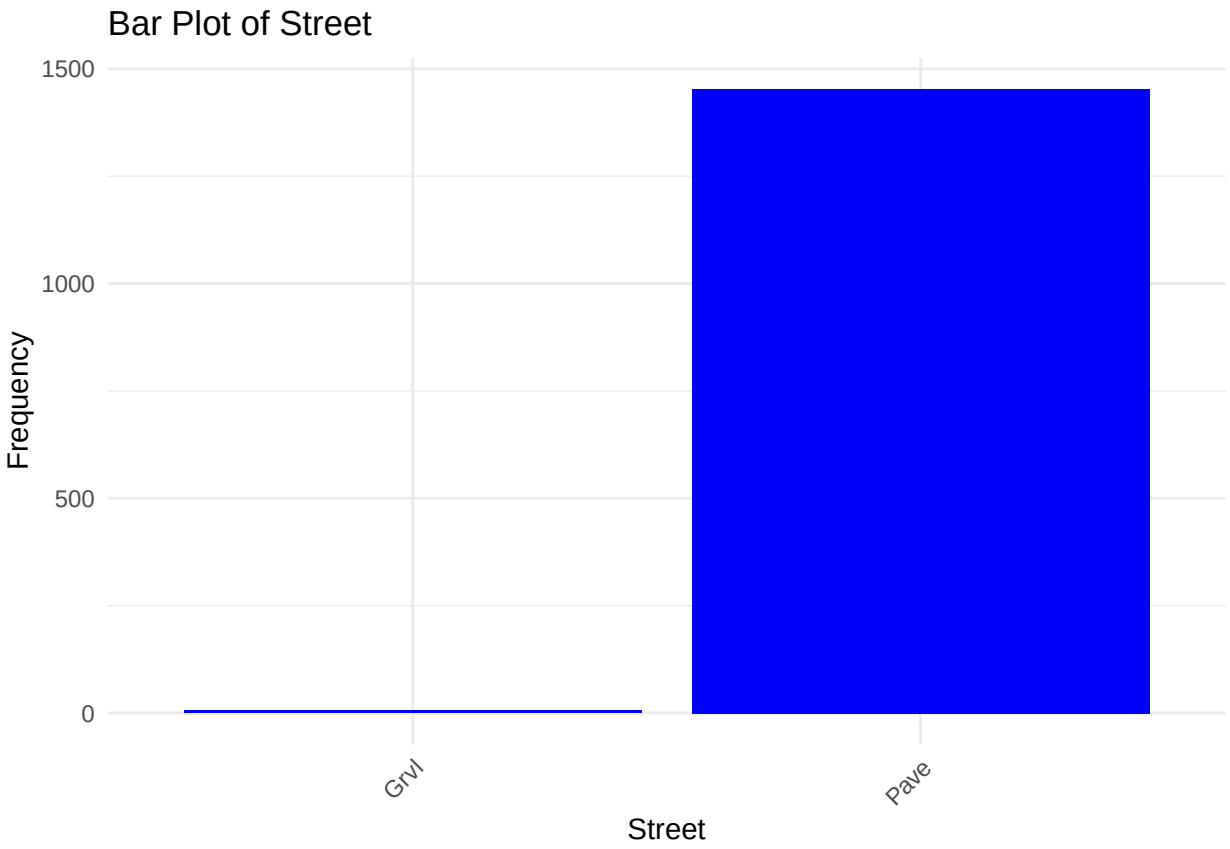
```
##  1st Qu.:2007   New    : 122   AdjLand:   4   1st Qu.:129950
##  Median :2008   COD    :  43   Alloca :  12   Median :163000
##  Mean   :2008   ConLD  :   9   Family :  20   Mean   :180930
##  3rd Qu.:2009   ConLI  :   5   Normal :1197   3rd Qu.:214000
##  Max.   :2010   ConLw  :   5   Partial: 125   Max.   :755000
##                 (Other):   9
```

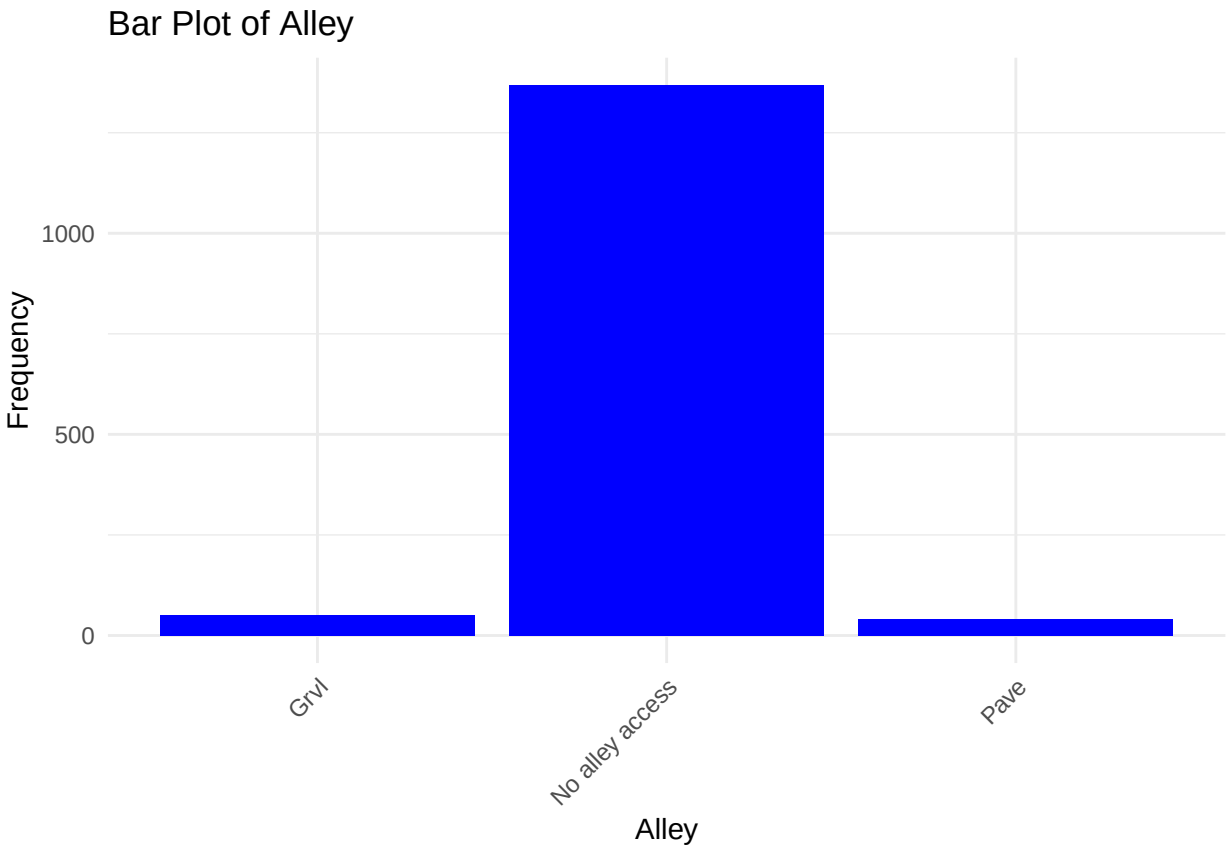
- Categorical Variables

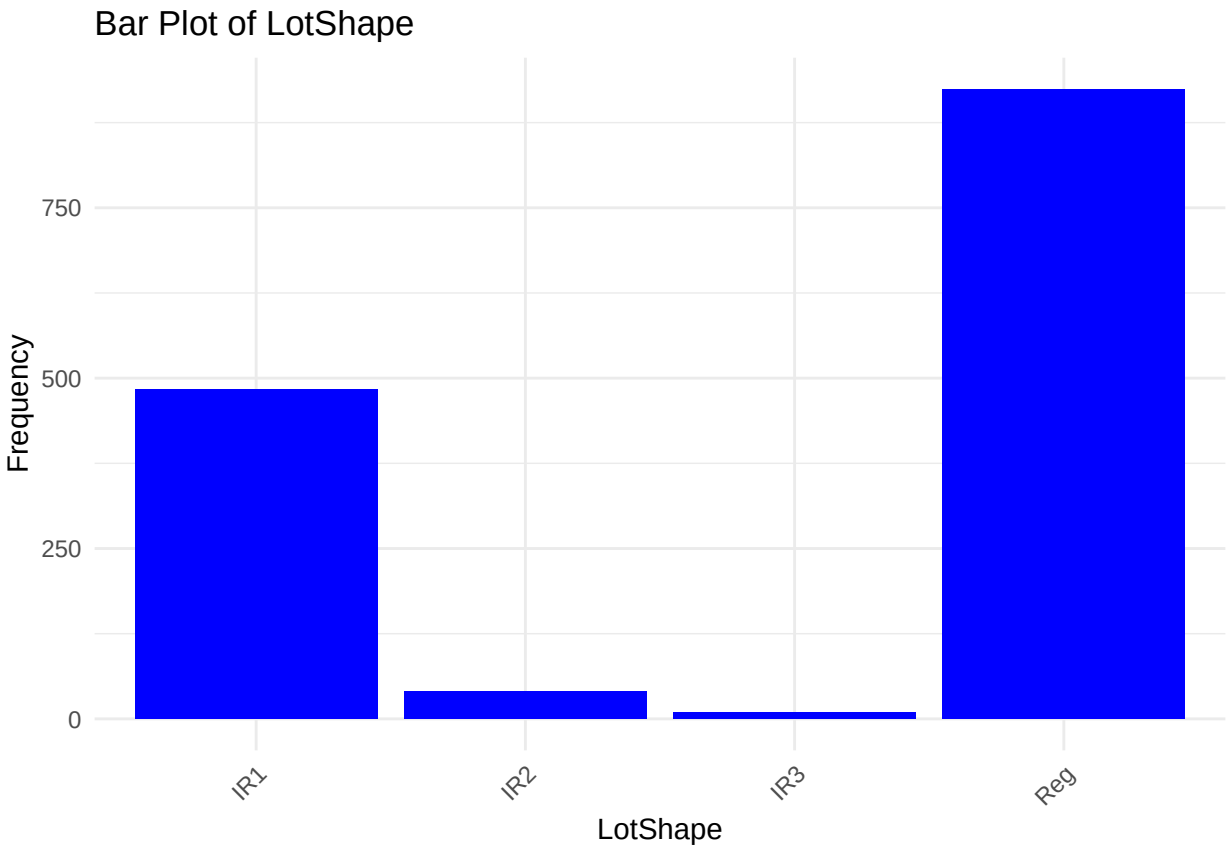
```
cat_c <- names(train)[sapply(train, is.factor)]

# Create barplot for each categorical variable in the dataset
for(col in cat_c) {
 bars <- ggplot(train, aes(x = train[[col]])) +
    geom_bar(fill = "blue") +
    labs(title = paste("Bar Plot of", col), x = col, y = "Frequency") +
    theme_minimal() +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))

 print(bars)
}
```

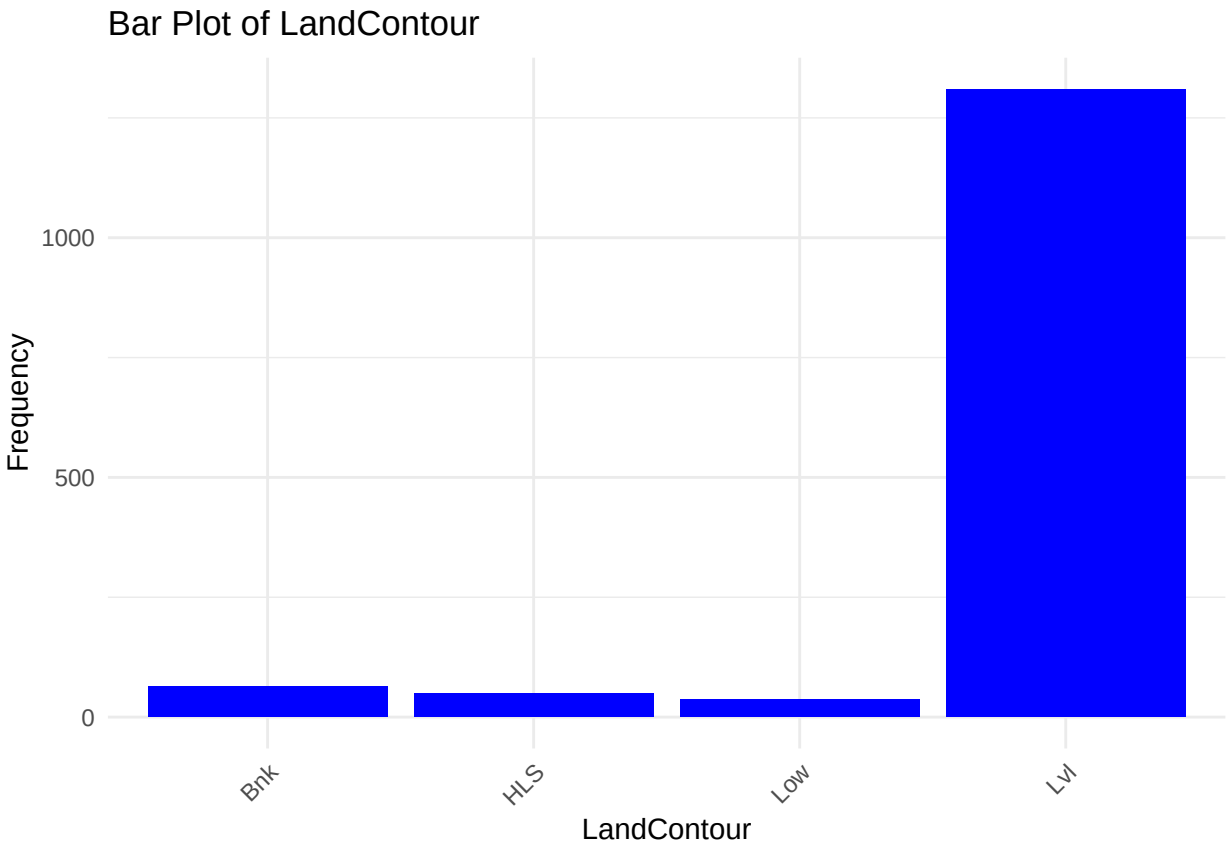


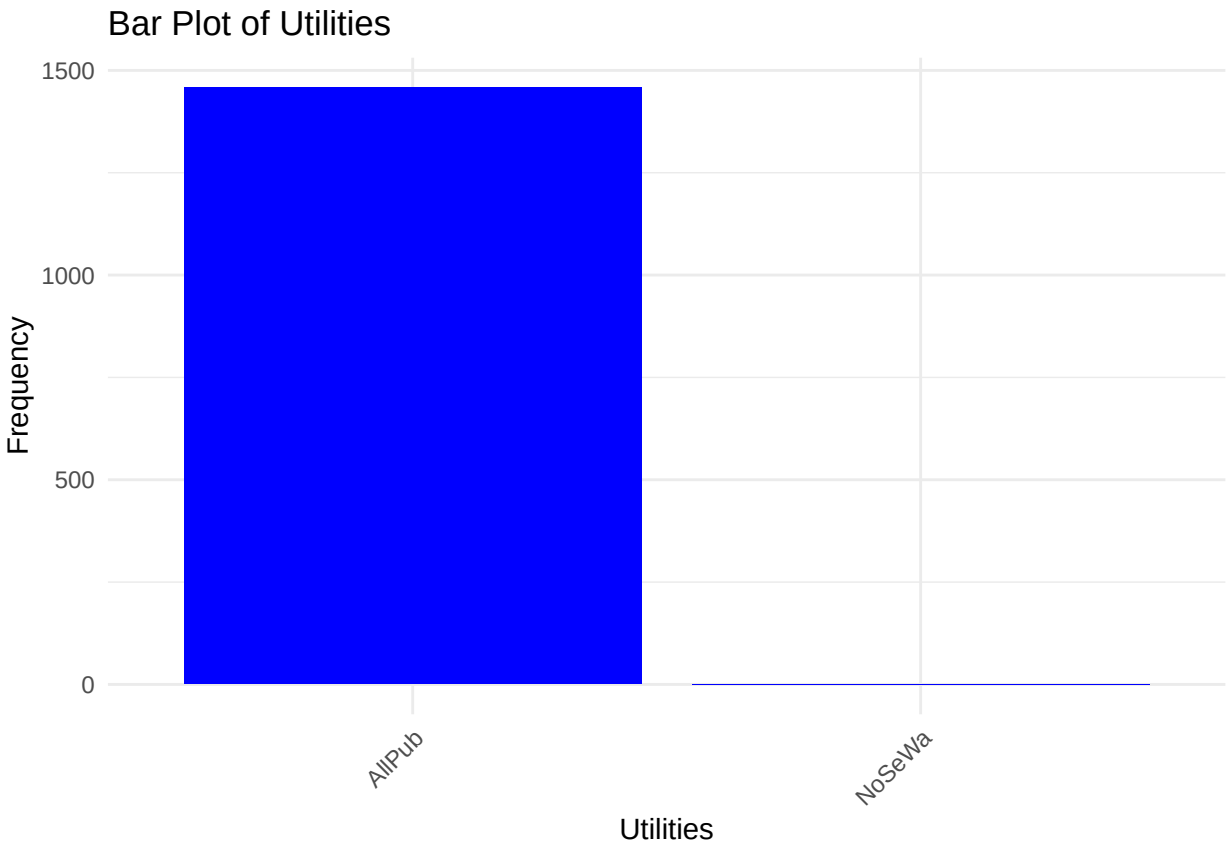

Bar Plot of MSZoning
1200
900
600
300
0
Frequency
C (all)
FV
RH
RL
RM
MSZoning

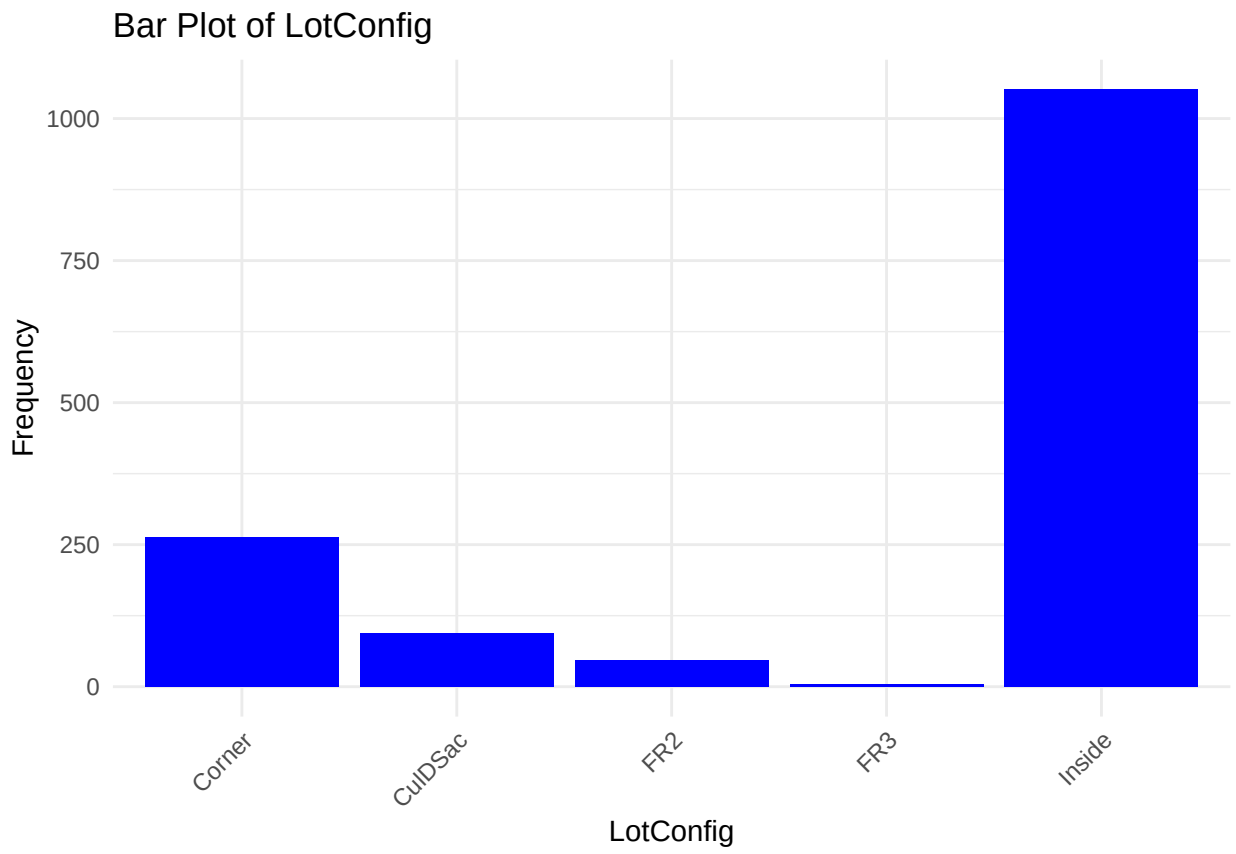

Bar Plot of Street
1500
1000
500
0
Frequency
Grvl
Pave
Street

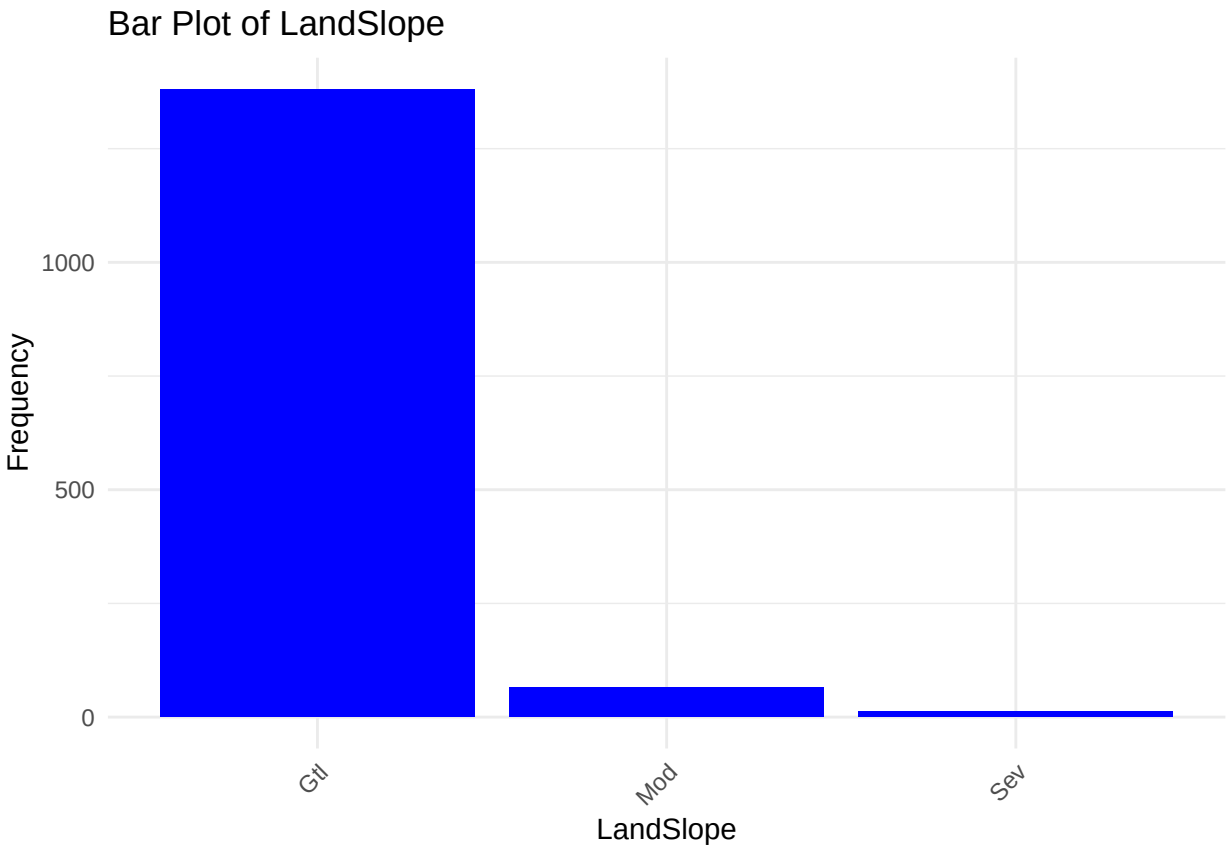

Bar Plot of Alley
Frequency
1000
500
0
Grvl
No alley access
Pave
Alley

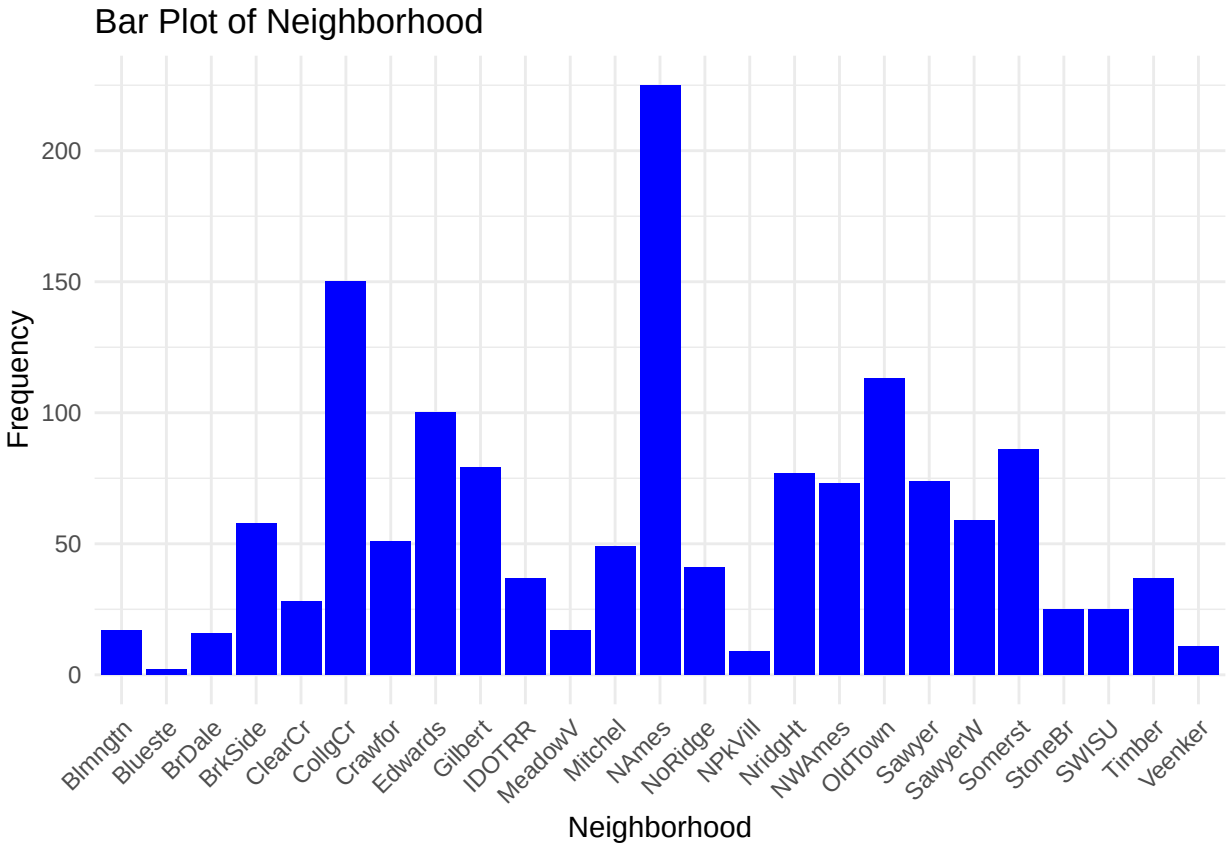

Bar Plot of LotShape
Frequency
750
500
250
0
IR1
IR2
IR3
Reg
LotShape

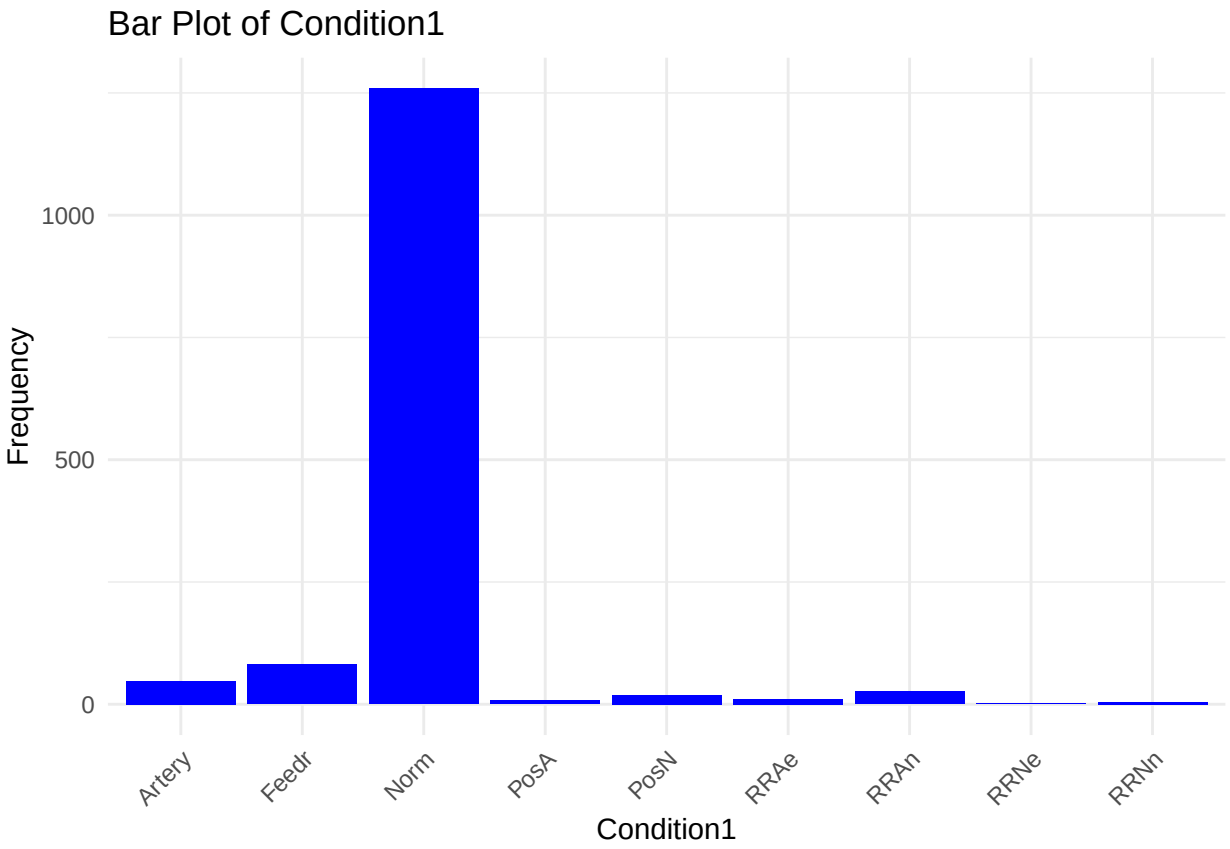

Bar Plot of LandContour
Frequency
1000
500
0
Bnk
HLS
Low
Lvl
LandContour

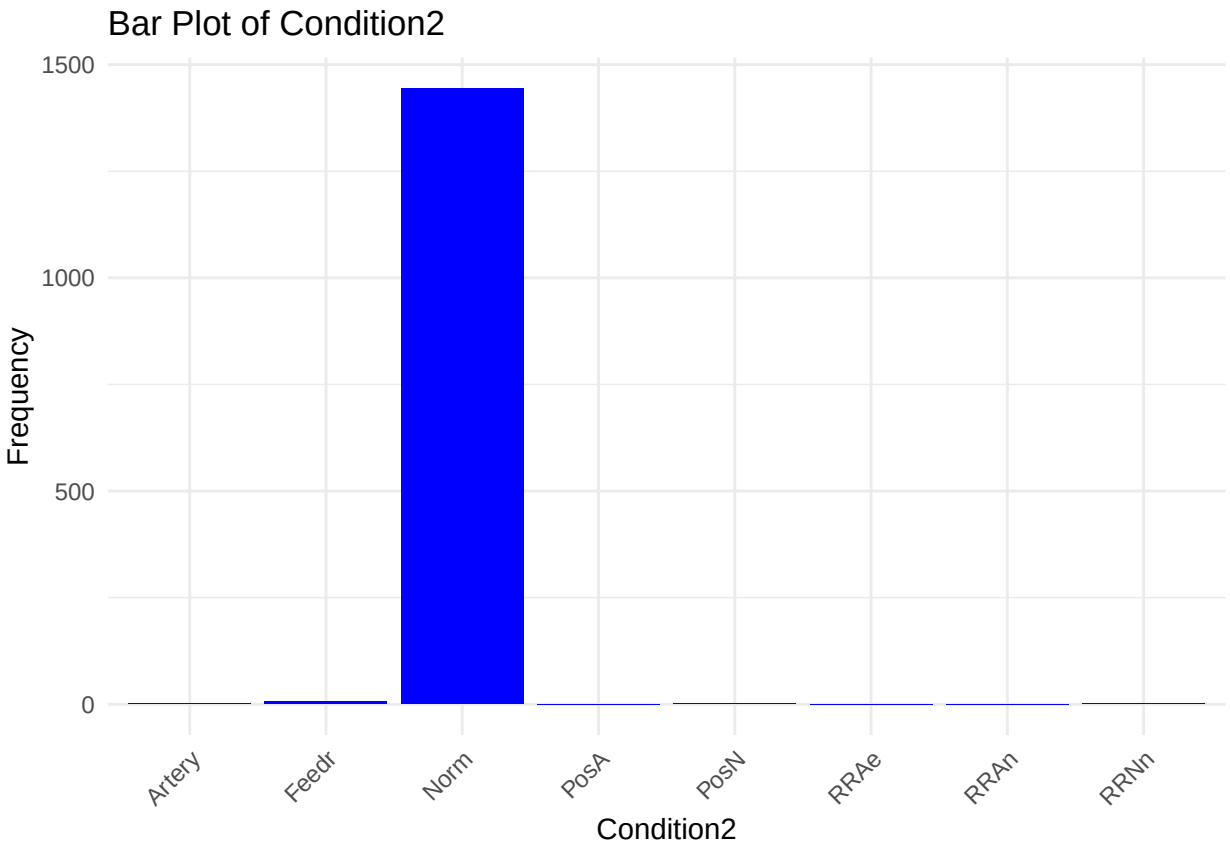

Bar Plot of Utilities
1500
1000
500
0
Frequency
AllPub
NoSeWa
Utilities

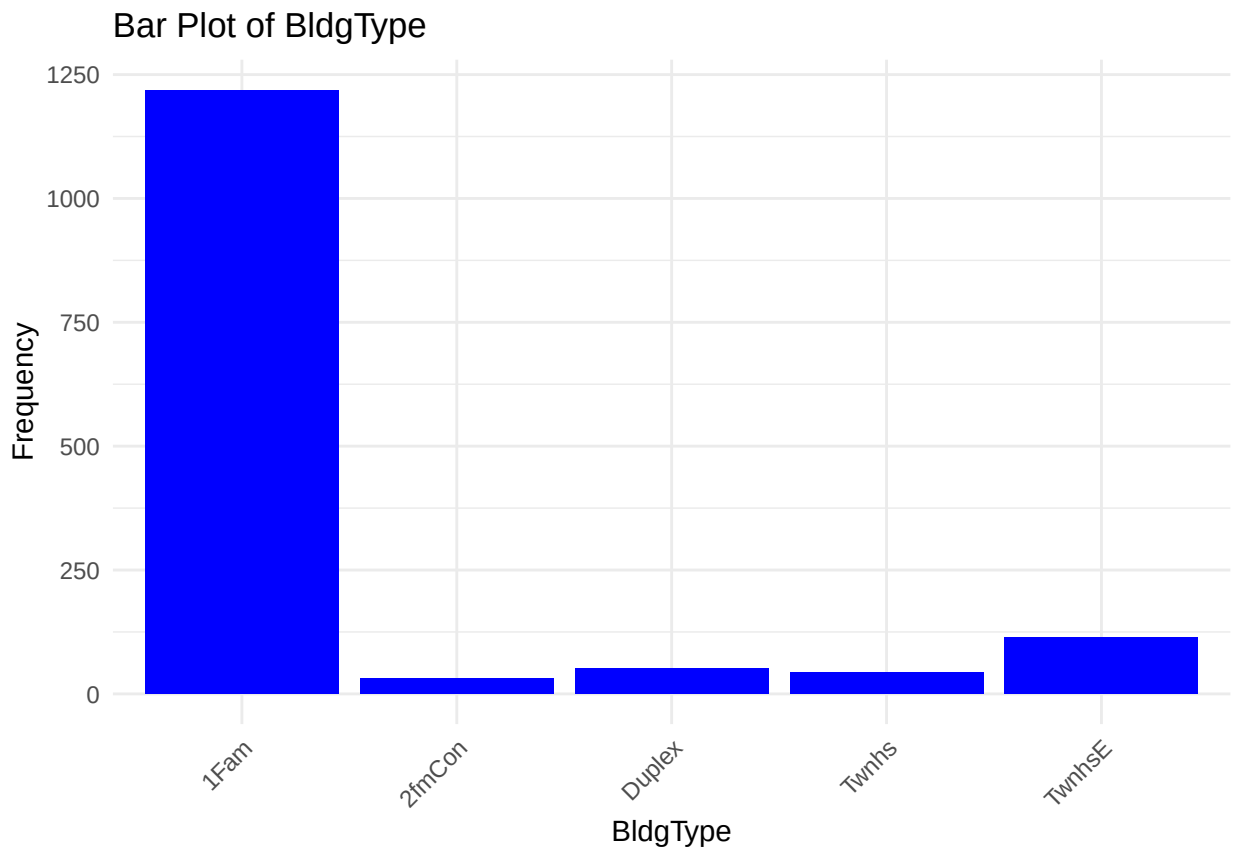

Bar Plot of LotConfig
Frequency
1000
750
500
250
0
Corner
CulDSac
FR2
FR3
Inside
LotConfig

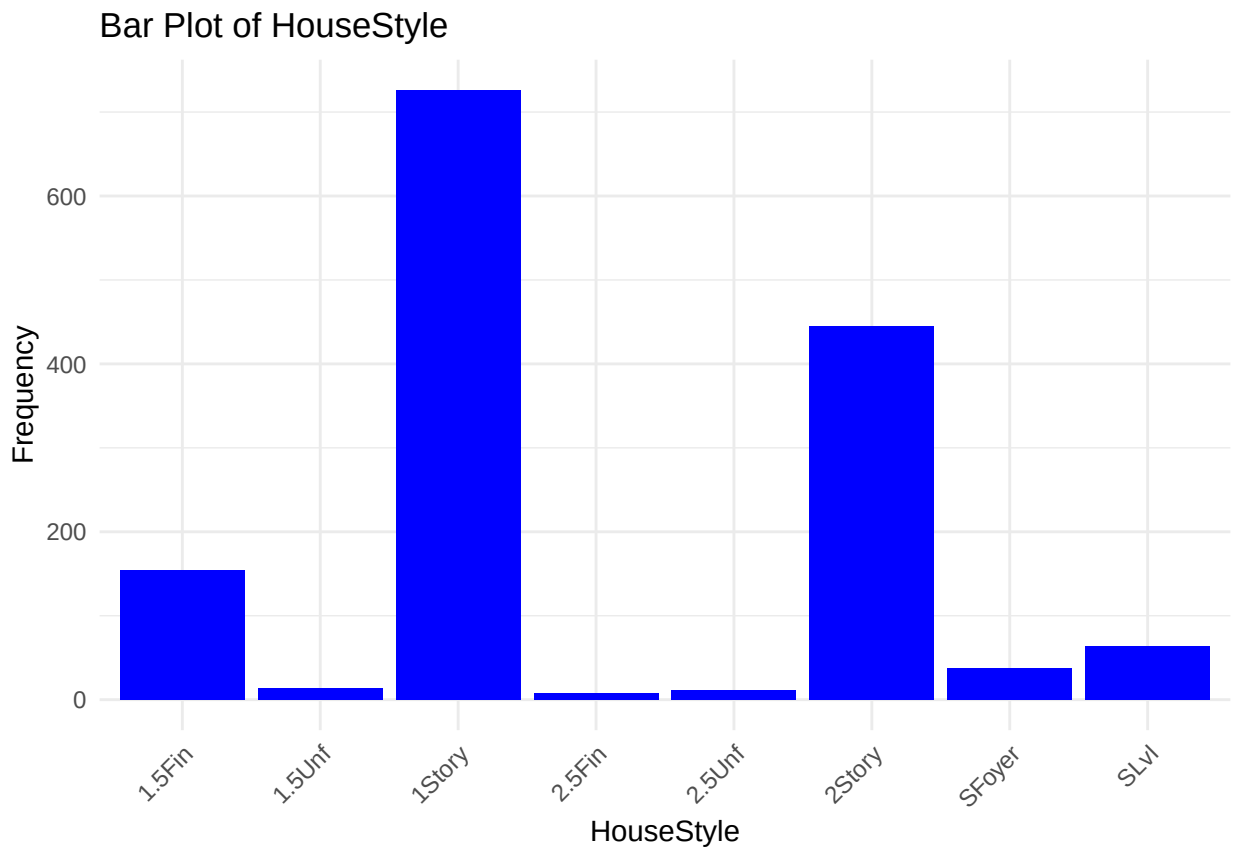

Bar Plot of LandSlope
Frequency
1000
500
0
Gtl
Mod
Sev
LandSlope

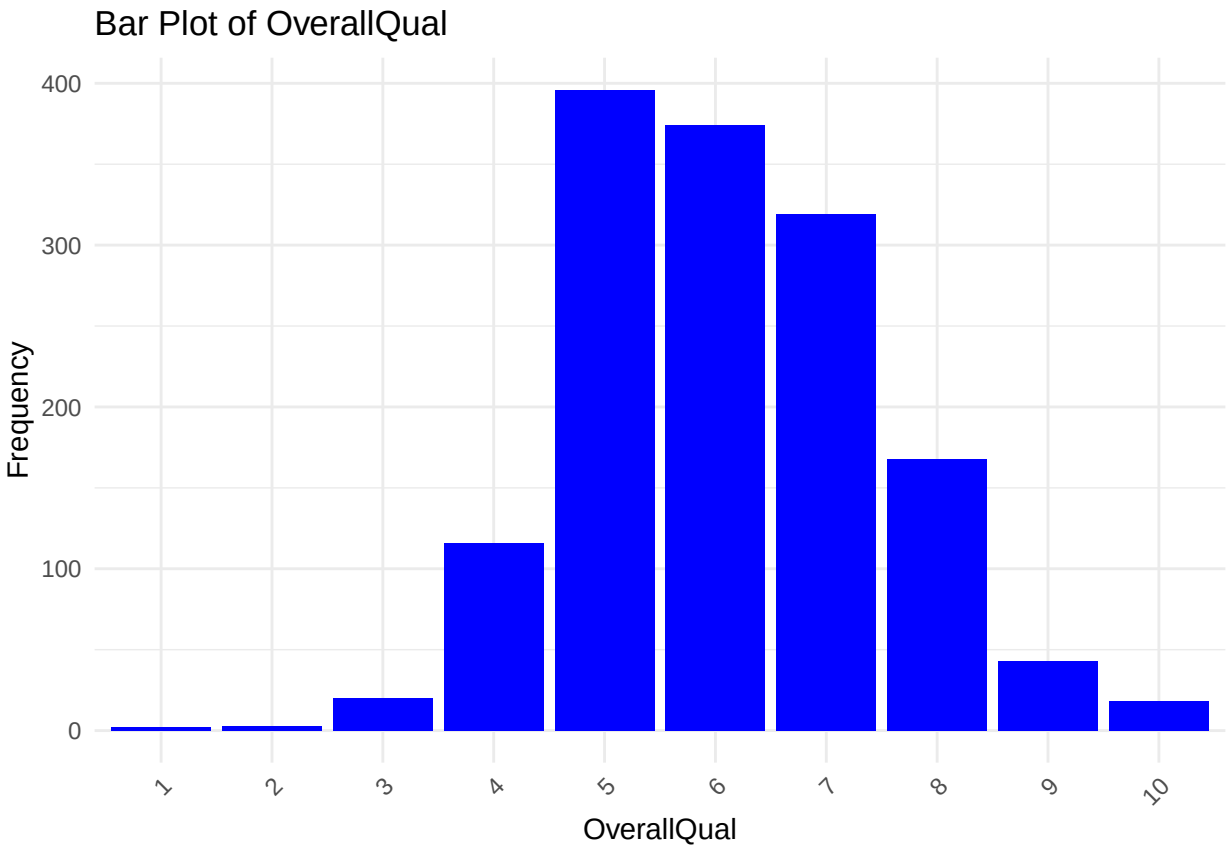

Bar Plot of Neighborhood
Frequency
0
50
100
150
200
Blmngtn
Blueste
BrDale
BrkSide
ClearCr
CollgCr
Crawfor
Edwards
Gilbert
IDOTRR
MeadowV
Mitchel
NAmes
NoRidge
NPkVill
NridgHt
NWAmes
OldTown
Sawyer
SawyerW
Somerst
StoneBr
SWISU
Timber
Veenker
Neighborhood

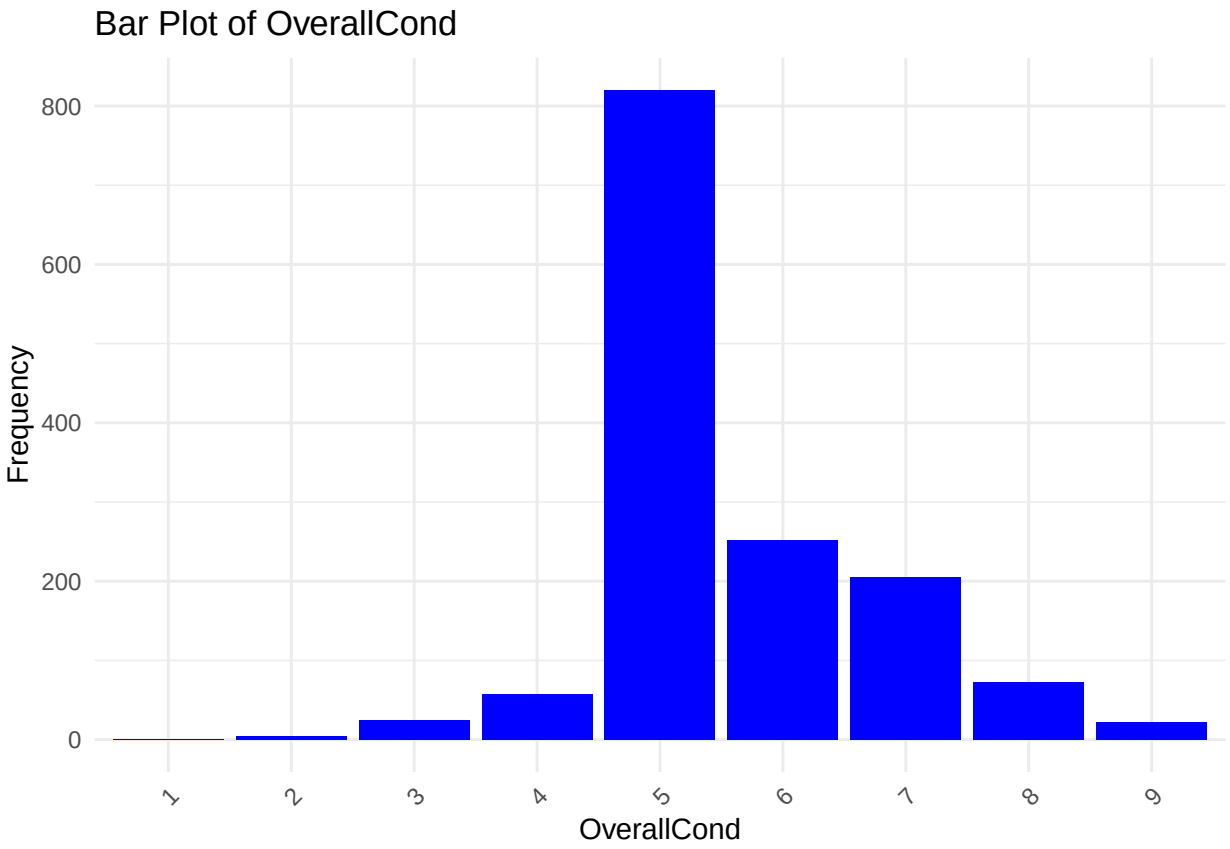

Bar Plot of Condition1
Frequency
1000
500
0
Artery
Feedr
Norm
PosA
PosN
RRAe
RRAn
RRNe
RRNn
Condition1

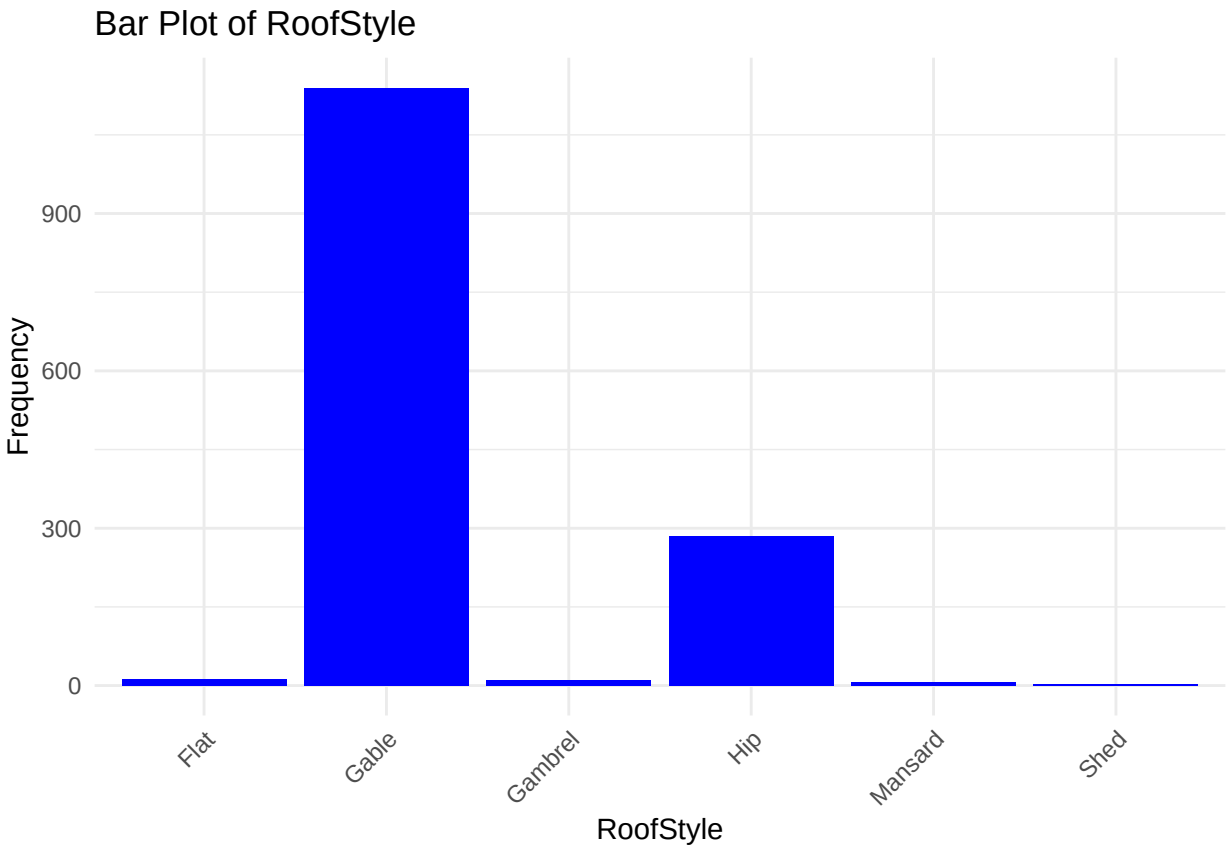

Bar Plot of Condition2
1500
1000
500
0
Frequency
Artery
Feedr
Norm
PosA
PosN
RRAe
RRAn
RRNn
Condition2

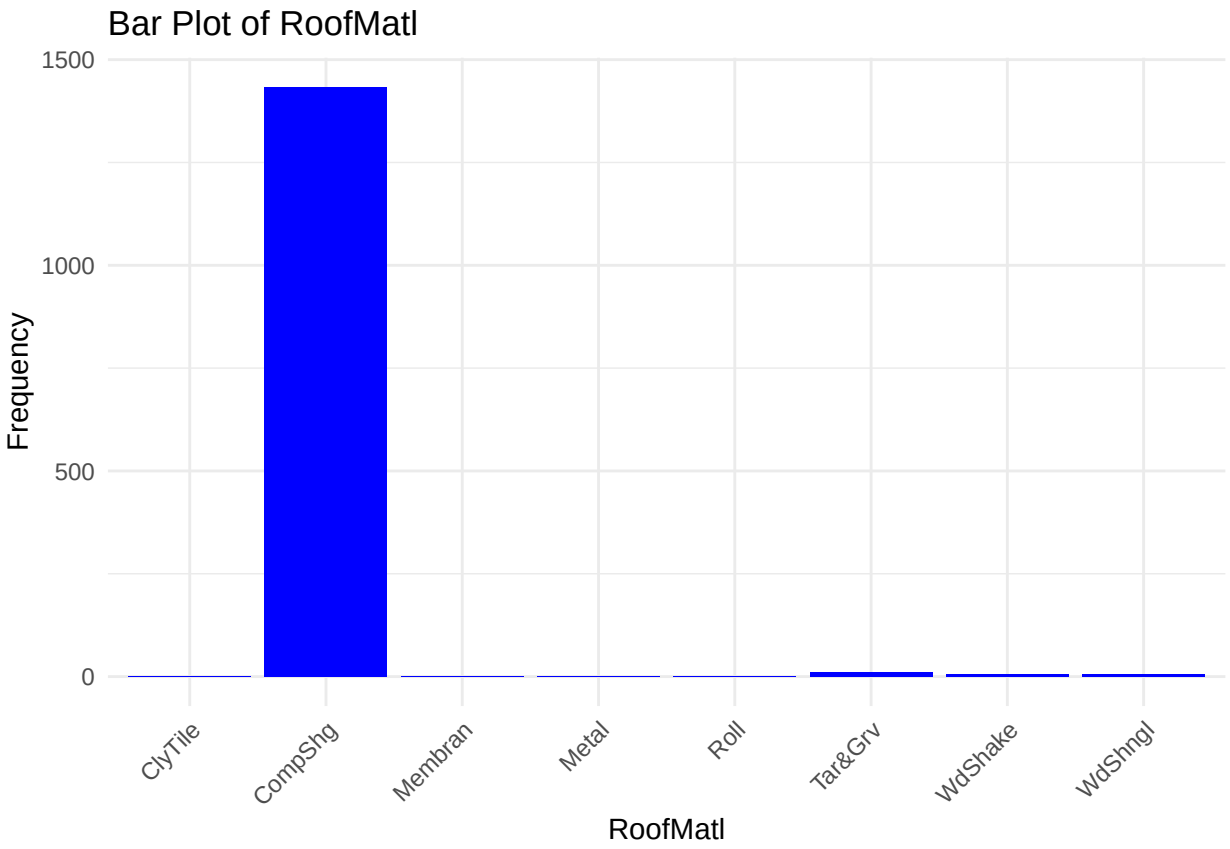

Bar Plot of BldgType
Frequency
1250
1000
750
500
250
0
1Fam
2fmCon
Duplex
Twnhs
TwnhsE
BldgType

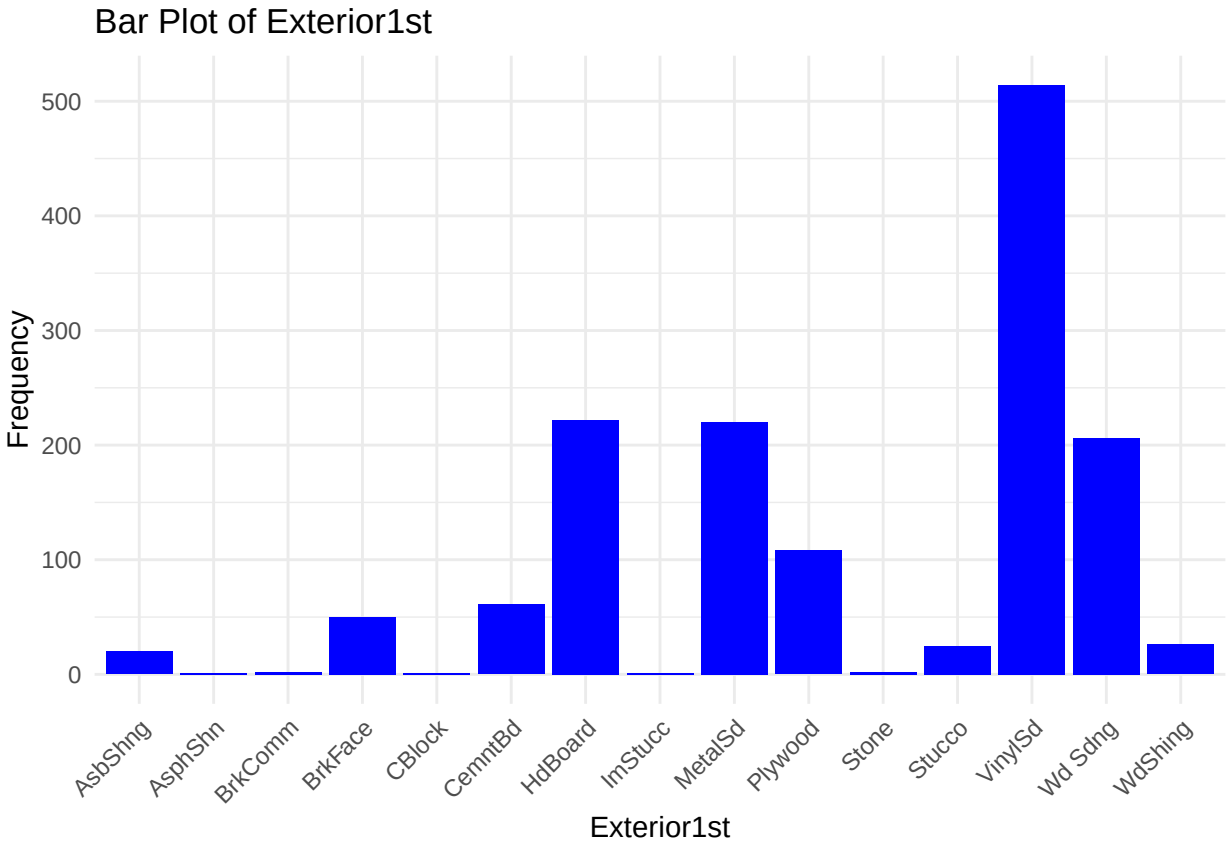

Bar Plot of HouseStyle
Frequency
600
400
200
0
1.5Fin
1.5Unf
1Story
2.5Fin
2.5Unf
2Story
SFoyer
SLvl
HouseStyle

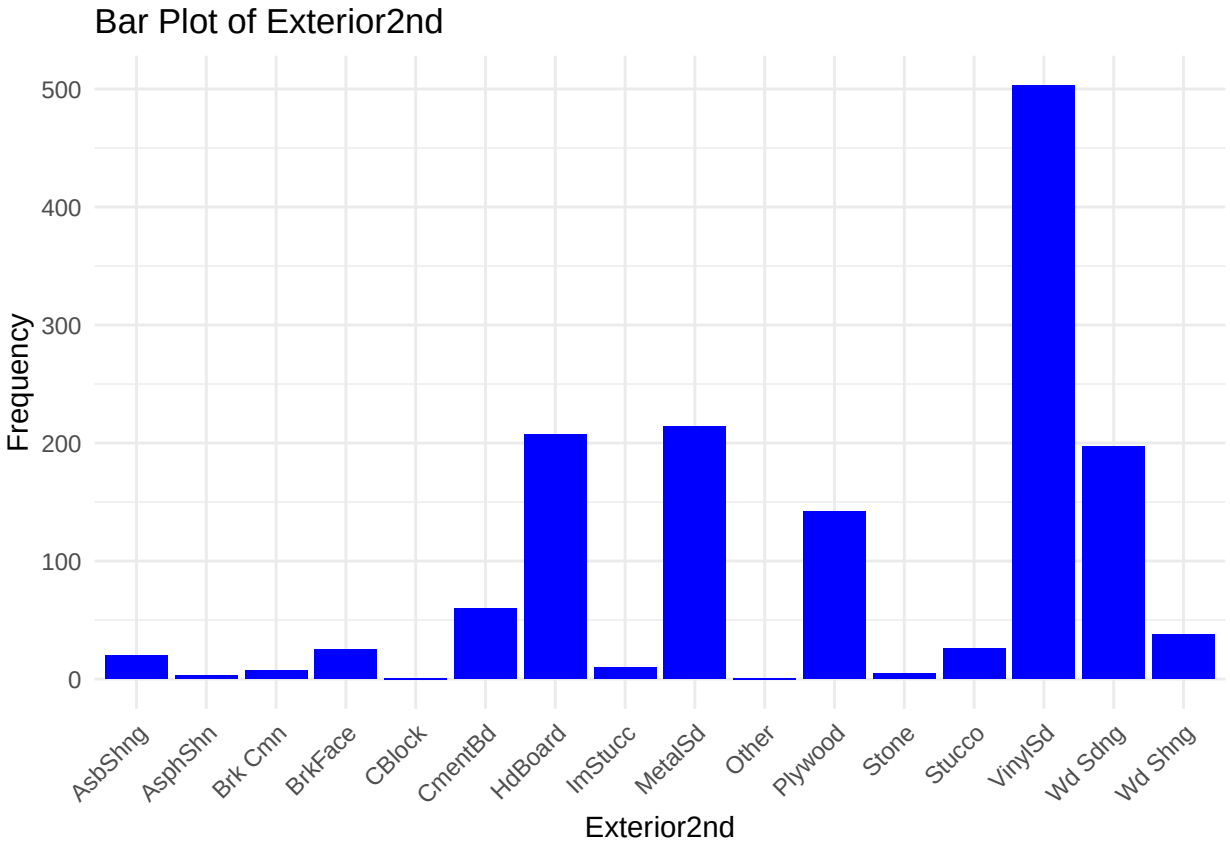

Bar Plot of OverallQual
Frequency
400
300
200
100
0
1
2
3
4
5
6
7
8
9
10
OverallQual

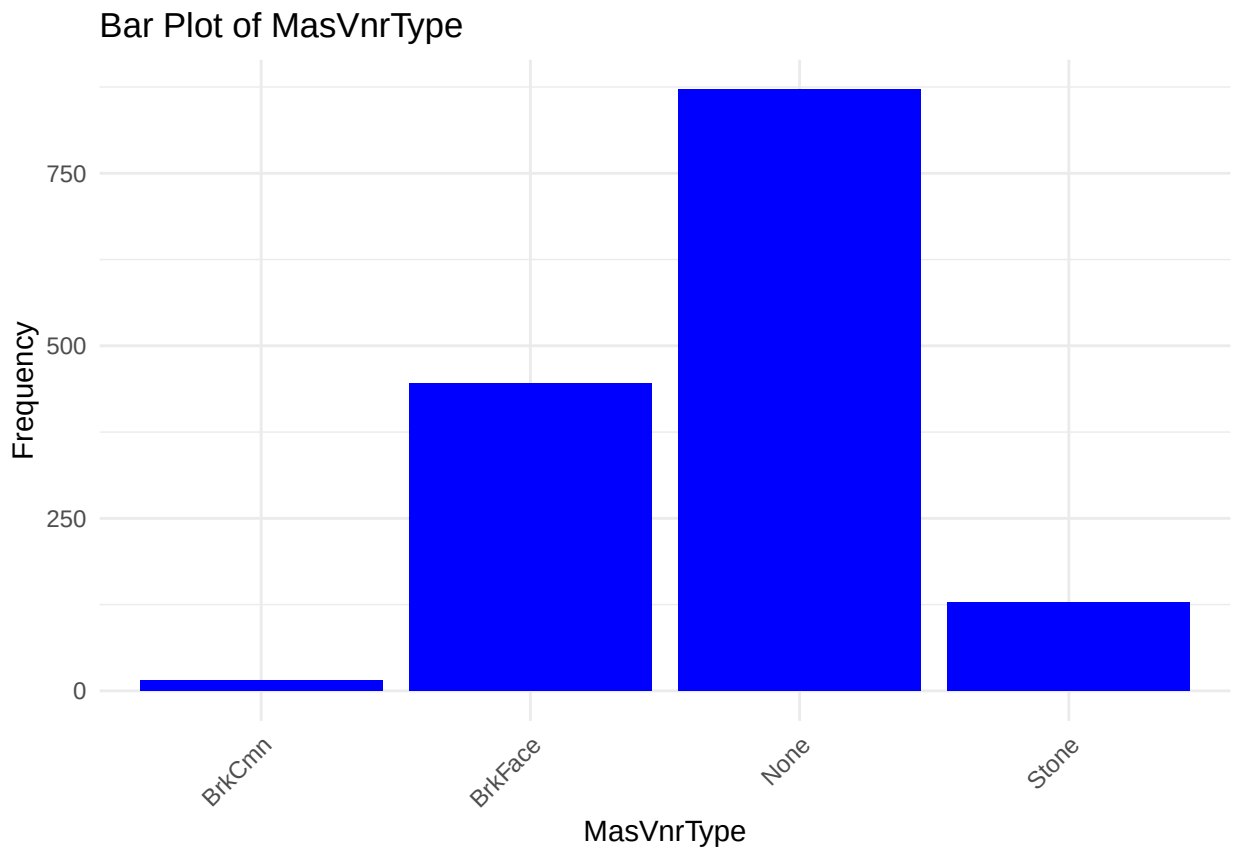

Bar Plot of OverallCond
Frequency
800
600
400
200
0
1
2
3
4
5
6
7
8
9
OverallCond

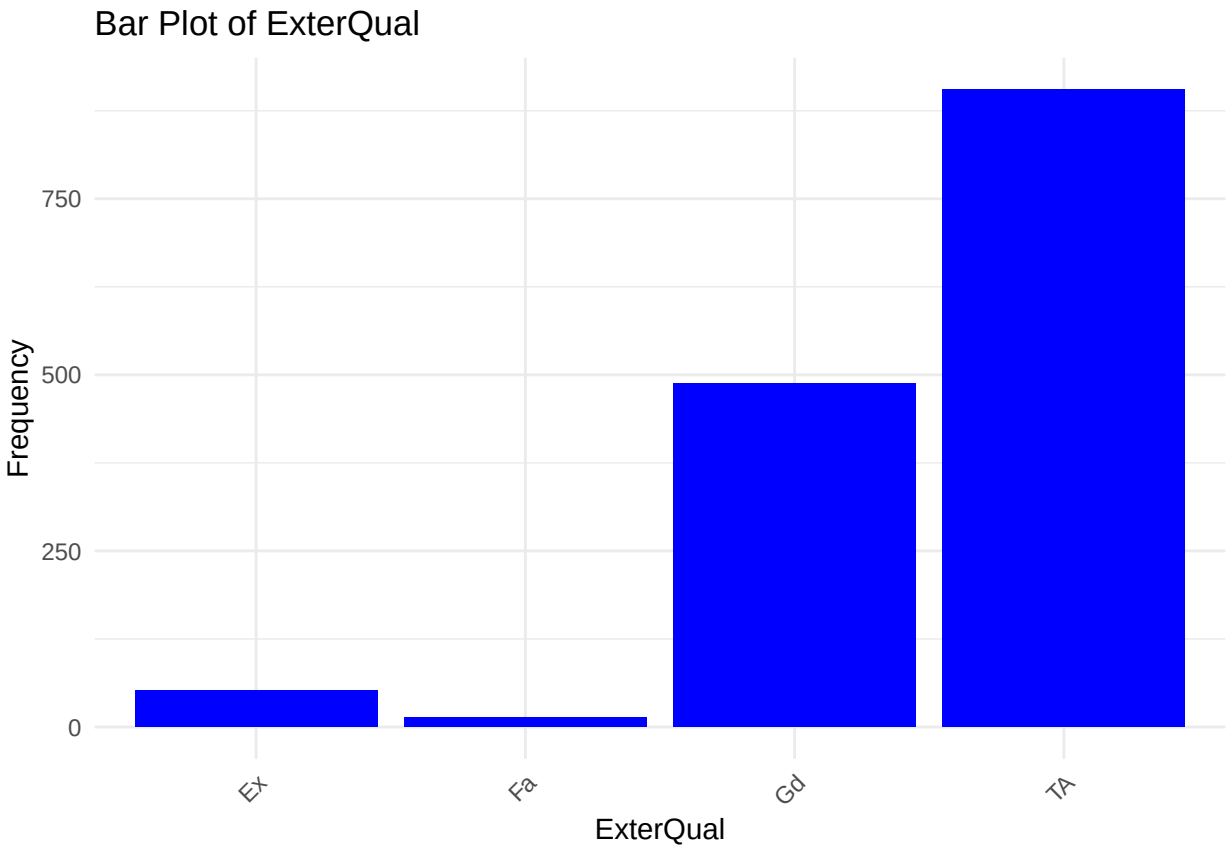

Bar Plot of RoofStyle
Frequency
900
600
300
0
Flat
Gable
Gambrel
Hip
Mansard
Shed
RoofStyle

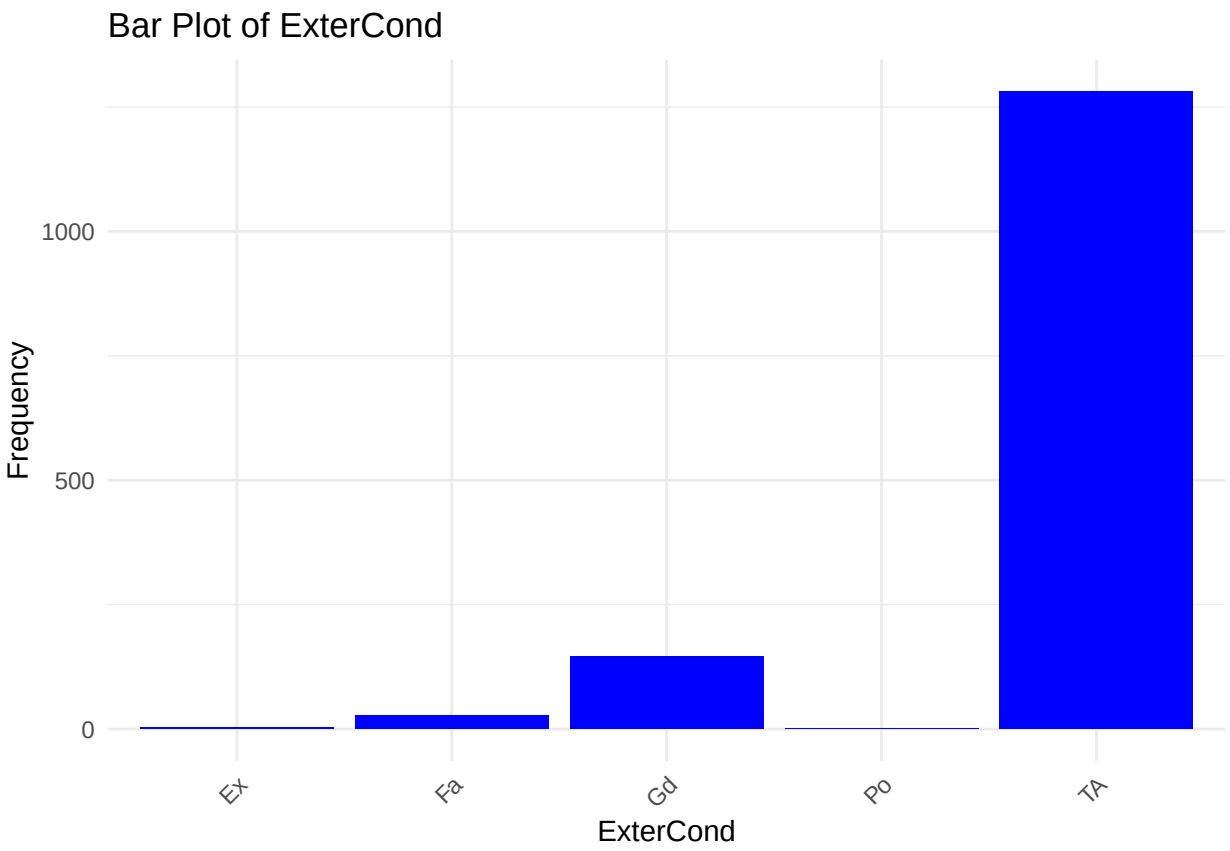

Bar Plot of RoofMatl
1500
1000
500
0
Frequency
ClyTile
CompShg
Membran
Metal
Roll
Tar&Grv
WdShake
WdShngl
RoofMatl

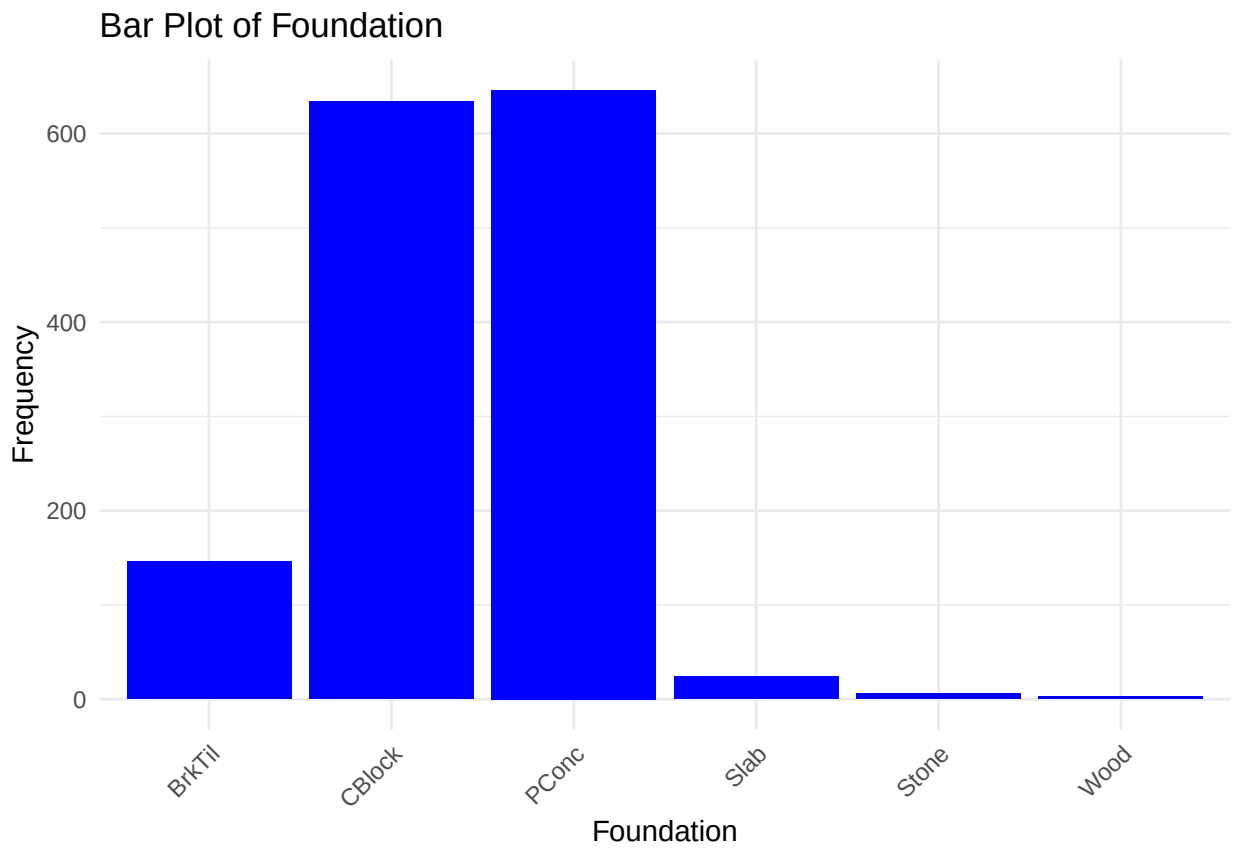

Bar Plot of Exterior1st
Frequency
500
400
300
200
100
0
AsbShng
AsphShn
BrkComm
BrkFace
CBlock
CemntBd
HdBoard
ImStucc
MetalSd
Plywood
Stone
Stucco
VinylSd
Wd Sdng
WdShing
Exterior1st

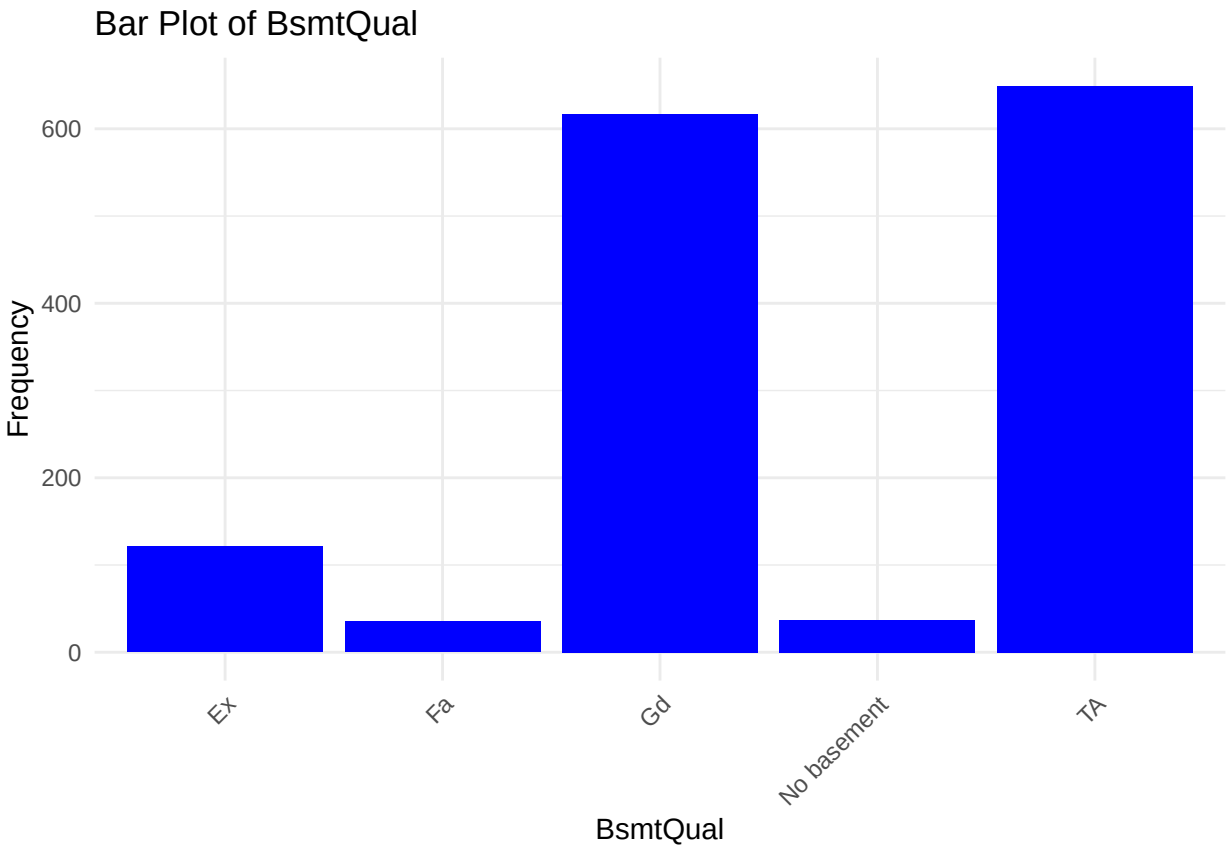

Bar Plot of Exterior2nd
Frequency
500
400
300
200
100
0
AsbShng
AsphShn
Brk Cmn
BrkFace
CBlock
CmentBd
HdBoard
ImStucc
MetalSd
Other
Plywood
Stone
Stucco
VinylSd
Wd Sdng
Wd Shng
Exterior2nd

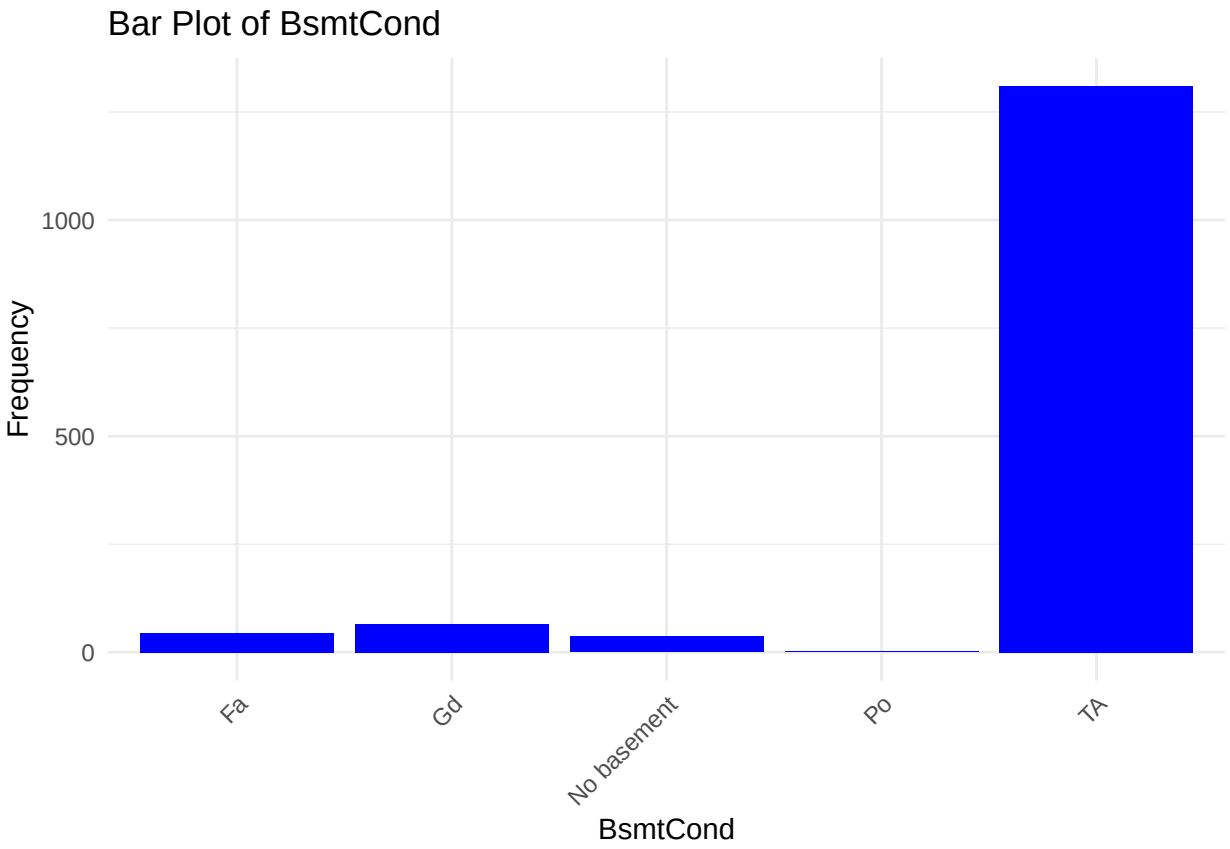

Bar Plot of MasVnrType
Frequency
750
500
250
0
BrkCmn
BrkFace
None
Stone
MasVnrType

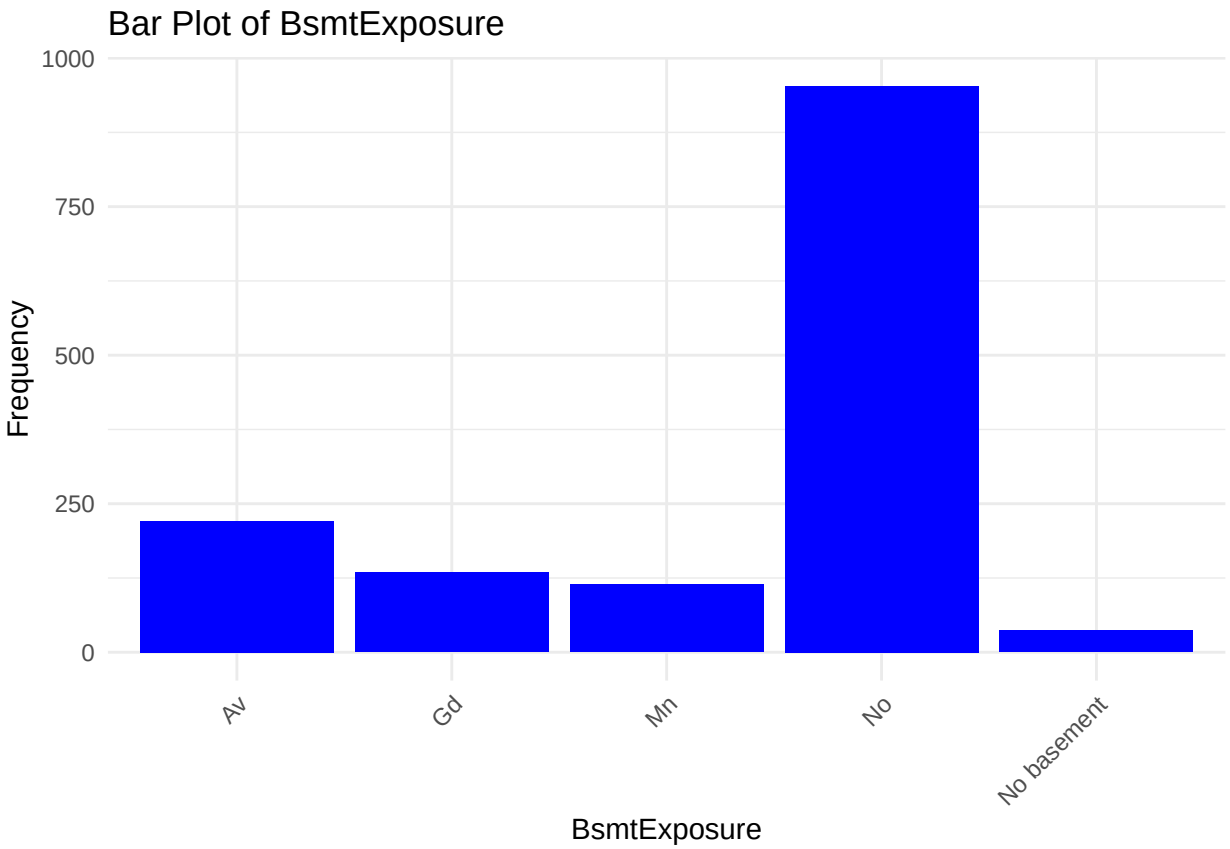

Bar Plot of ExterQual
Frequency
750
500
250
0
Ex
Fa
Gd
TA
ExterQual

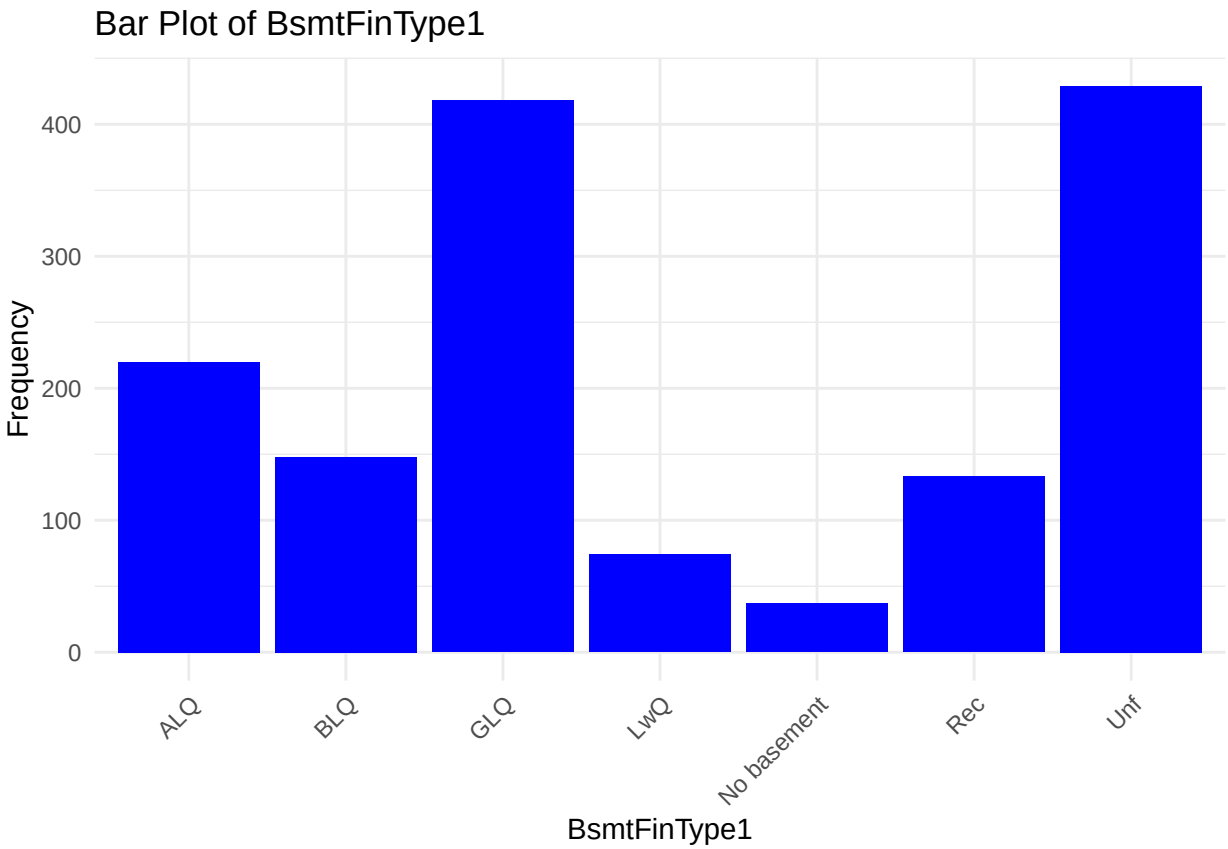

Bar Plot of ExterCond
Frequency
1000
500
0
Ex
Fa
Gd
Po
TA
ExterCond

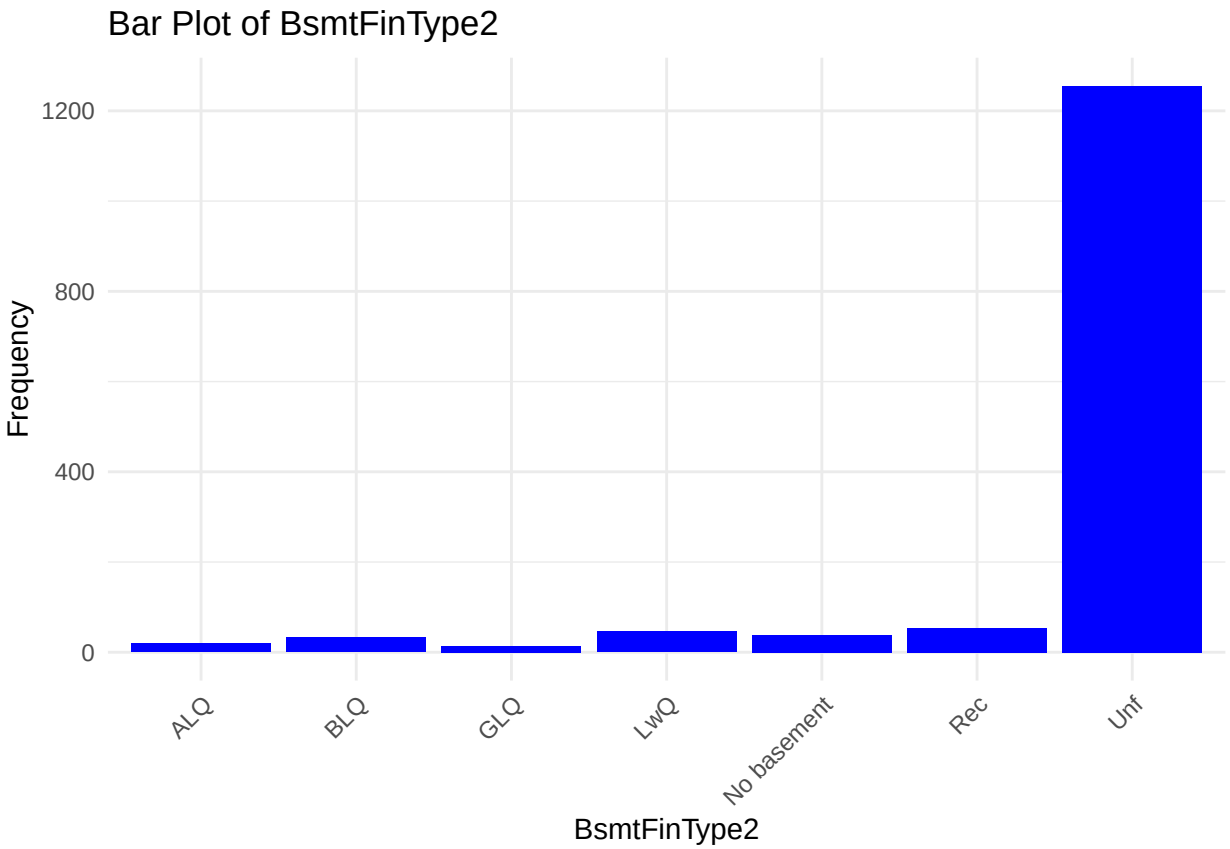

Bar Plot of Foundation
Frequency
600
400
200
0
BrkTil
CBlock
PConc
Slab
Stone
Wood
Foundation

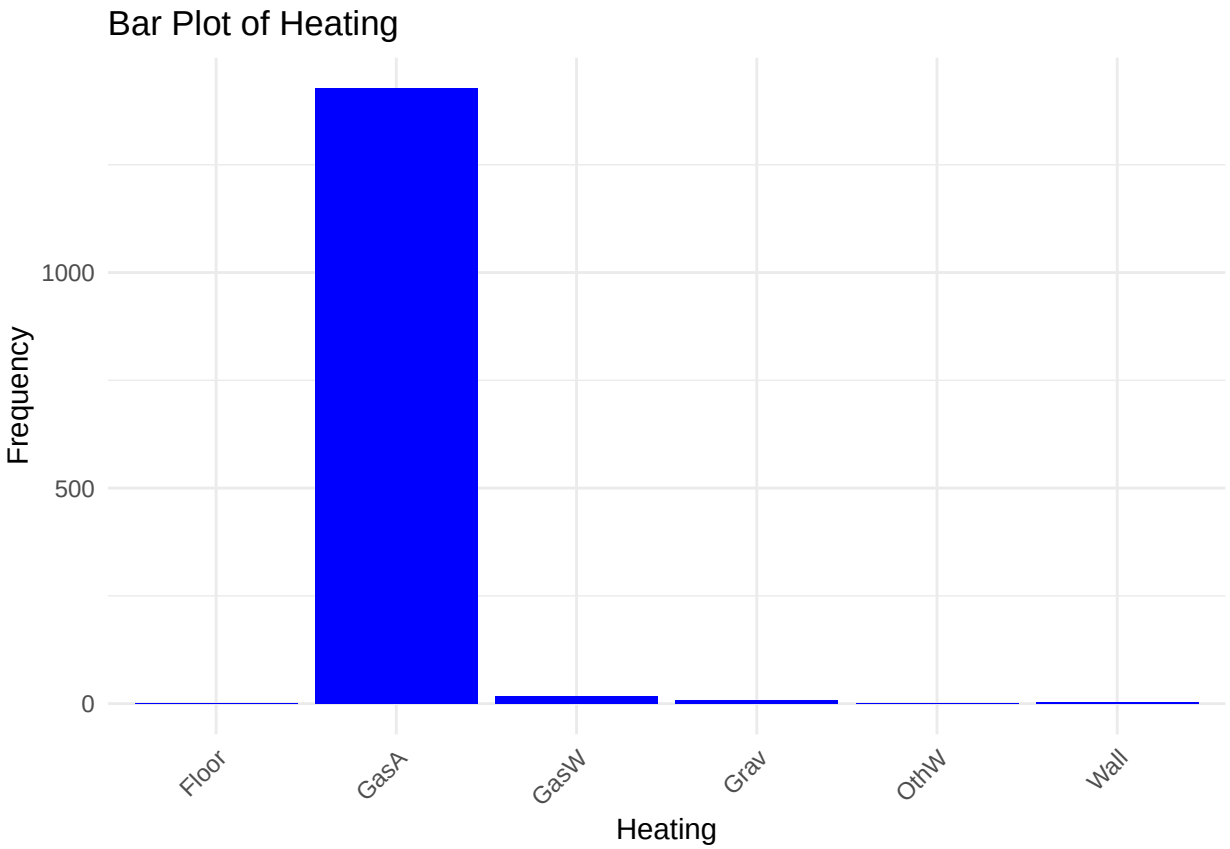

Bar Plot of BsmtQual
Frequency
600
400
200
0
Ex
Fa
Gd
No basement
TA
BsmtQual

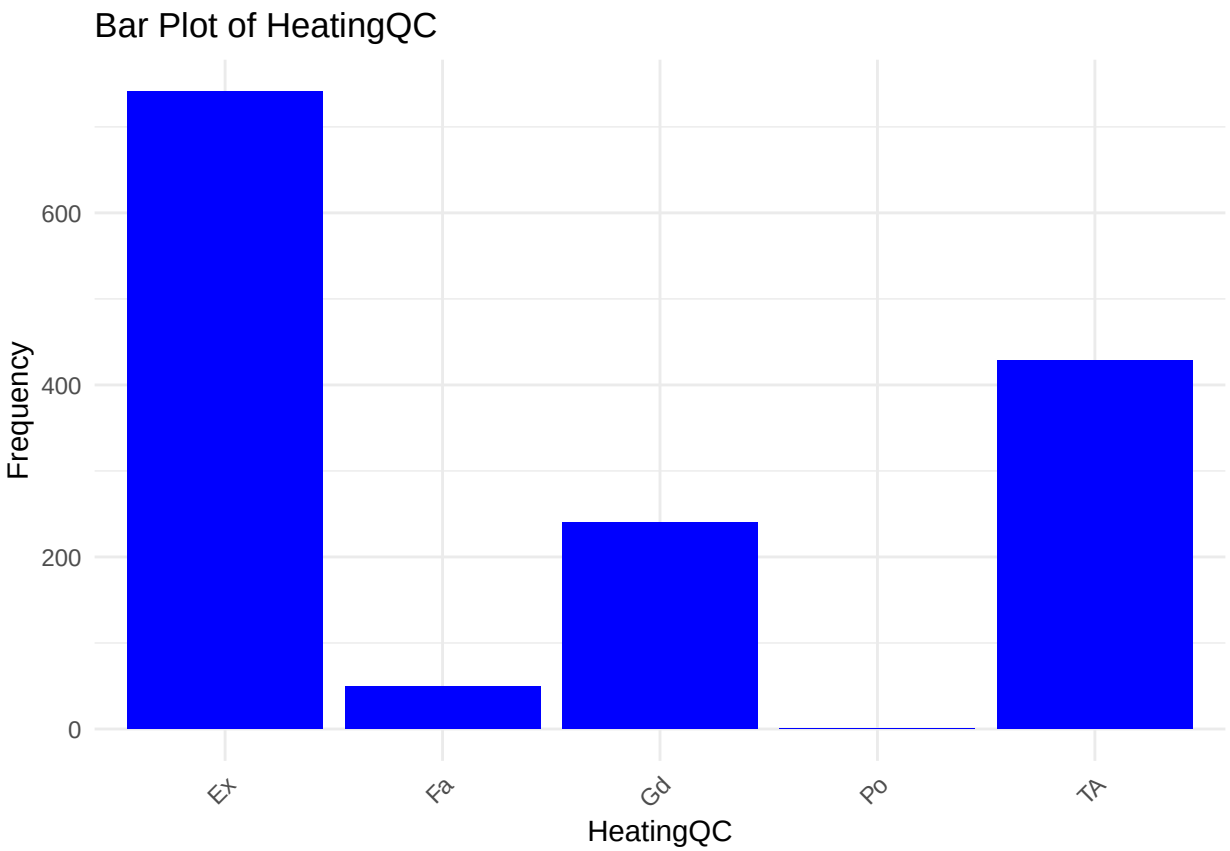

Bar Plot of BsmtCond
Frequency
1000
500
0
Fa
Gd
No basement
Po
TA
BsmtCond

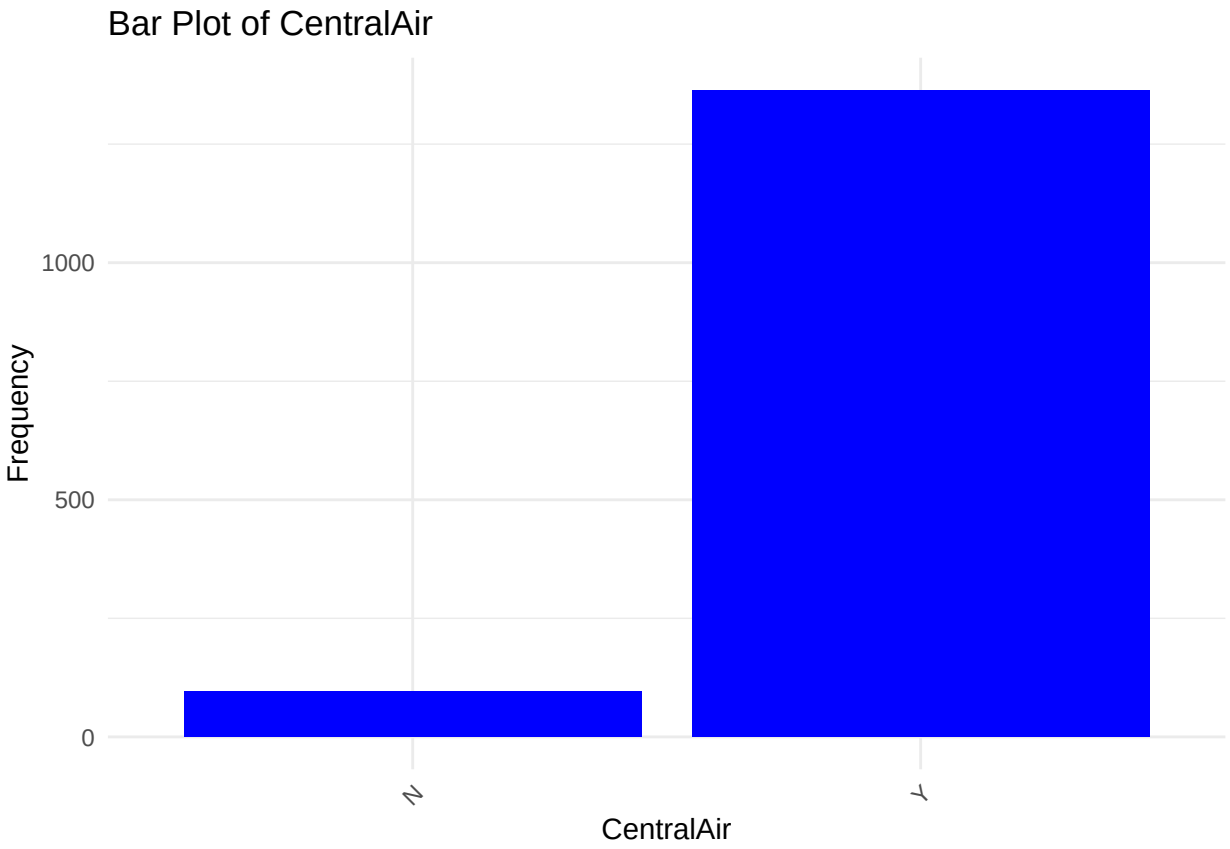

Bar Plot of BsmtExposure
1000
750
500
250
0
Frequency
Av
Gd
Mn
No
No basement
BsmtExposure

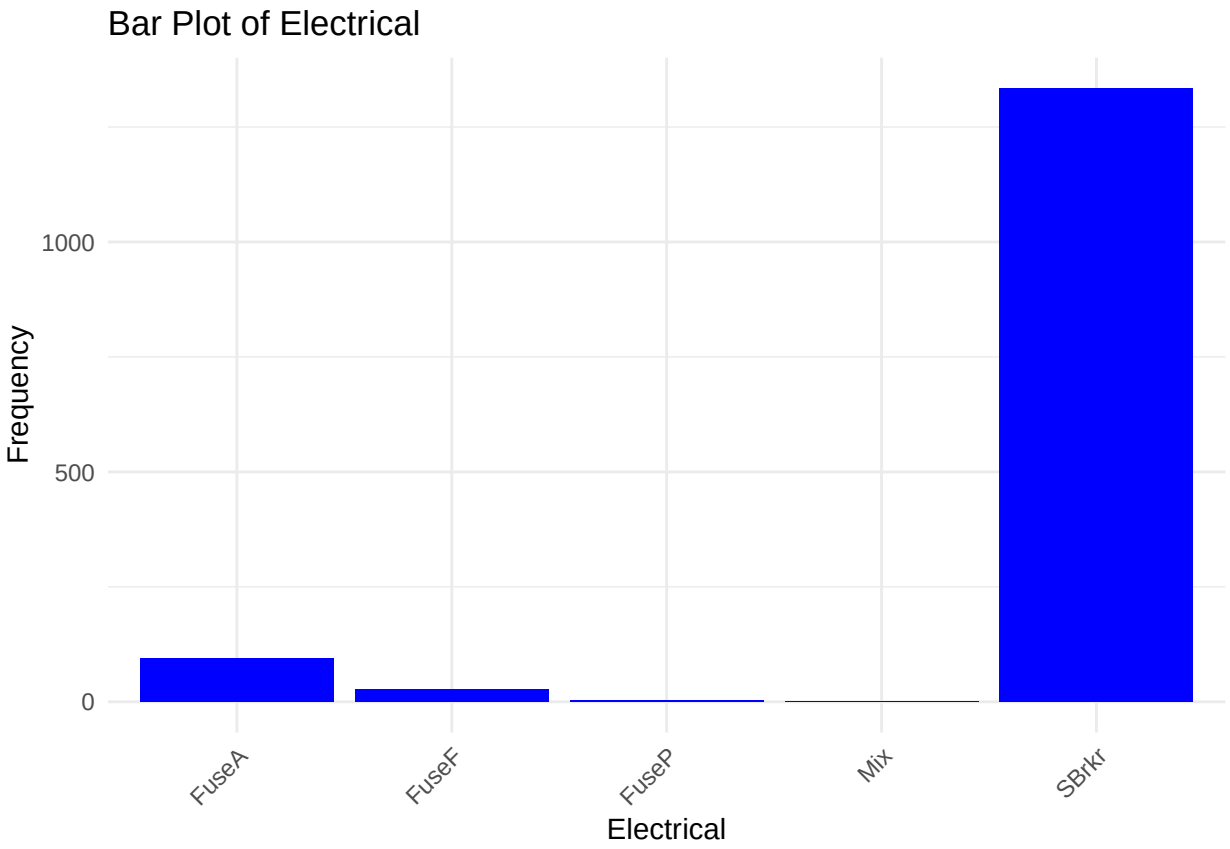

Bar Plot of BsmtFinType1
Frequency
400
300
200
100
0
ALQ
BLQ
GLQ
LwQ
No basement
Rec
Unf
BsmtFinType1

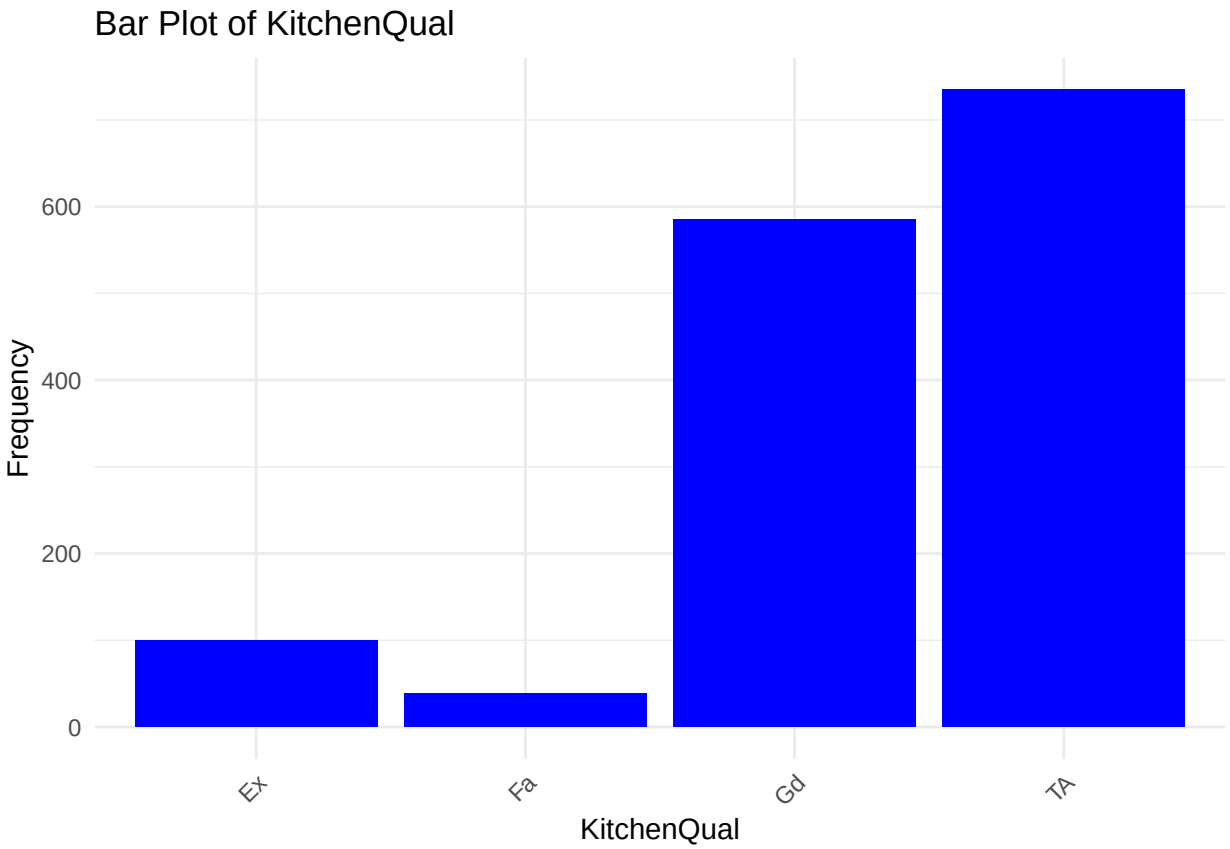

Bar Plot of BsmtFinType2
Frequency
1200
800
400
0
ALQ
BLQ
GLQ
LwQ
No basement
Rec
Unf
BsmtFinType2

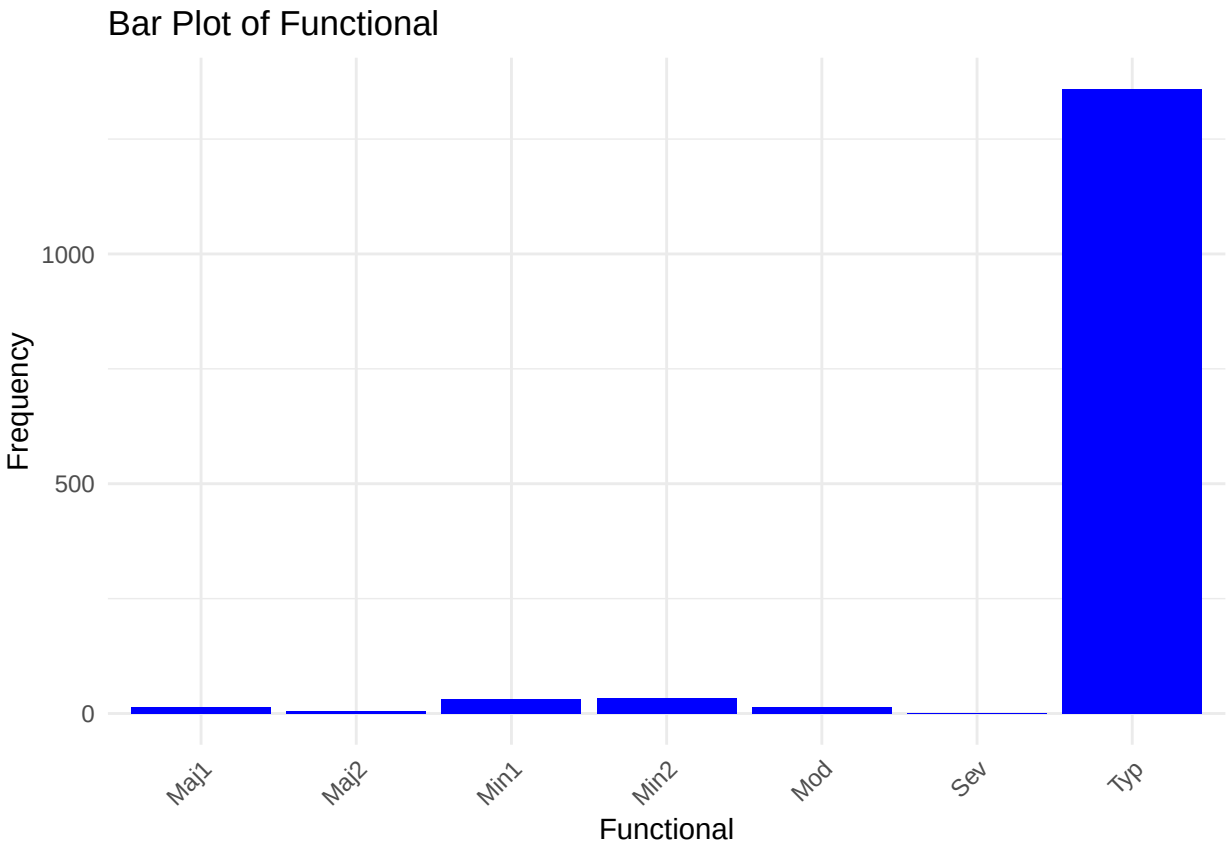

Bar Plot of Heating
Frequency
1000
500
0
Floor
GasA
GasW
Grav
OthW
Wall
Heating

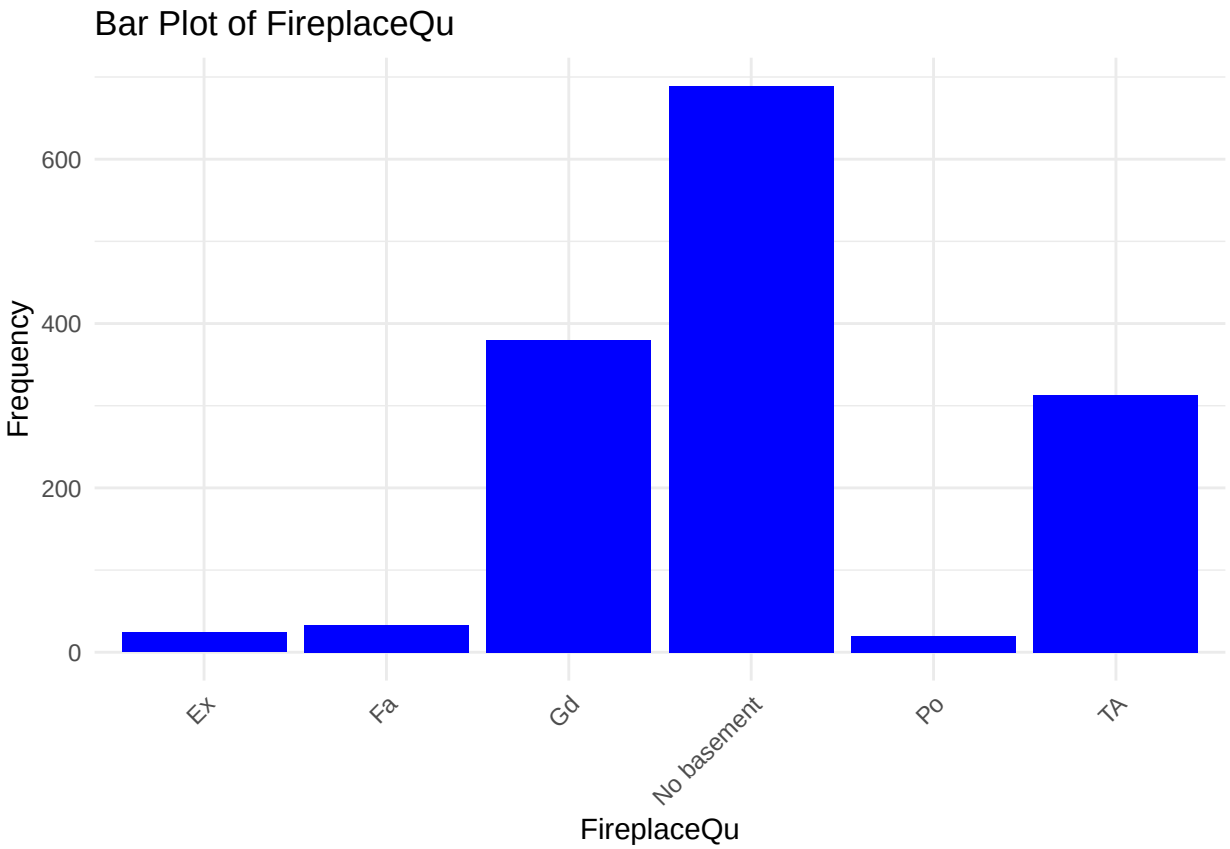

Bar Plot of HeatingQC
Frequency
600
400
200
0
Ex
Fa
Gd
Po
TA
HeatingQC

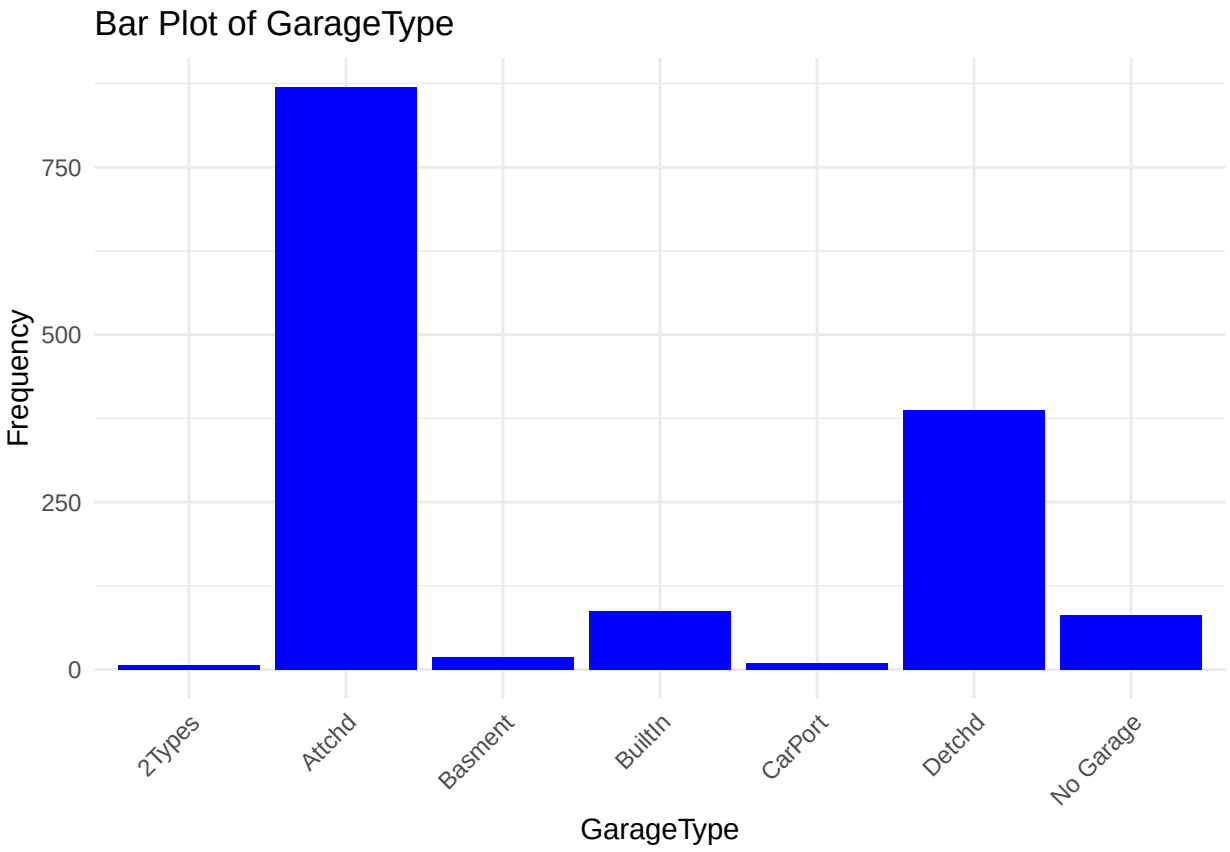

Bar Plot of CentralAir
Frequency
1000
500
0
N
Y
CentralAir

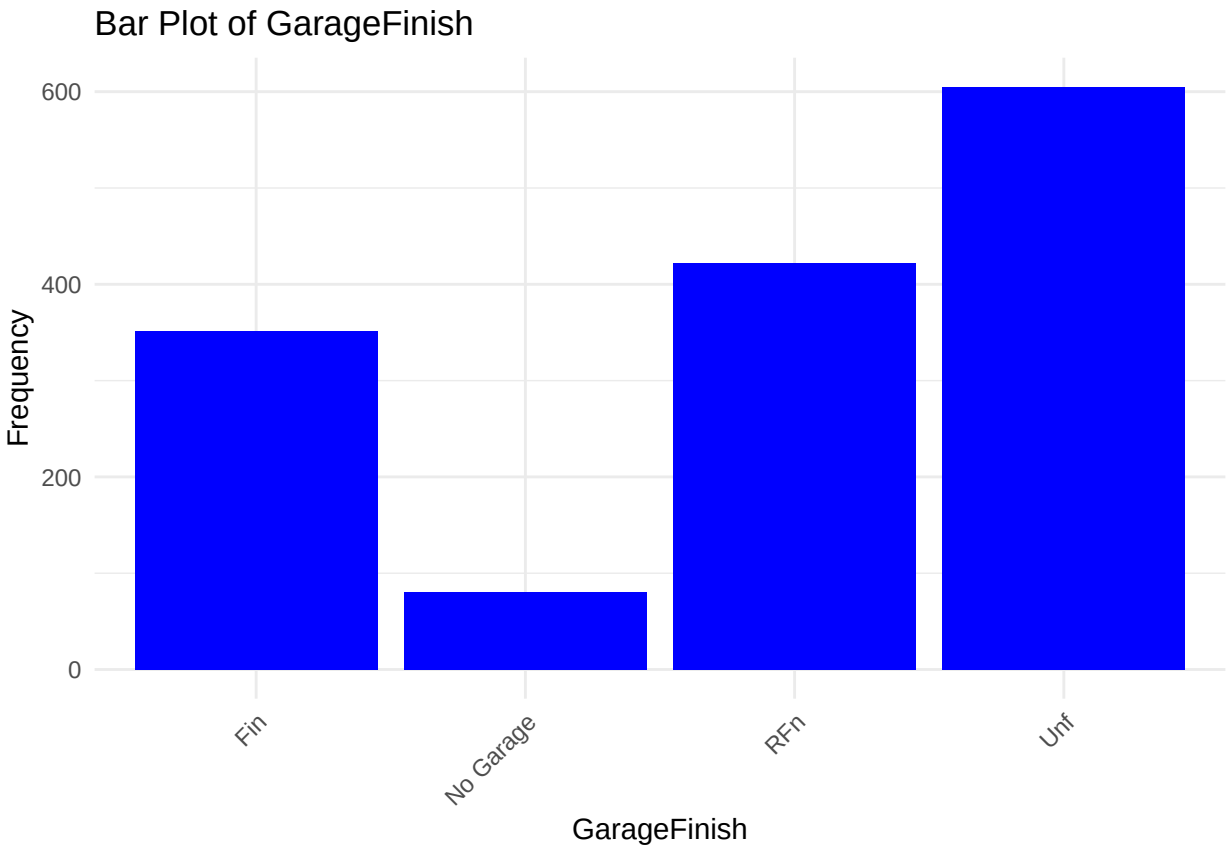

Bar Plot of Electrical
Frequency
1000
500
0
FuseA
FuseF
FuseP
Mix
SBrkr
Electrical

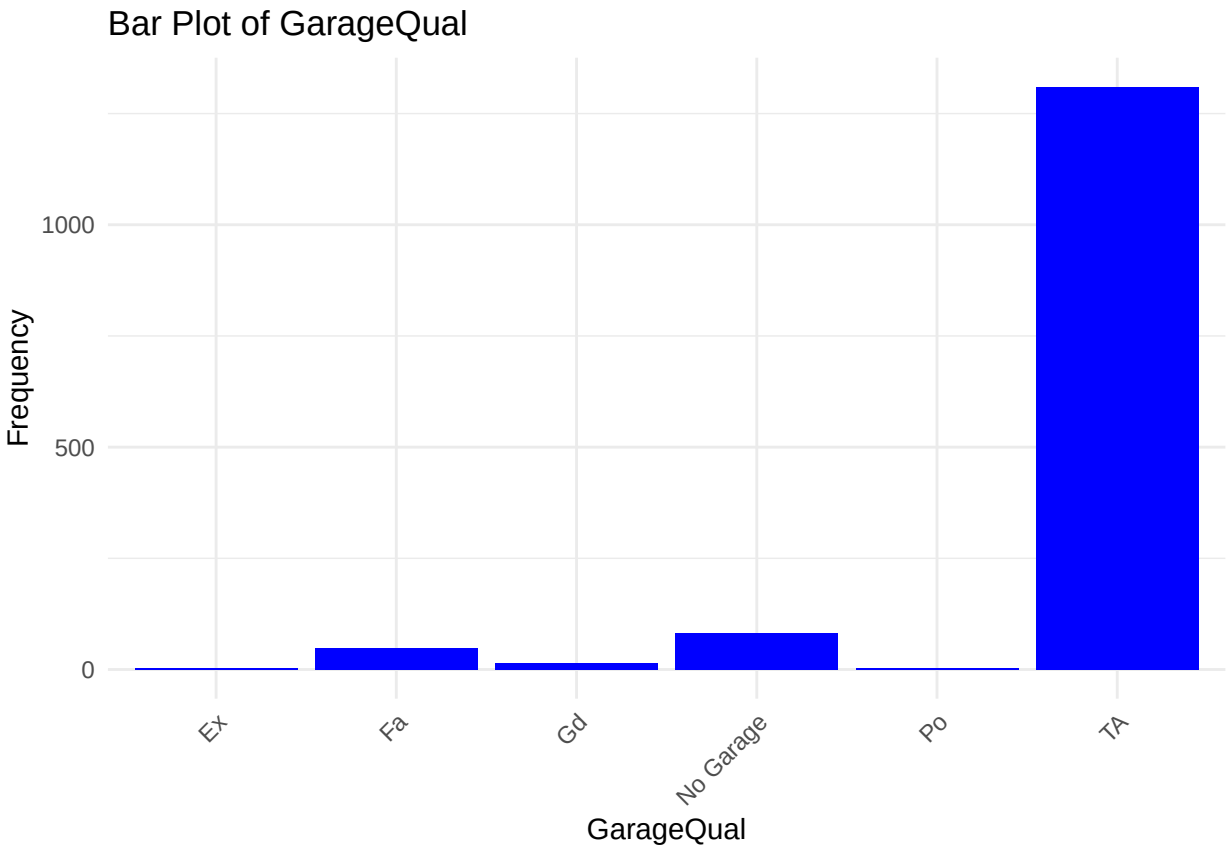

Bar Plot of KitchenQual
Frequency
600
400
200
0
Ex
Fa
Gd
TA
KitchenQual

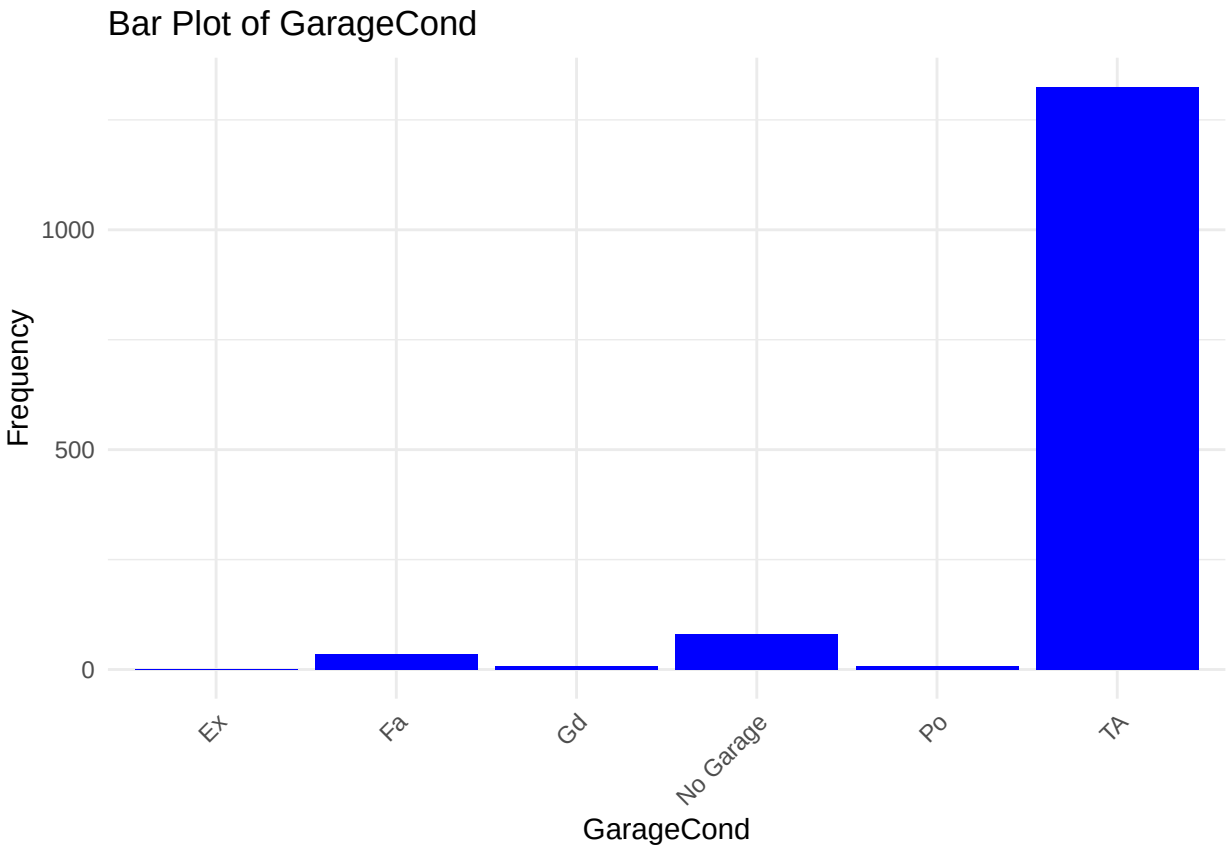

Bar Plot of Functional
Frequency
1000
500
0
Maj1
Maj2
Min1
Min2
Mod
Sev
Typ
Functional

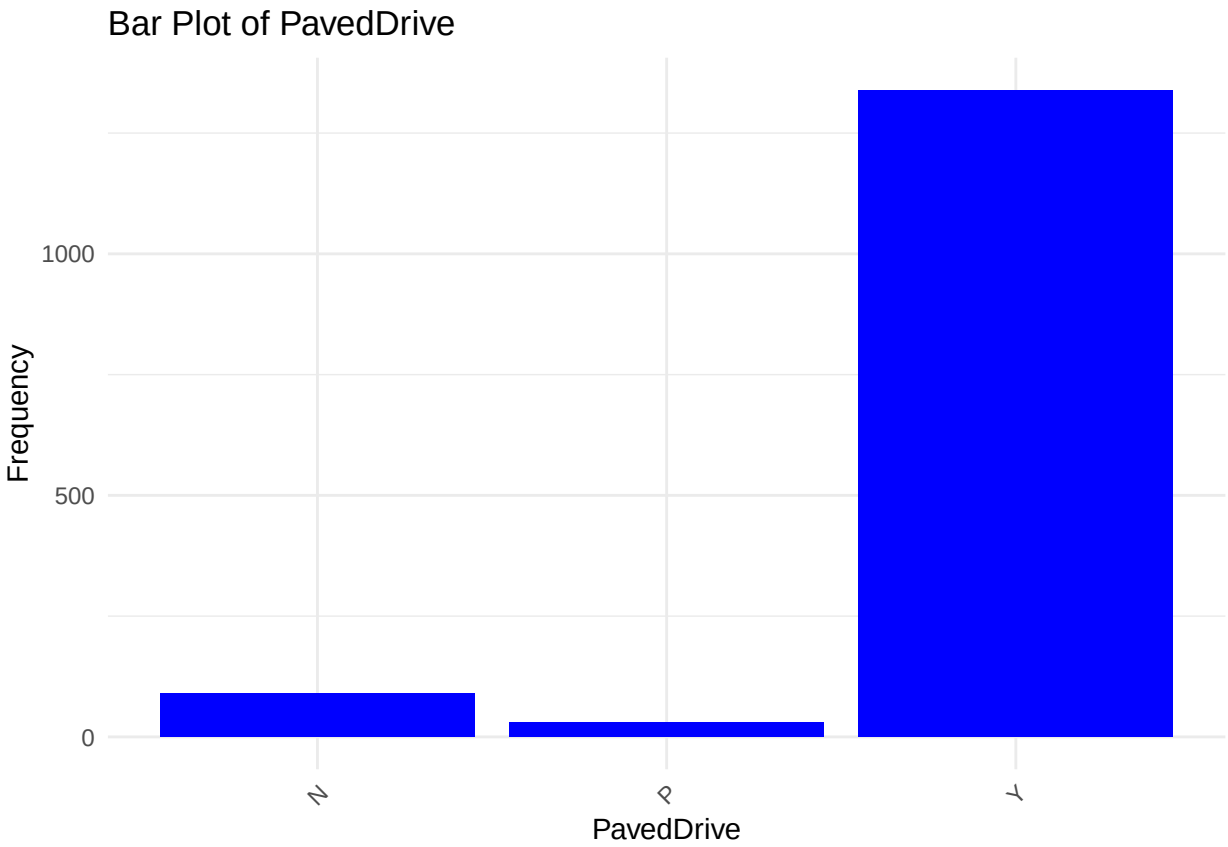

Bar Plot of FireplaceQu
Frequency
600
400
200
0
Ex
Fa
Gd
No basement
Po
TA
FireplaceQu

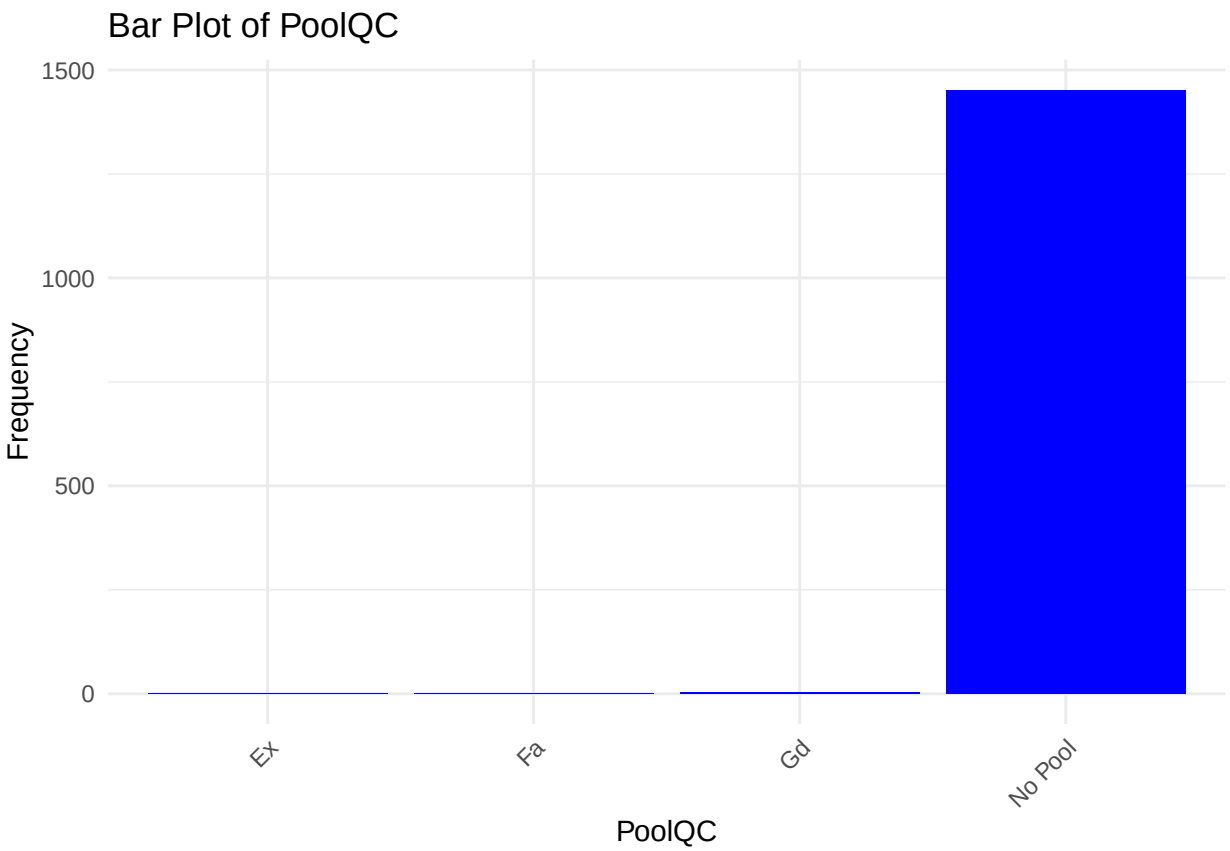

Bar Plot of GarageType
Frequency
750
500
250
0
2Types
Attchd
Basment
BuiltIn
CarPort
Detchd
No Garage
GarageType

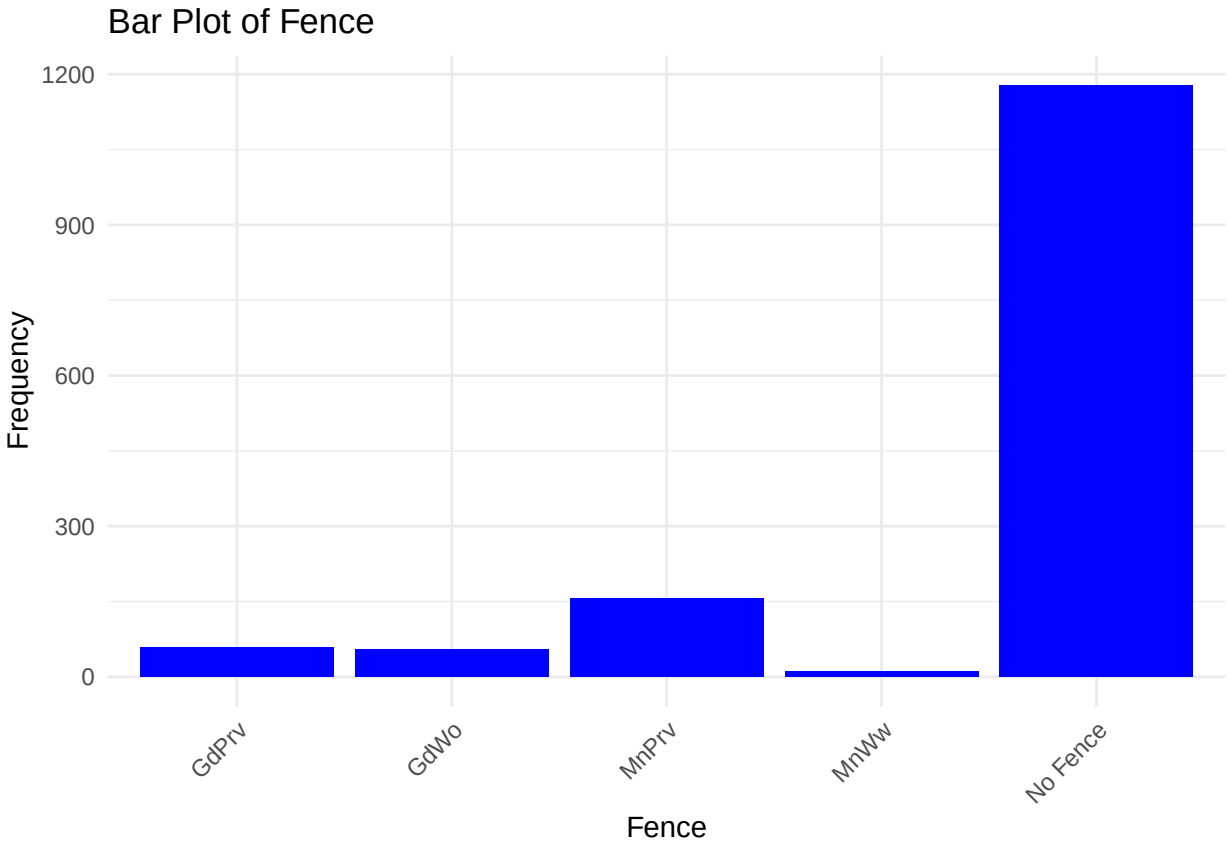

Bar Plot of GarageFinish
600
400
200
0
Frequency
Fin
No Garage
RFn
Unf
GarageFinish

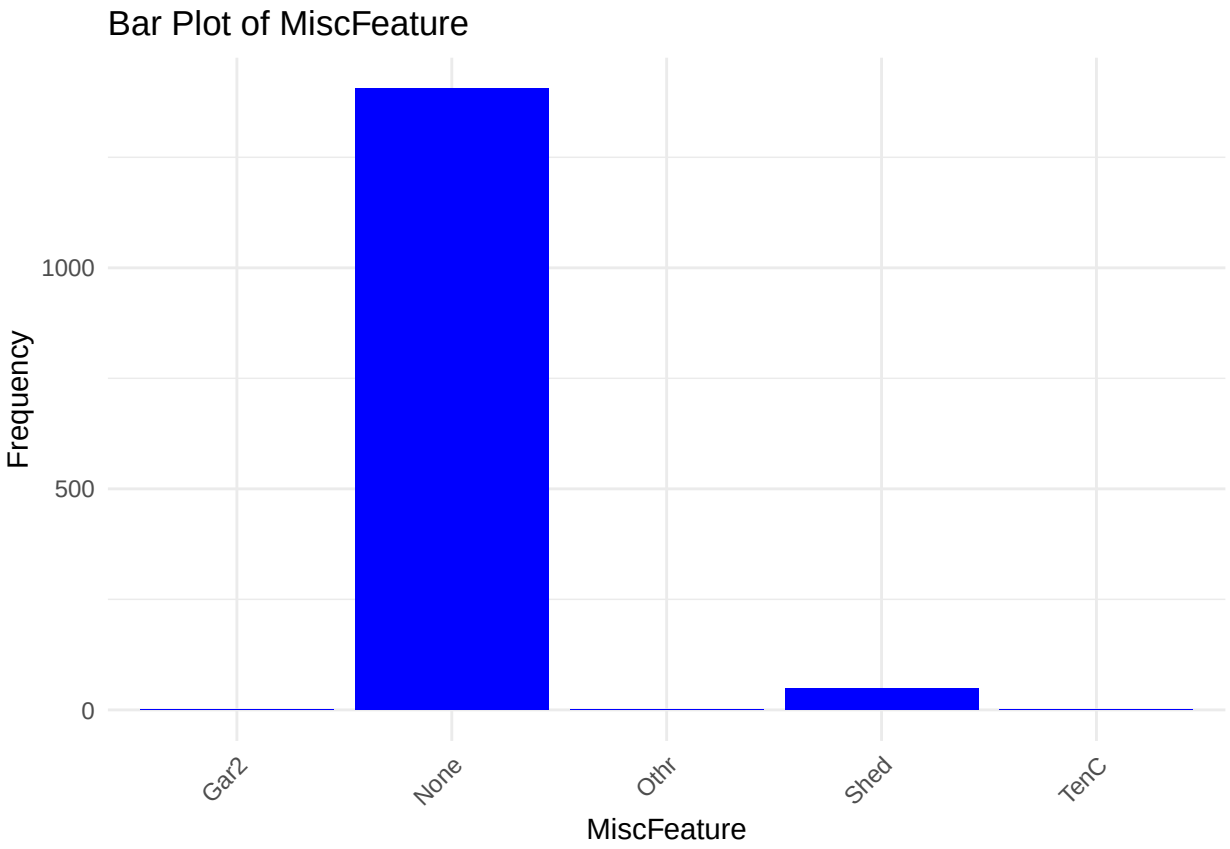

Bar Plot of GarageQual
Frequency
1000
500
0
Ex
Fa
Gd
No Garage
Po
TA
GarageQual

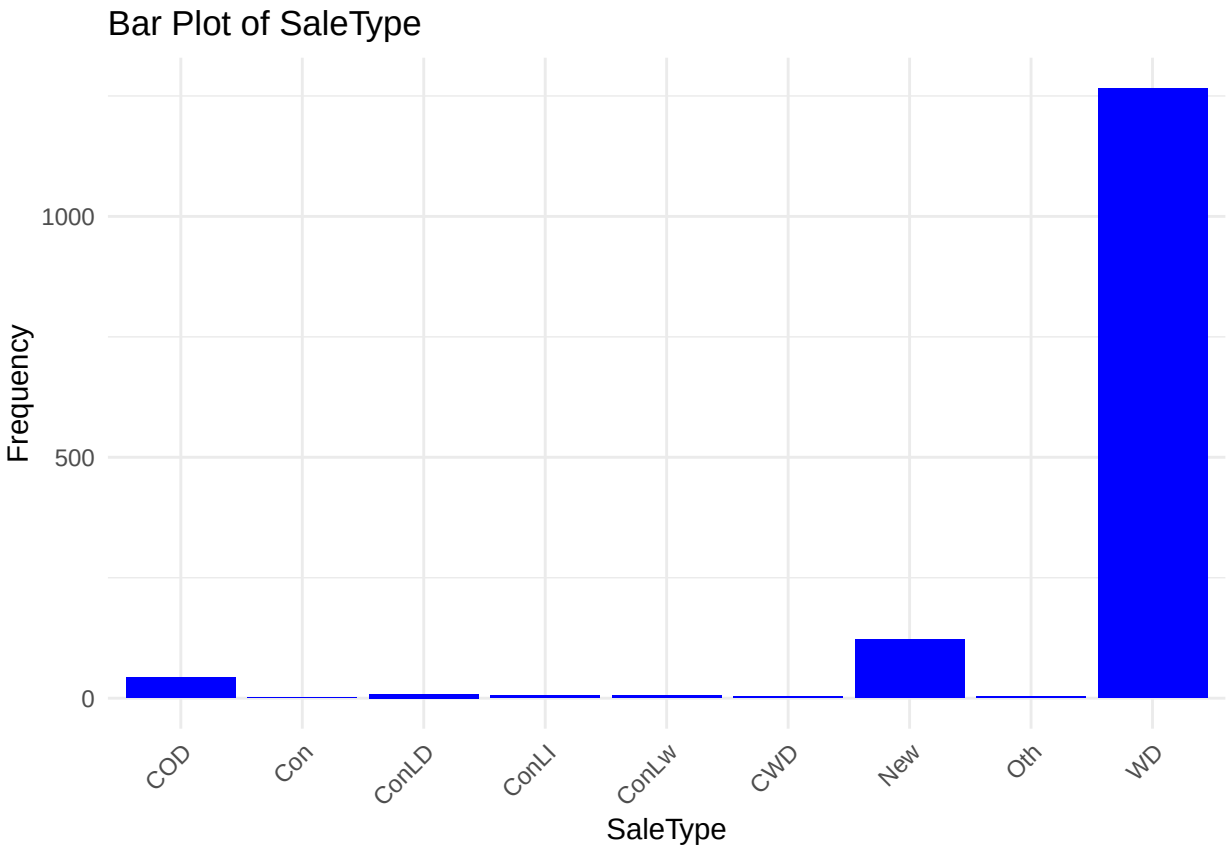

Bar Plot of GarageCond
Frequency
1000
500
0
Ex
Fa
Gd
No Garage
Po
TA
GarageCond

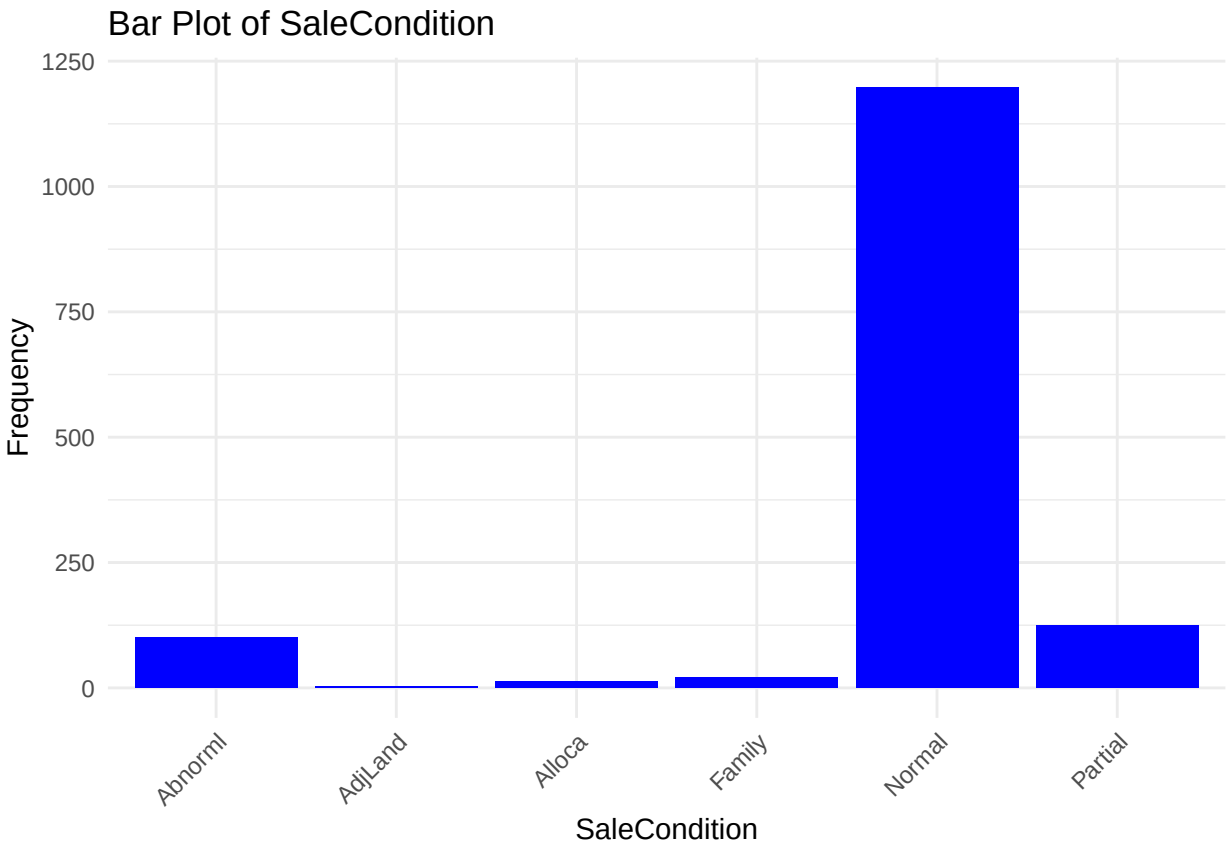

Bar Plot of PavedDrive
Frequency
1000
500
0
N
P
Y
PavedDrive


Bar Plot of PoolQC
1500
1000
500
0
Frequency
Ex
Fa
Gd
No Pool
PoolQC


Bar Plot of Fence
1200
900
600
300
0
Frequency
GdPrv
GdWo
MnPrv
MnWw
No Fence
Fence


Bar Plot of MiscFeature
Frequency
1000
500
0
Gar2
None
Othr
Shed
TenC
MiscFeature

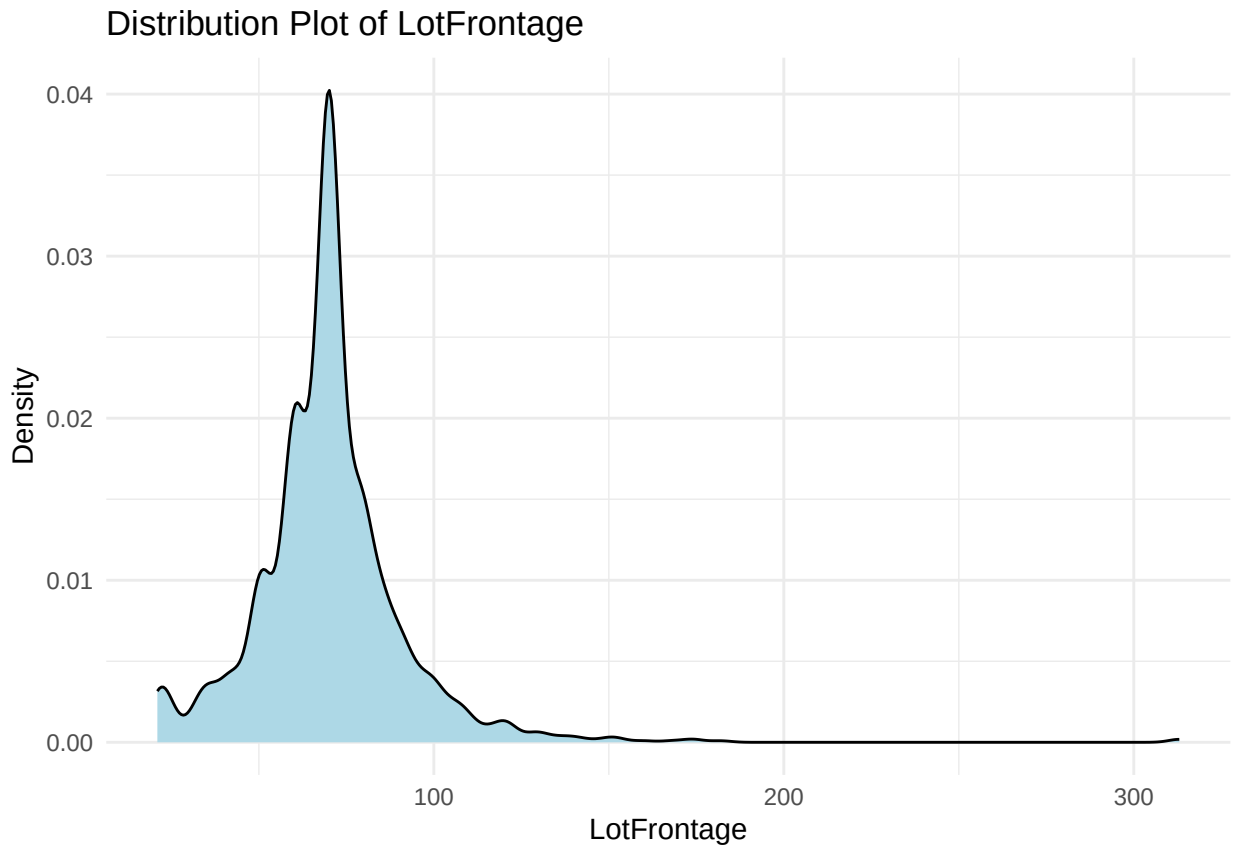

Bar Plot of SaleType
Frequency
1000
500
0
COD
Con
ConLD
ConLI
ConLw
CWD
New
Oth
WD
SaleType

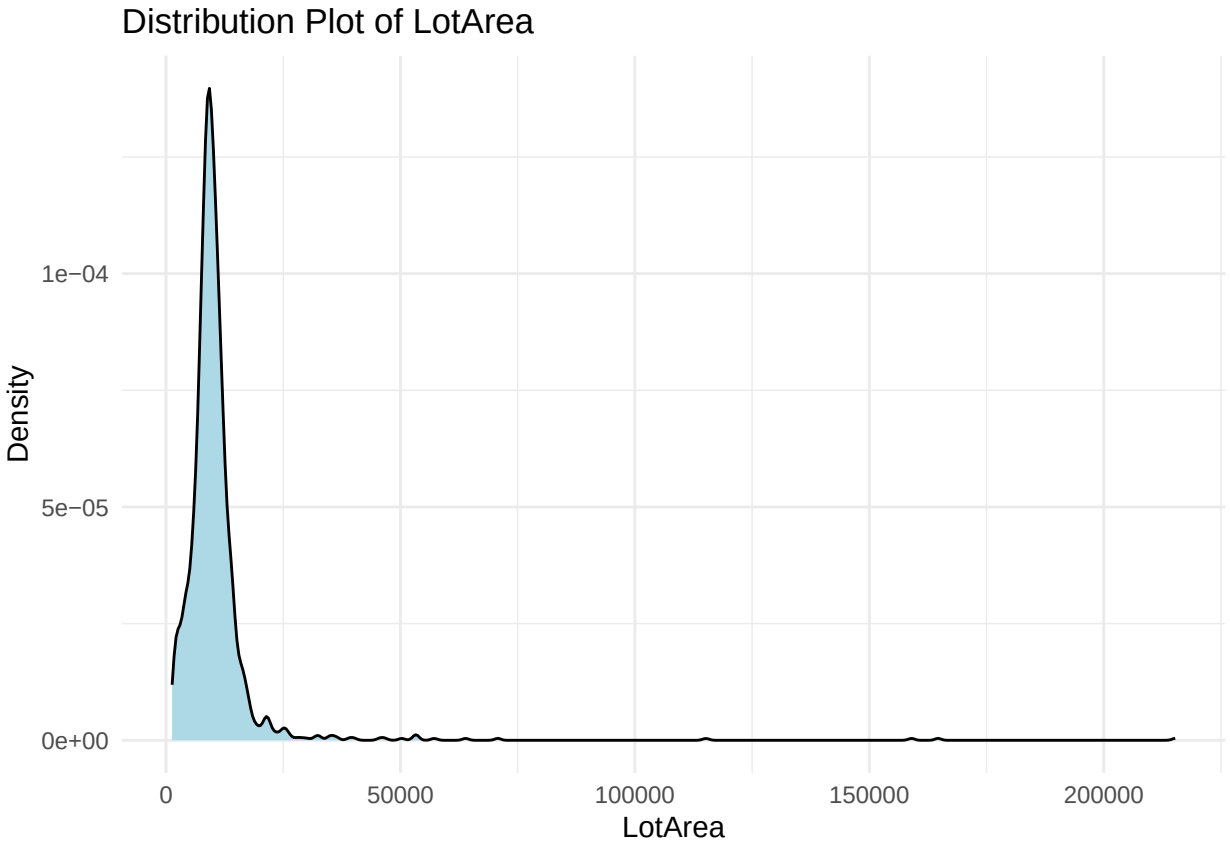


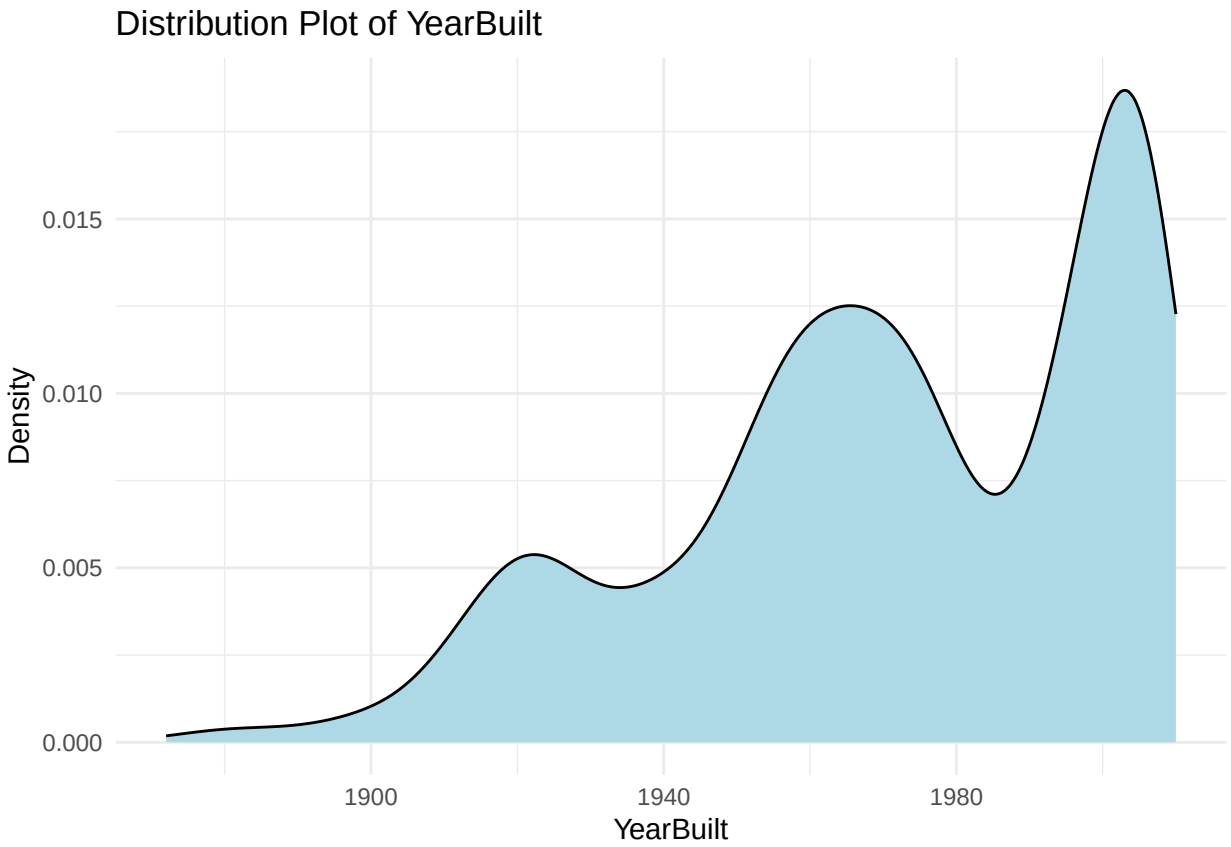
1. Most type of dwelling is 1-STORY 1946 & NEWER ALL STYLES, followed by 2-STORY 1946 & NEWER and 1-1/2 STORY FINISHED ALL AGES.
2. Most houses are in the Residential Low Density zone.
3. Majority of the houses have paved street and no alley access.
4. Most houses have a regular shape followed by slightly irregular
5. For LandContour, majority of the houses are near flat;For utilities majority have all public utilities - Electricity, Water, Gas and Sewer.
6. Majority of the houses lot configuration is inside and have gentle slope.
7. Majority of the houses are located in North Ames, are in a normal proximity to various conditions.
8. Most of the buildings are single family detached, one story followed by two story.
9. Rates the overall material and finish of the house are mainly in the range average(5),above average(6) and good(7) and overall condition of the house is mainly average(5).
10. Type of roof is mainly Gable with most of the roof material as Standard (Composite) Shingle
11. Most exterior covering of houses is Vinyl Siding and have no Masonry veneer

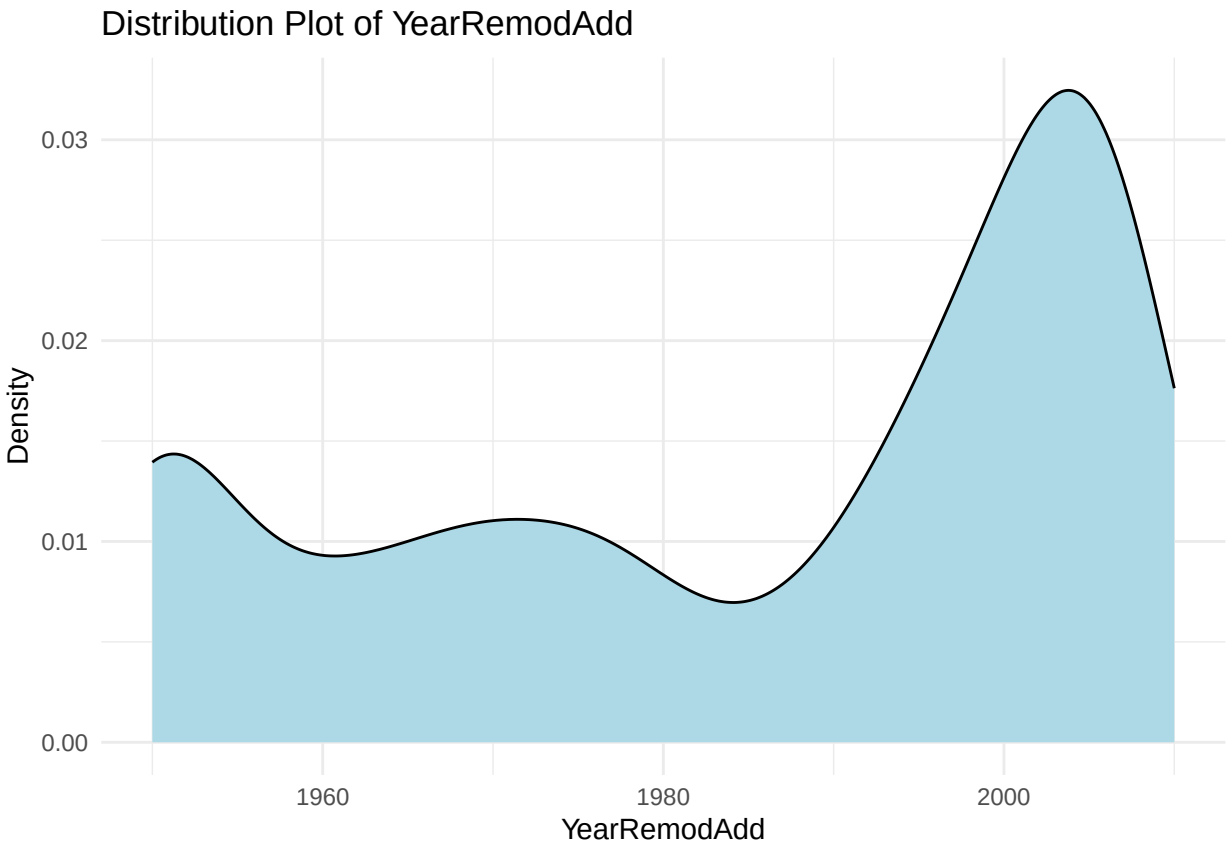
- Numerical variables

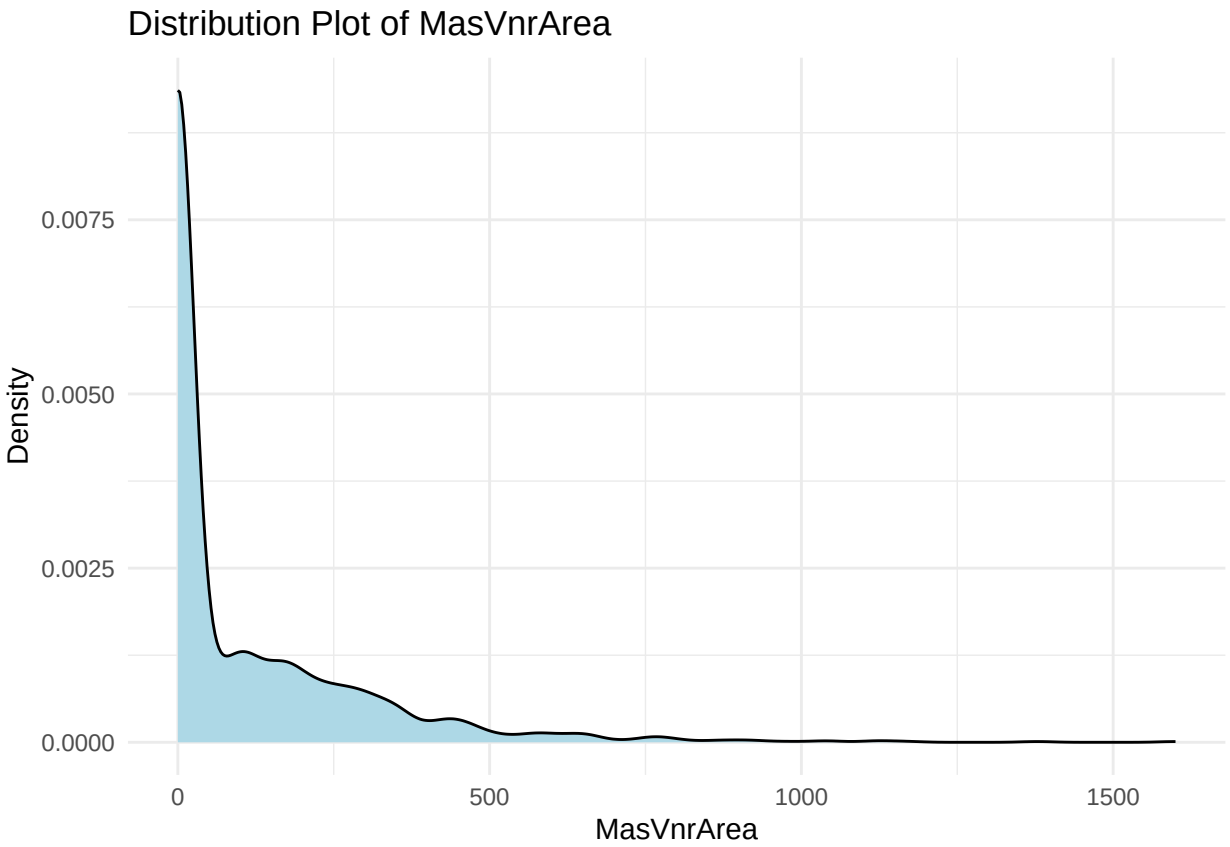
```r
numer_c <- names(train)[sapply(train, is.numeric)]

# Create barplot for each categorical variable in the dataset
for(num in numer_c) {
 density <- ggplot(train, aes(x = train[[num]])) +
    geom_density(fill = "lightblue") +
    labs(title = paste("Distribution Plot of", num), x = num, y = "Density") +
    theme_minimal()
 print(density)
}
```

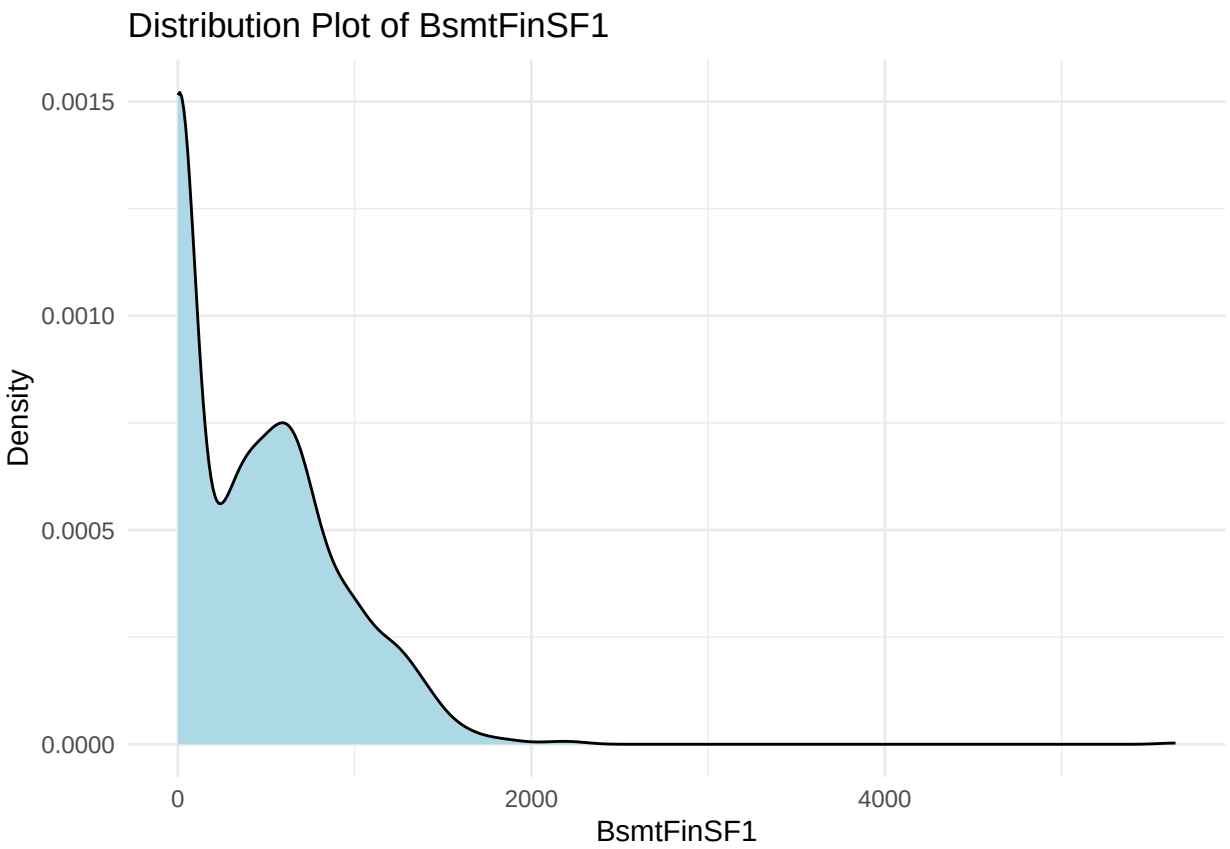


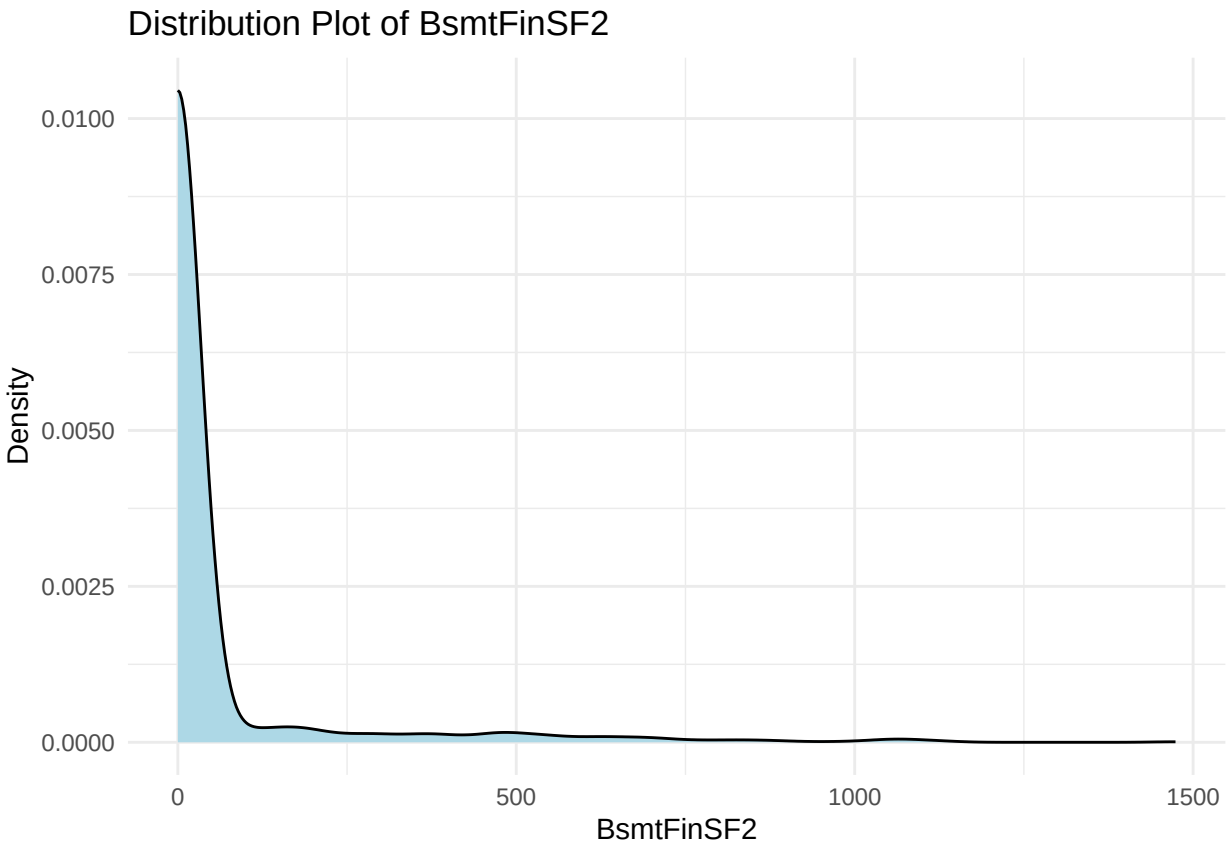

Distribution Plot of LotArea
Density
1e−04
5e−05
0e+00
0
50000
100000
150000
200000
LotArea

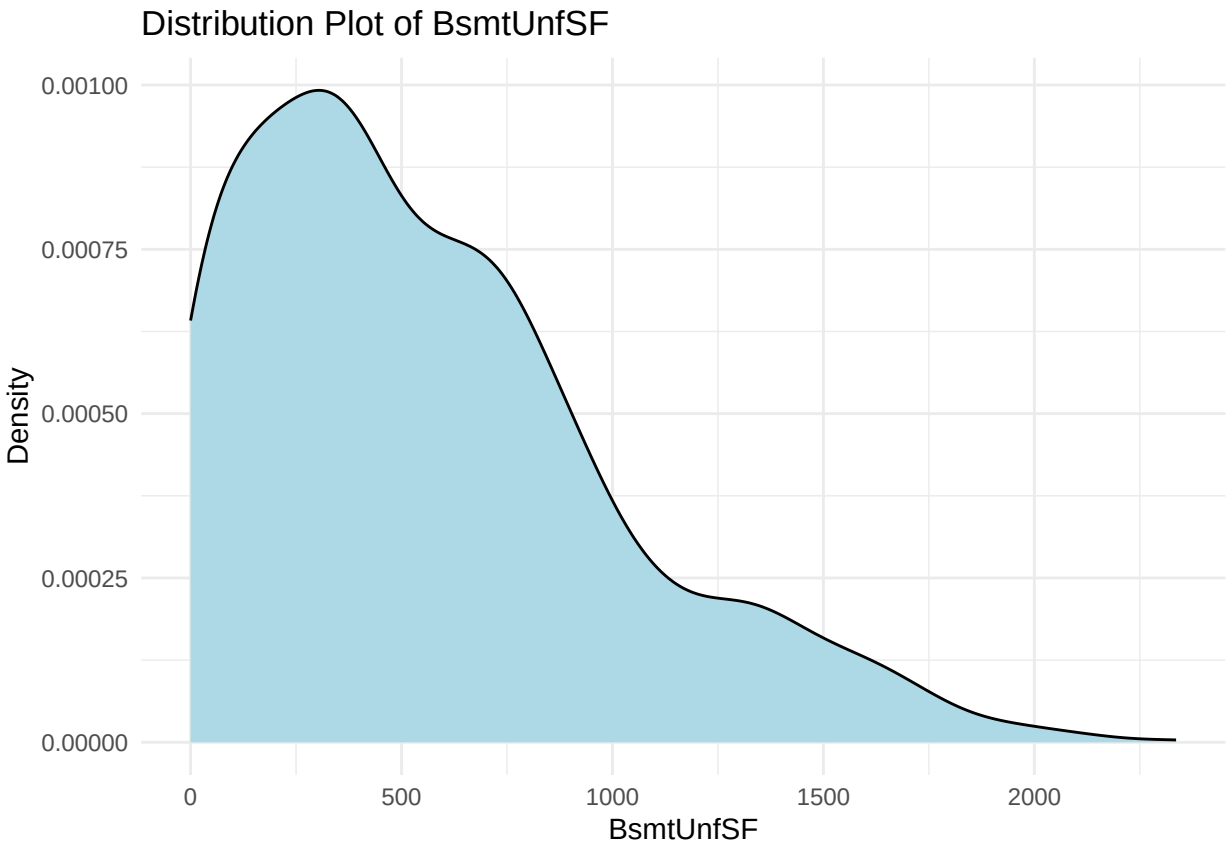

Distribution Plot of YearBuilt
Density
0.015
0.010
0.005
0.000
1900
1940
1980
YearBuilt

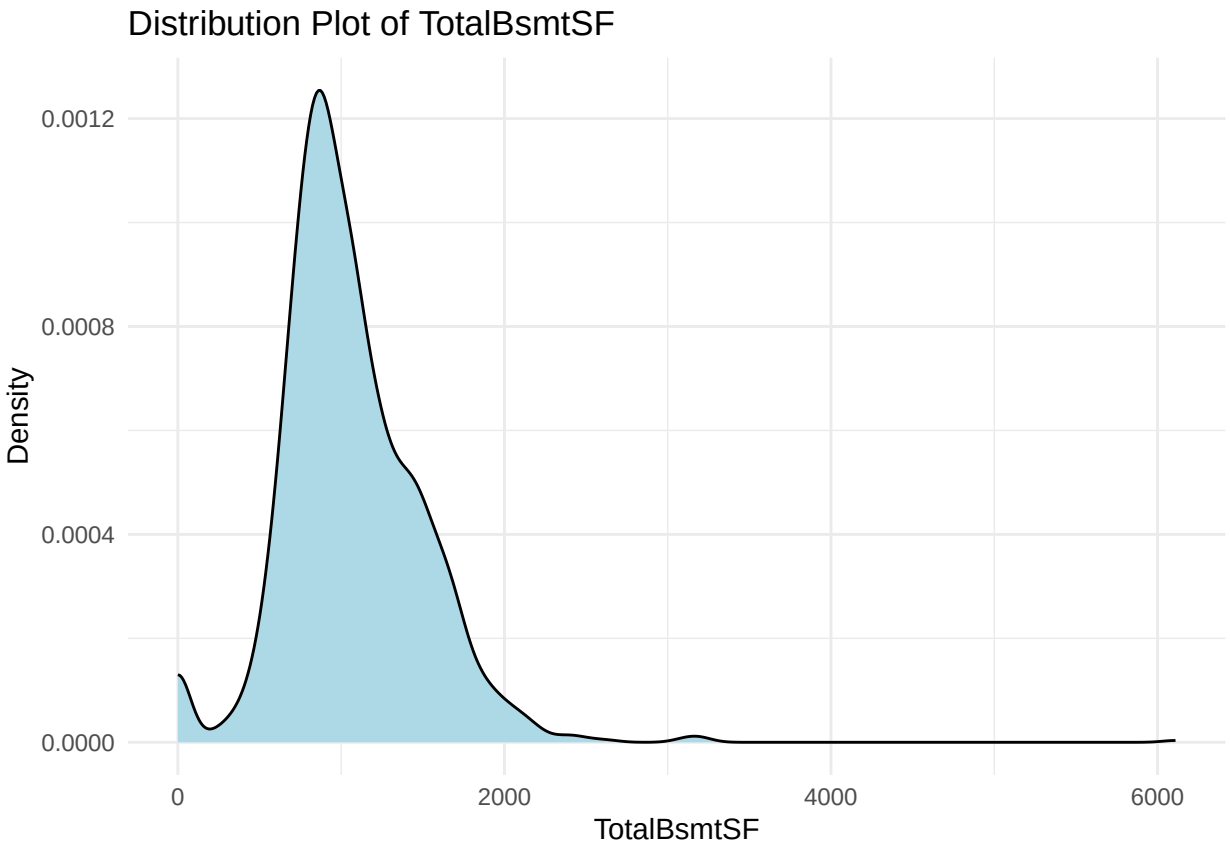

Distribution Plot of YearRemodAdd
Density
0.03
0.02
0.01
0.00
1960
1980
2000
YearRemodAdd

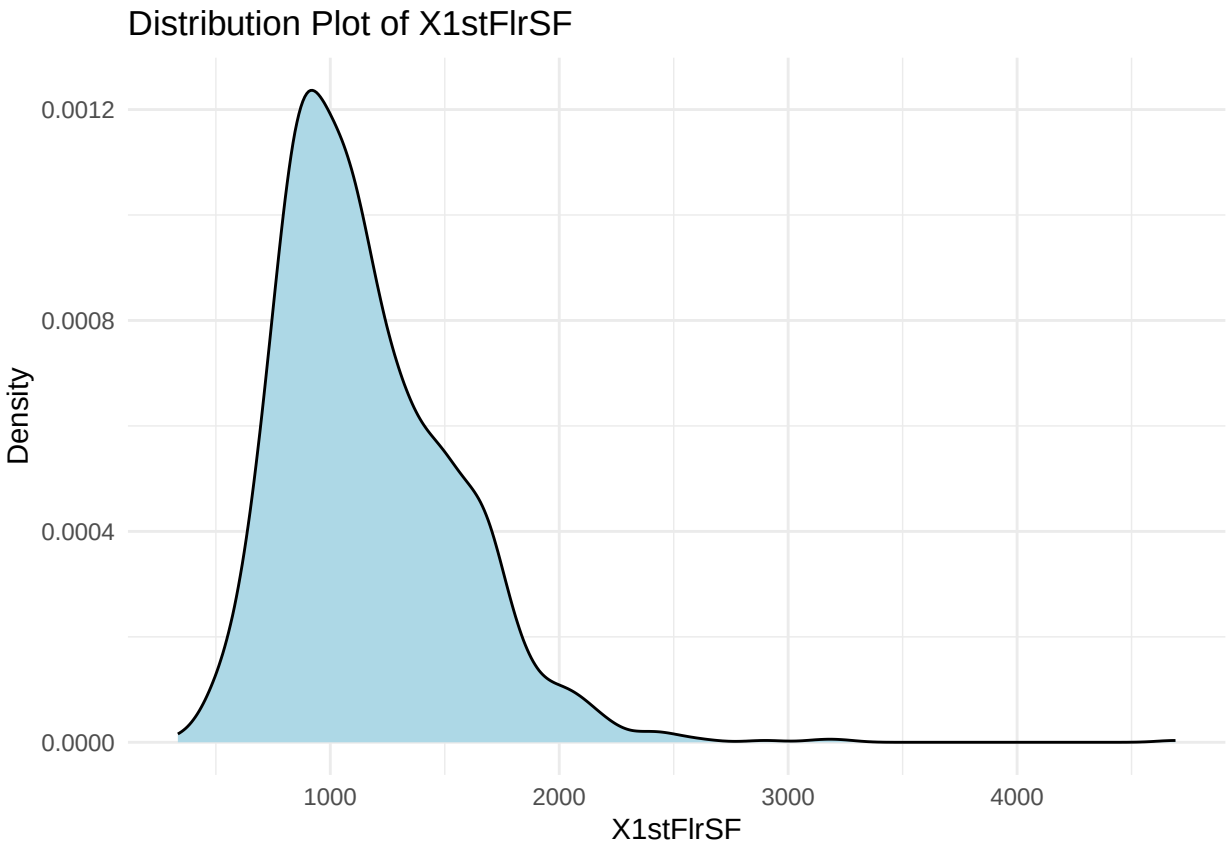

Distribution Plot of MasVnrArea
Density
0.0075
0.0050
0.0025
0.0000
0
500
1000
1500
MasVnrArea

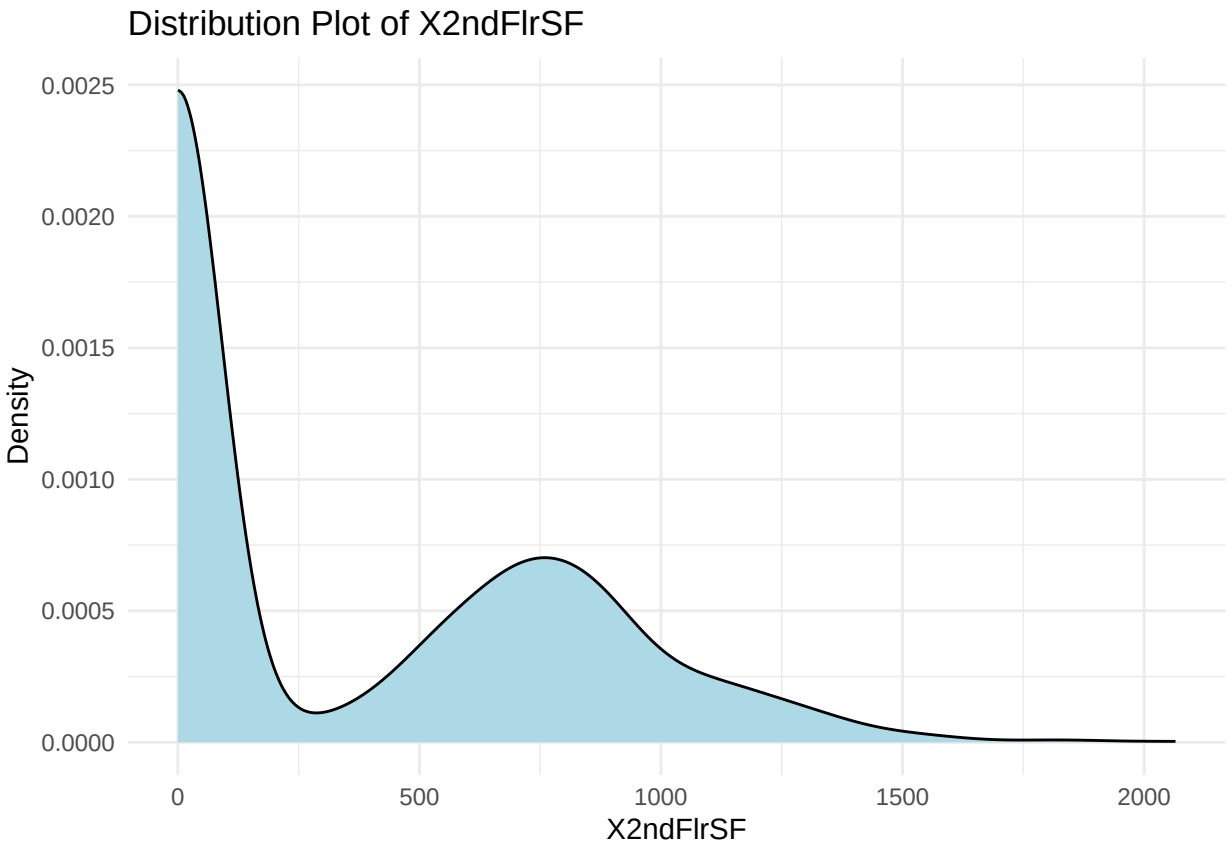

Distribution Plot of BsmtFinSF1
0.0015
0.0010
0.0005
0.0000
Density
0
2000
4000
BsmtFinSF1

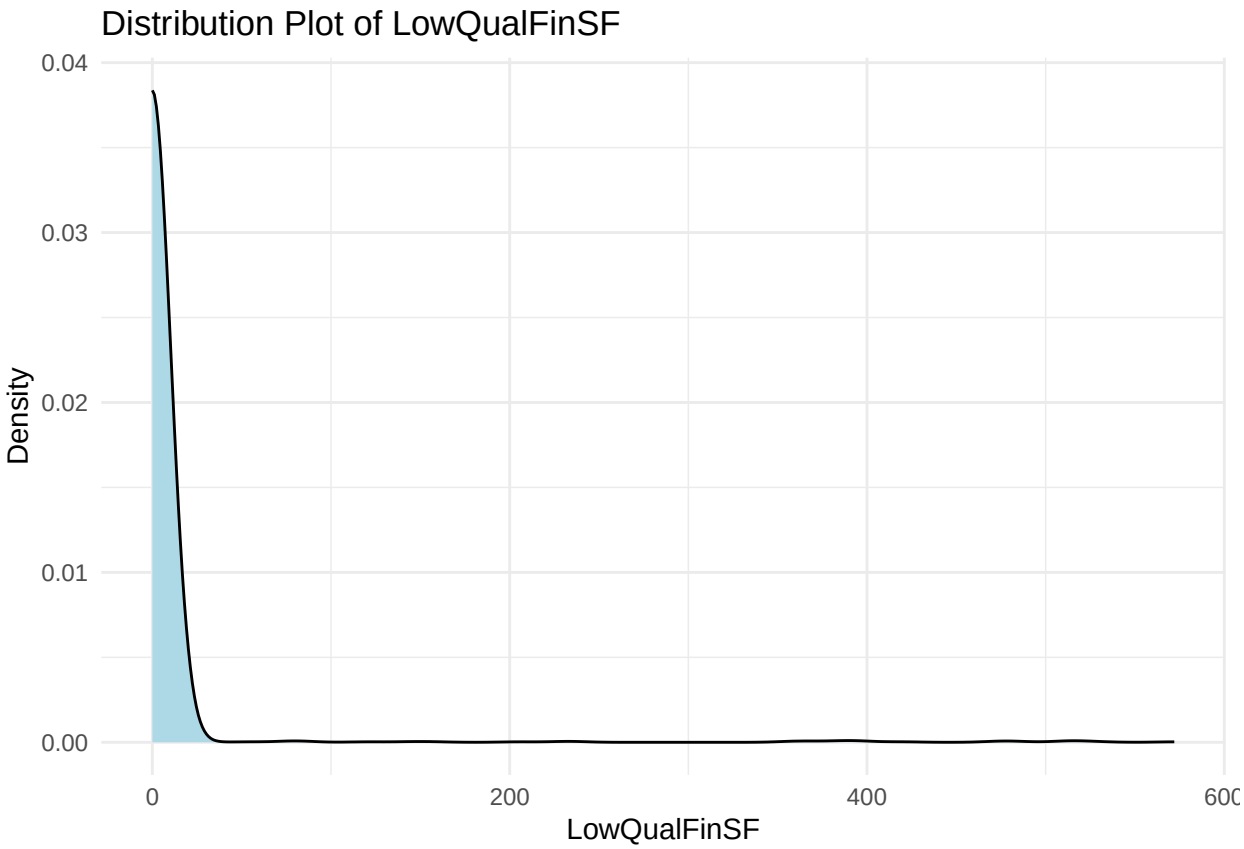

Distribution Plot of BsmtFinSF2
Density
0.0100
0.0075
0.0050
0.0025
0.0000
0
500
1000
1500
BsmtFinSF2

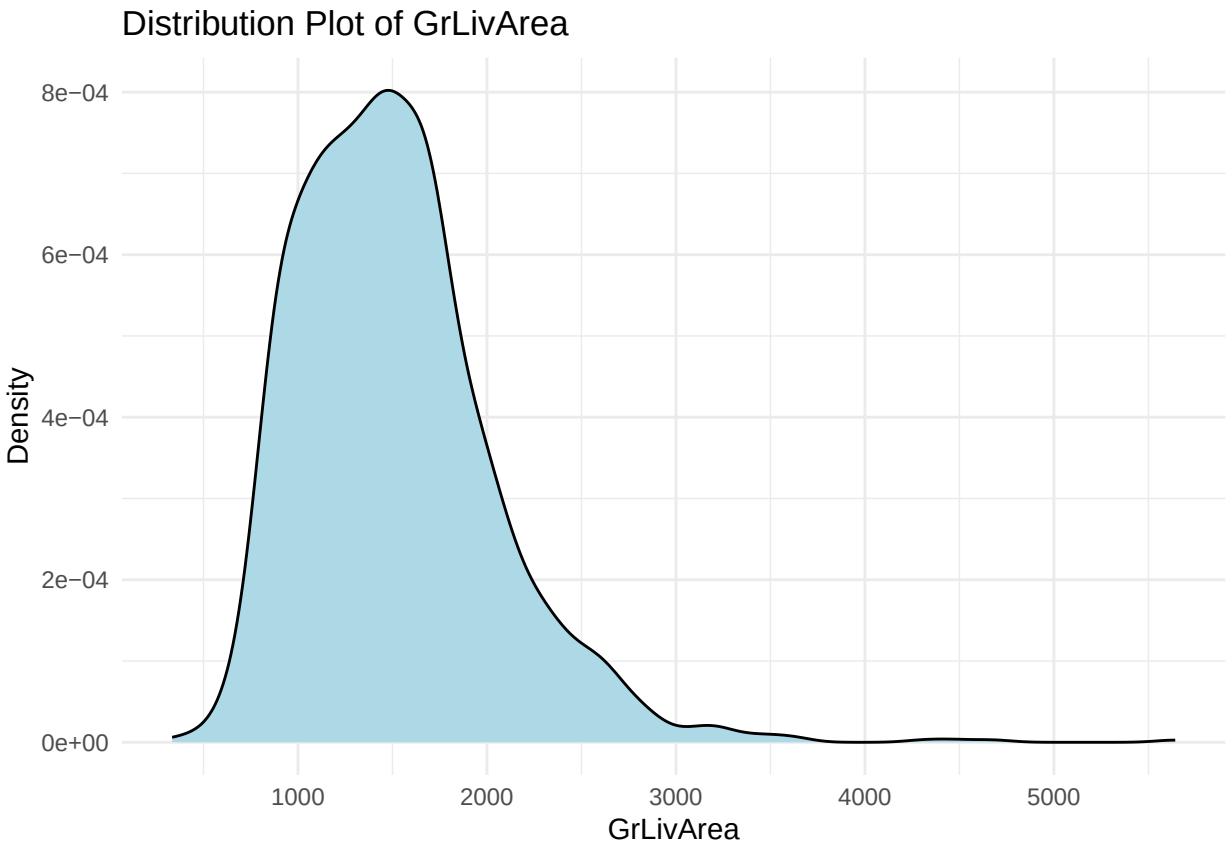

Distribution Plot of BsmtUnfSF
0.00100
0.00075
0.00050
0.00025
0.00000
Density
0
500
1000
1500
2000
BsmtUnfSF

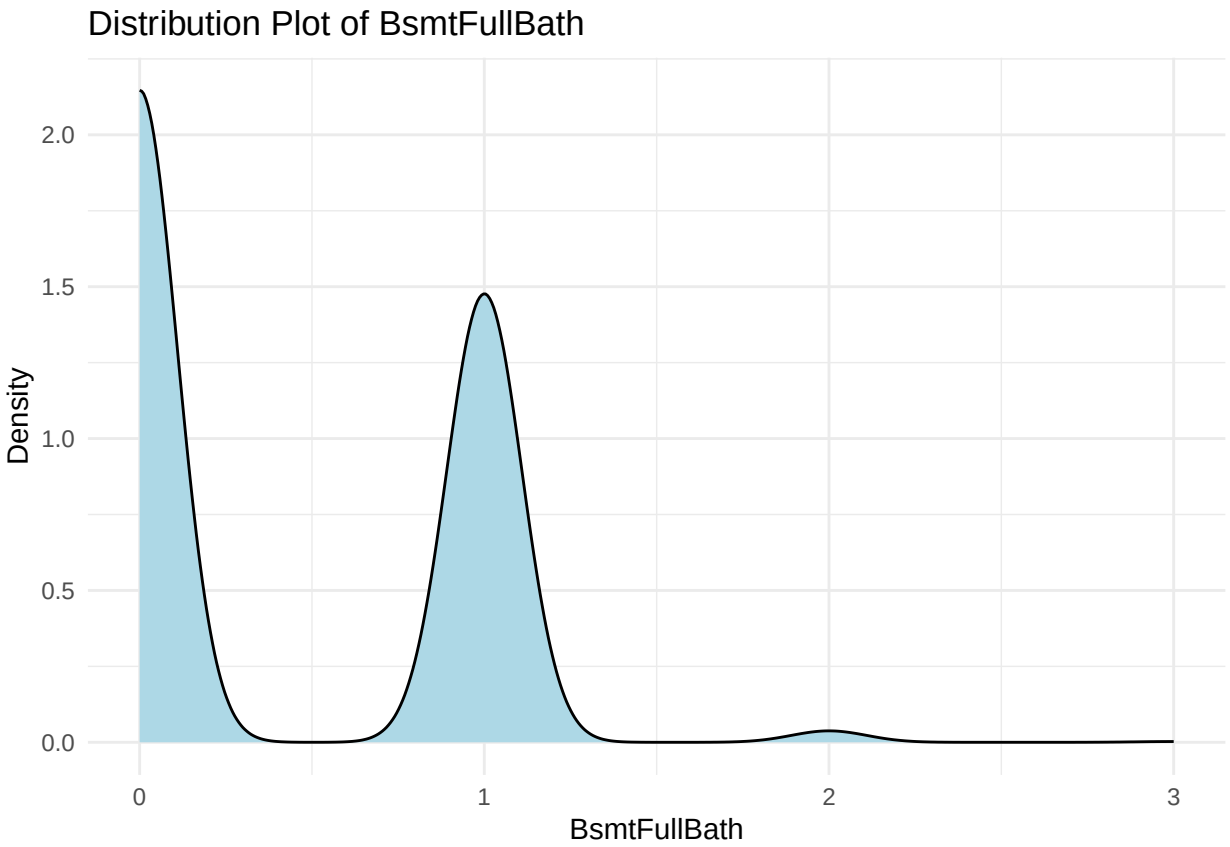

Distribution Plot of TotalBsmtSF
0.0012
0.0008
0.0004
0.0000
Density
0
2000
4000
6000
TotalBsmtSF

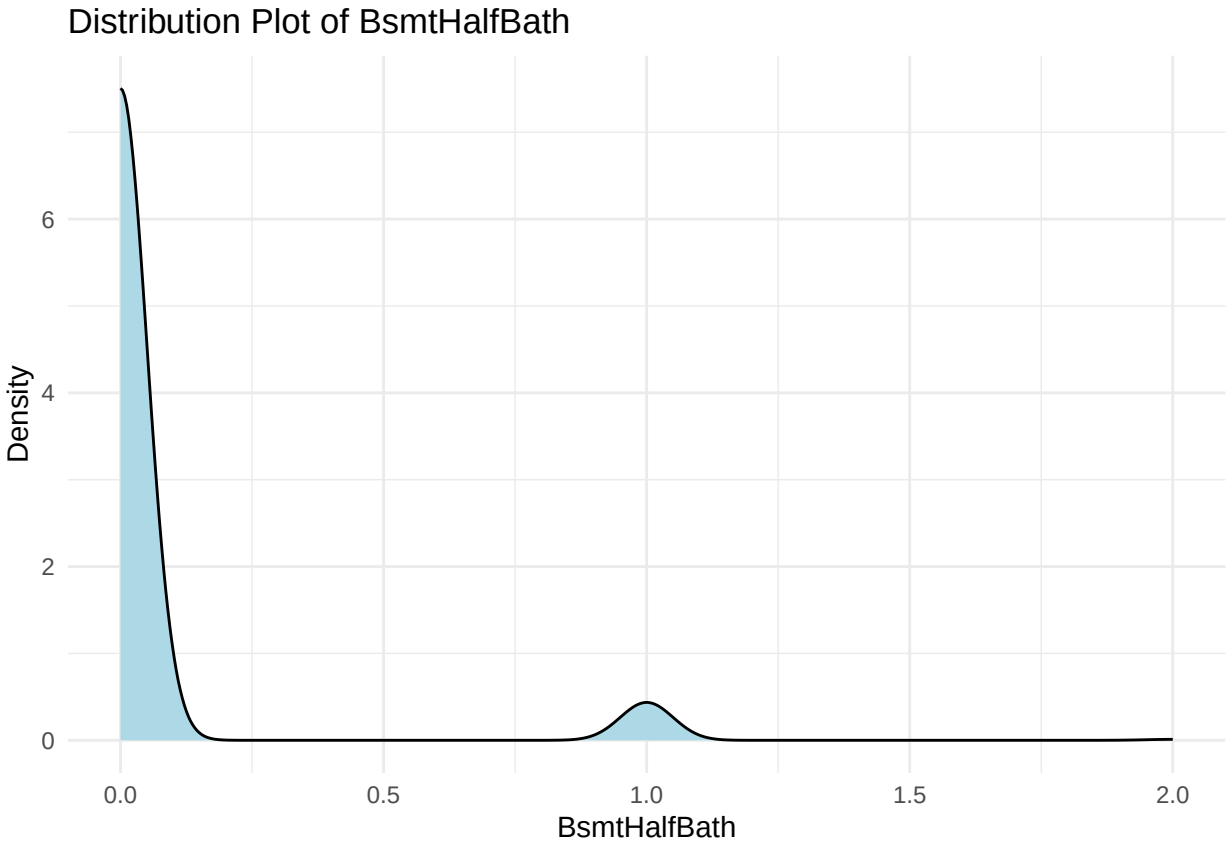

Distribution Plot of X1stFlrSF
0.0012
0.0008
0.0004
0.0000
Density
1000
2000
3000
4000
X1stFlrSF

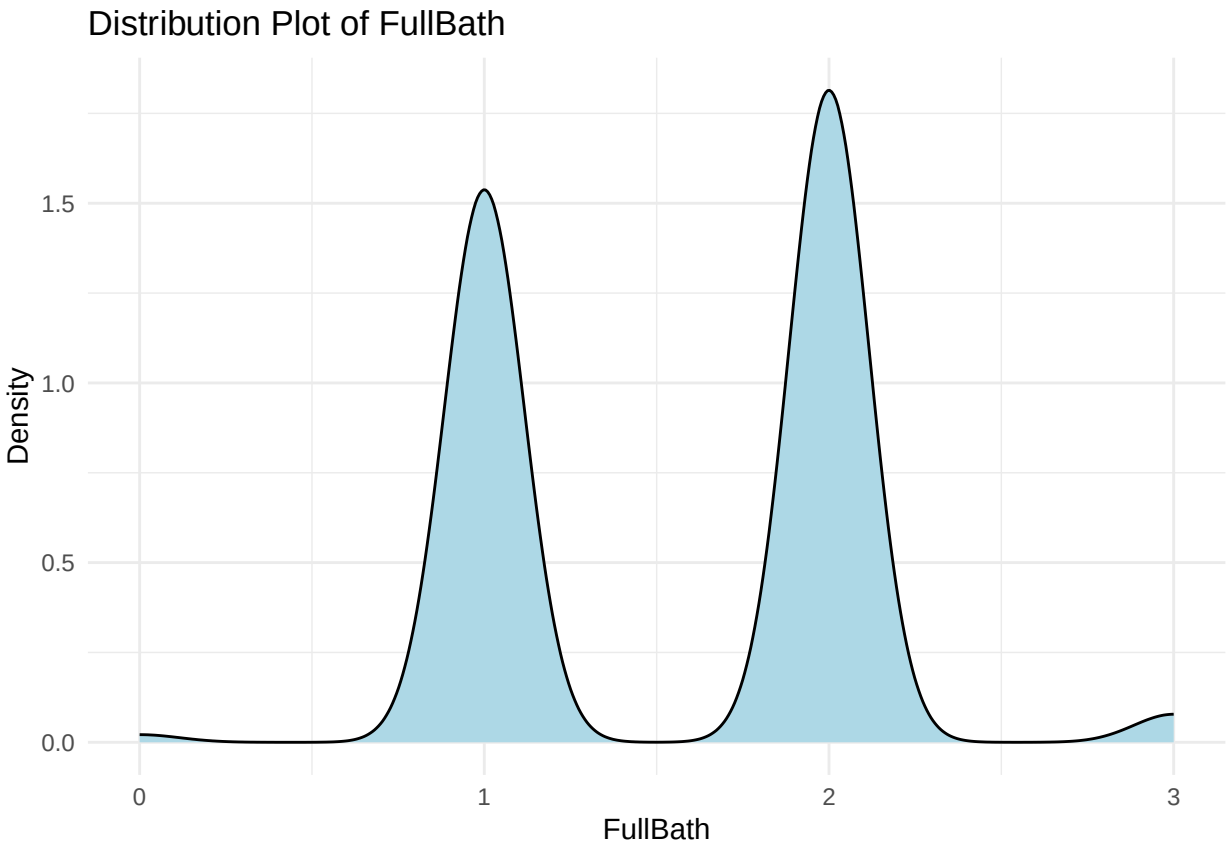

Distribution Plot of X2ndFlrSF
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
Density
0
500
1000
1500
2000
X2ndFlrSF

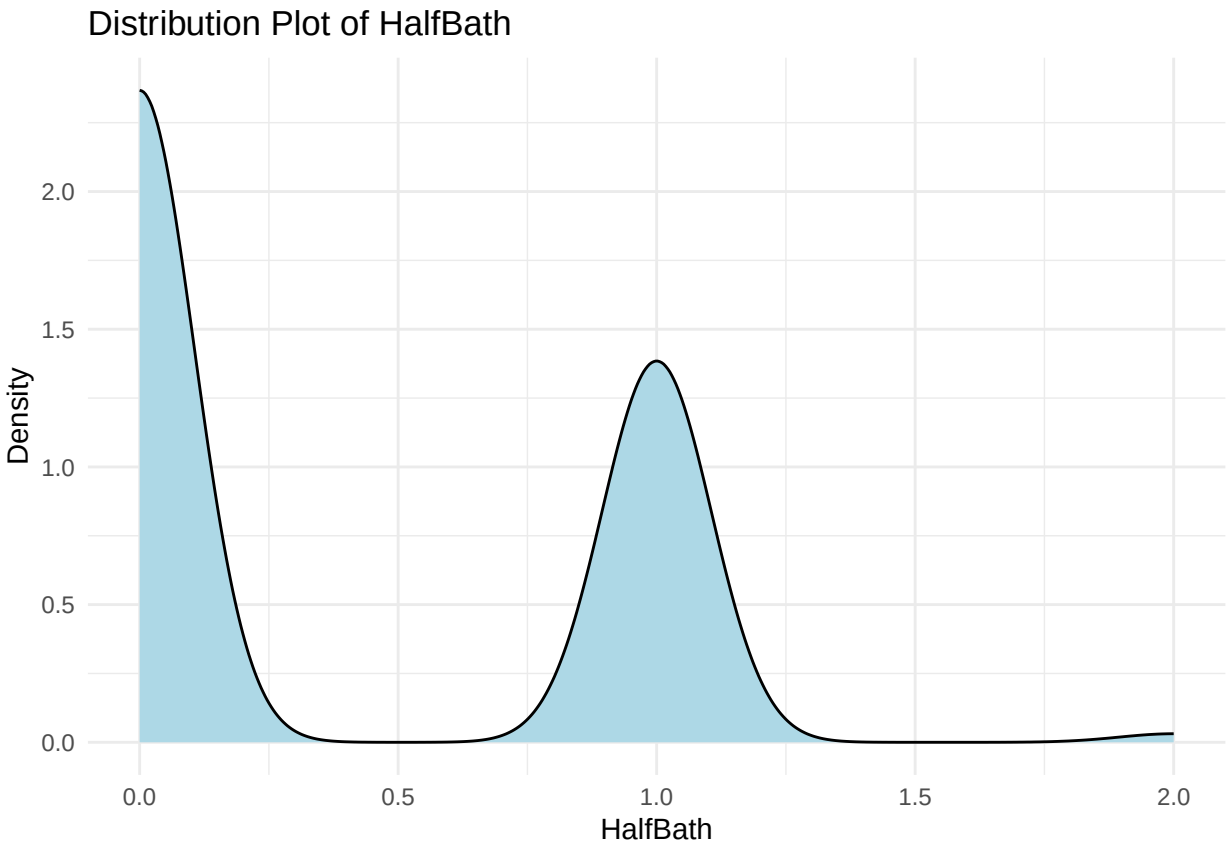

Distribution Plot of LowQualFinSF
0.04
0.03
0.02
0.01
0.00
Density
0
200
400
600
LowQualFinSF

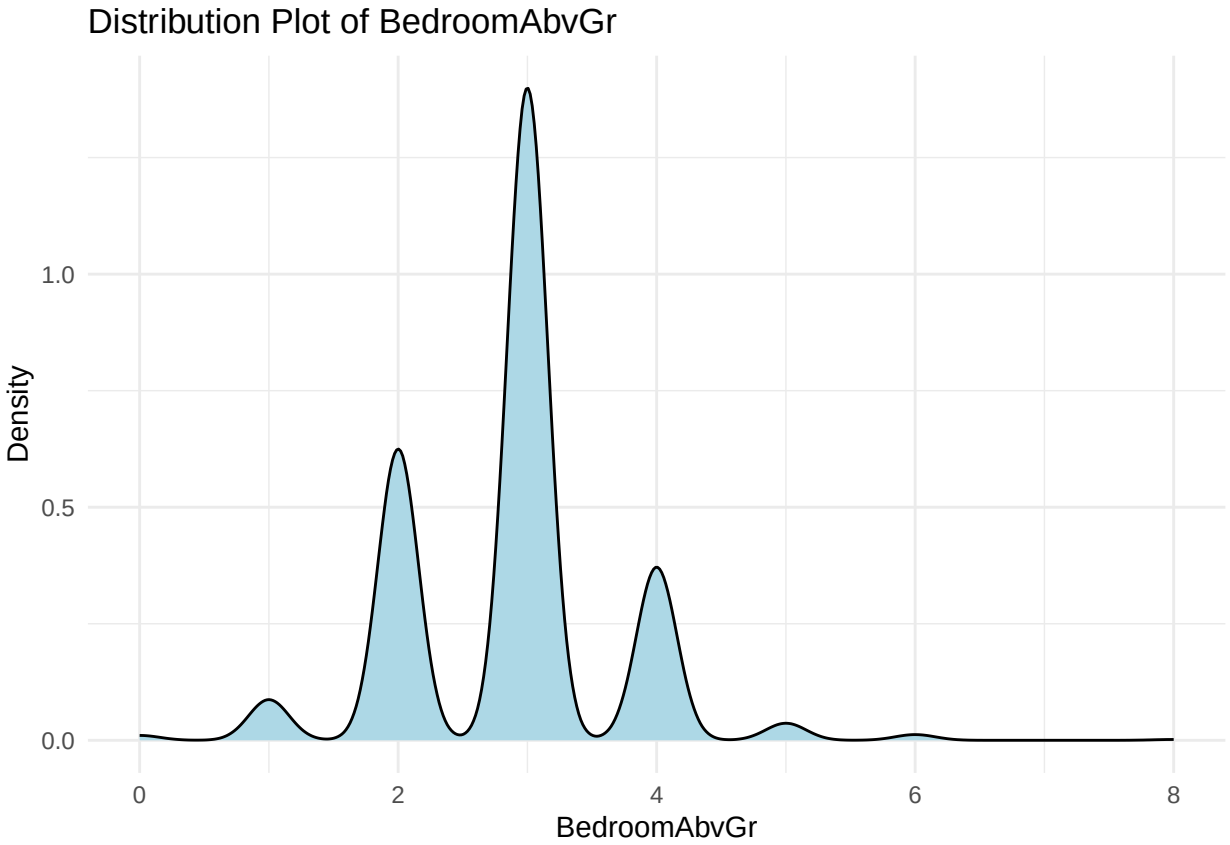

Distribution Plot of GrLivArea
8e−04
6e−04
4e−04
2e−04
0e+00
Density
1000
2000
3000
4000
5000
GrLivArea

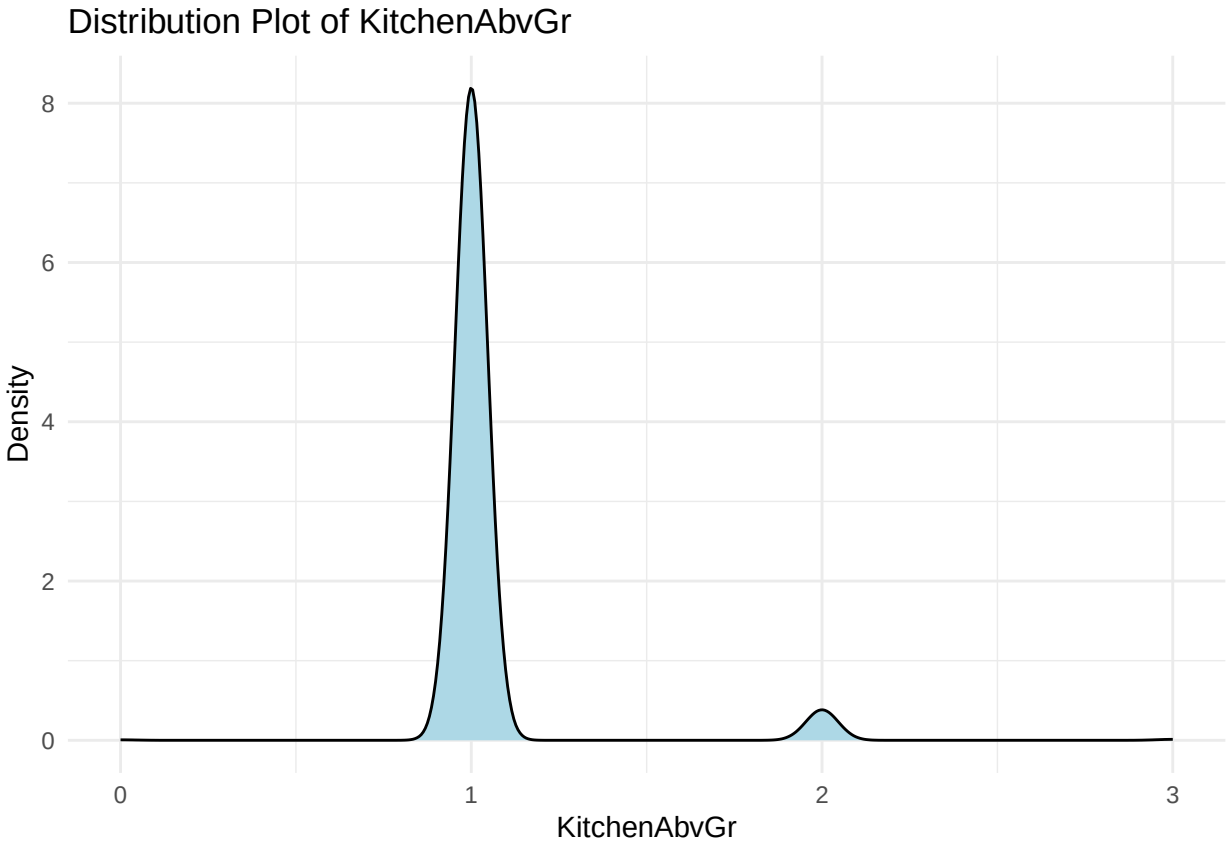

Distribution Plot of BsmtFullBath
Density
2.0
1.5
1.0
0.5
0.0
0
1
2
3
BsmtFullBath

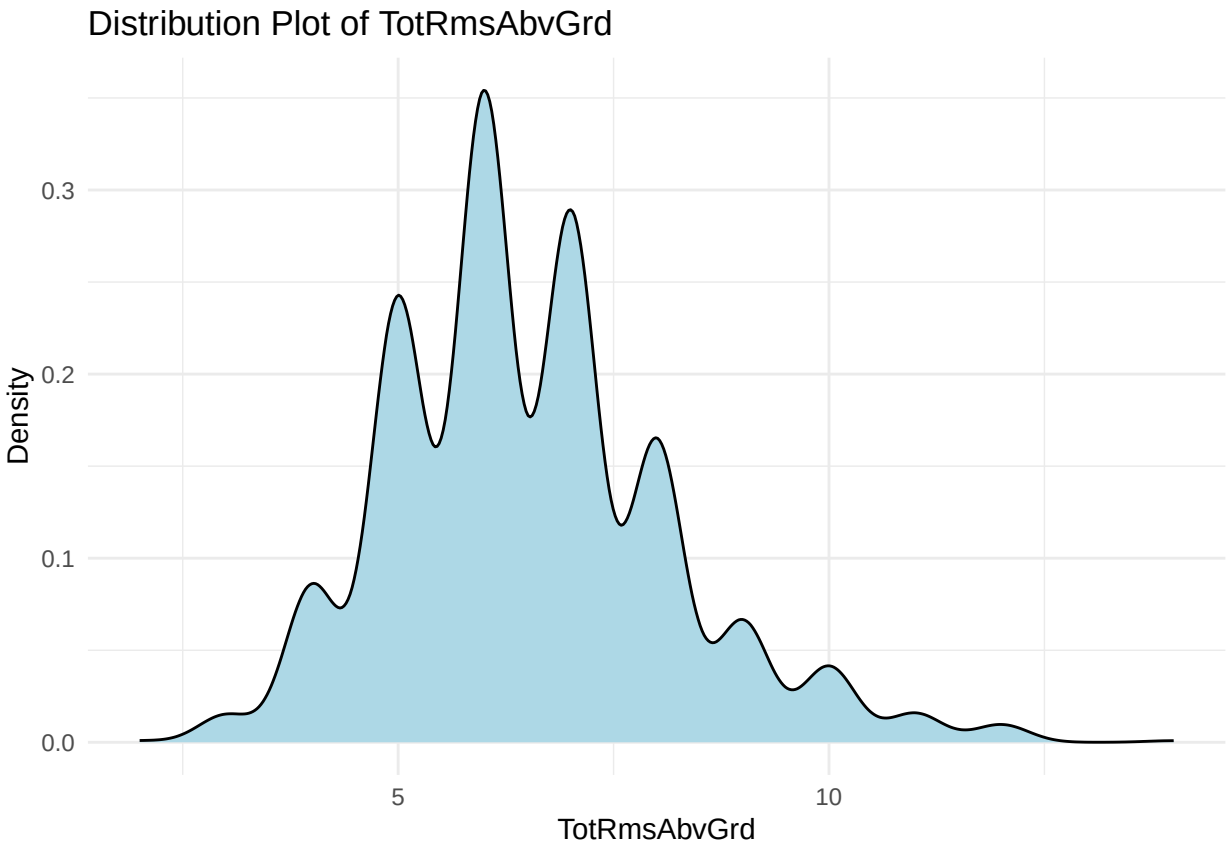

Distribution Plot of BsmtHalfBath
Density
6
4
2
0
0.0
0.5
1.0
1.5
2.0
BsmtHalfBath

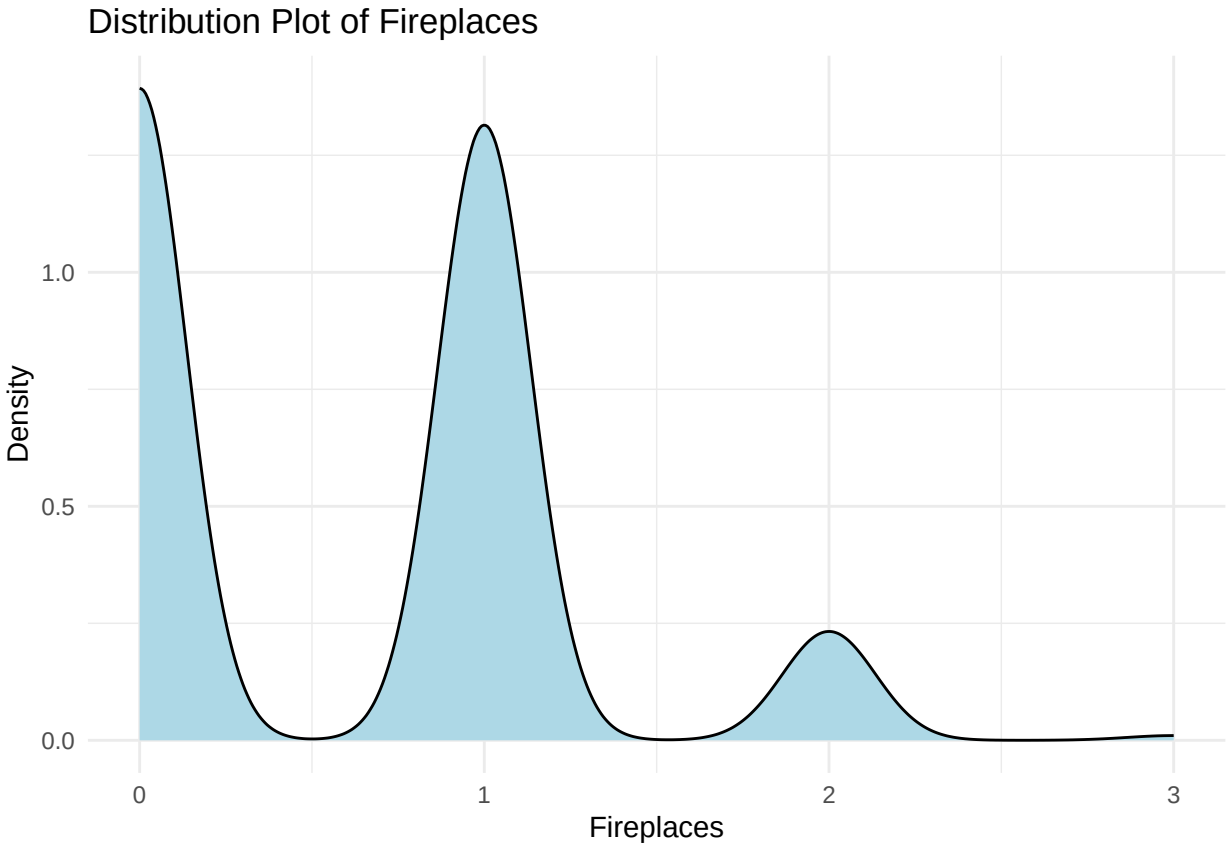

Distribution Plot of FullBath
Density
1.5
1.0
0.5
0.0
0
1
2
3
FullBath

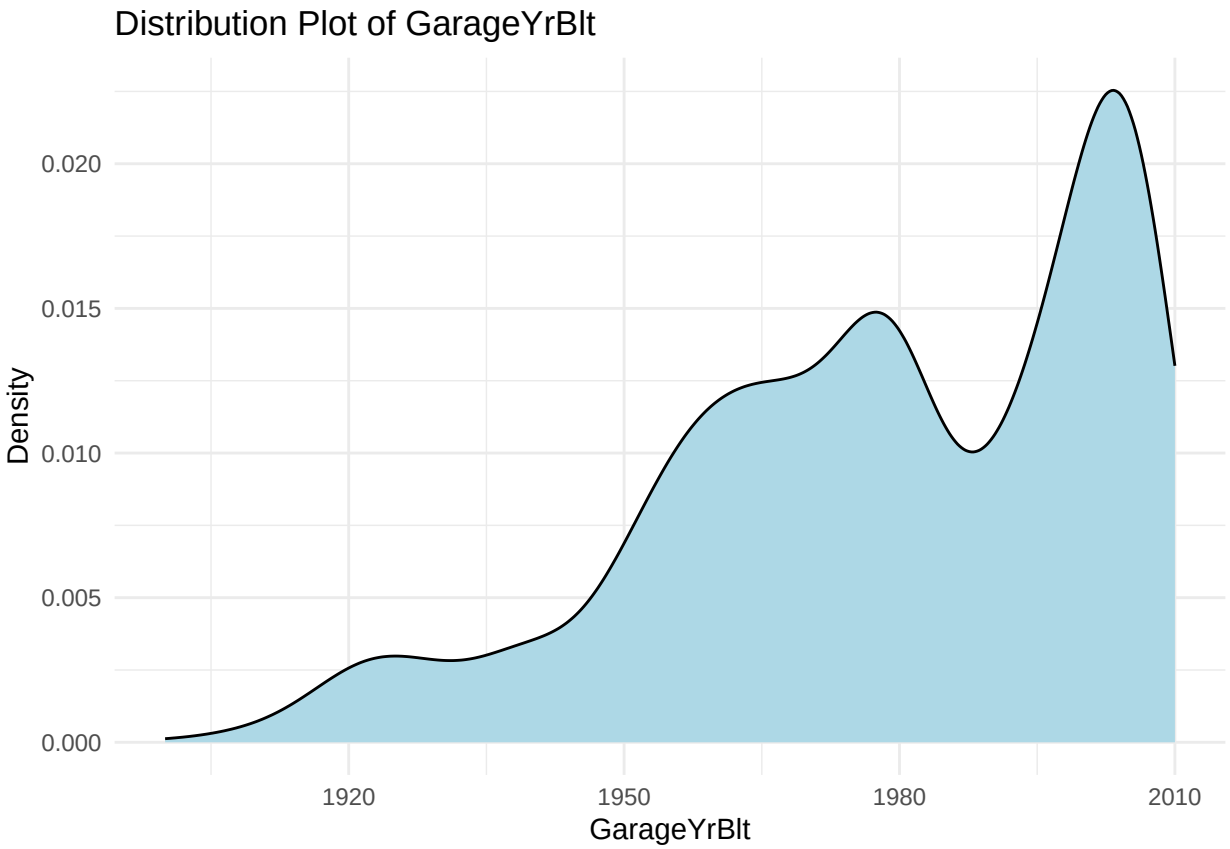

Distribution Plot of HalfBath
Density
2.0
1.5
1.0
0.5
0.0
0.0
0.5
1.0
1.5
2.0
HalfBath

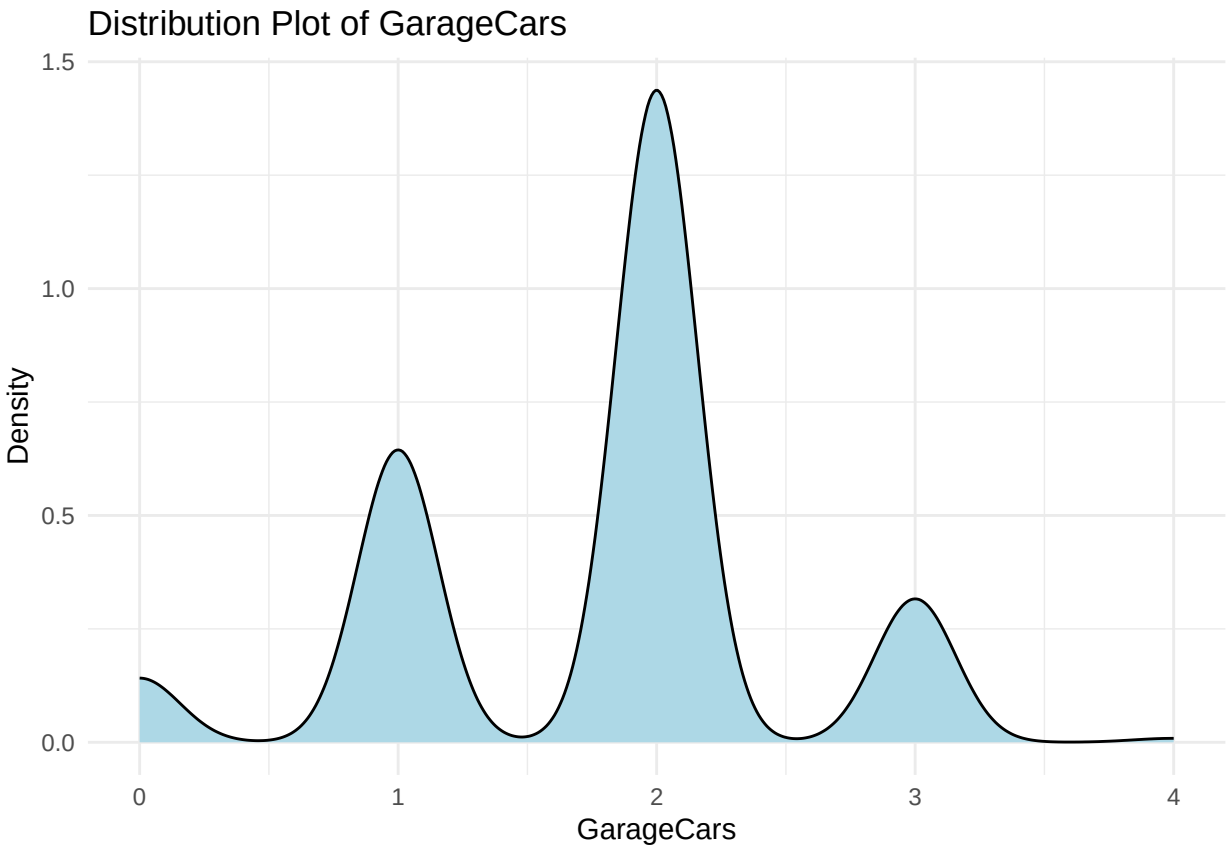

Distribution Plot of BedroomAbvGr
Density
1.0
0.5
0.0
0
2
4
6
8
BedroomAbvGr

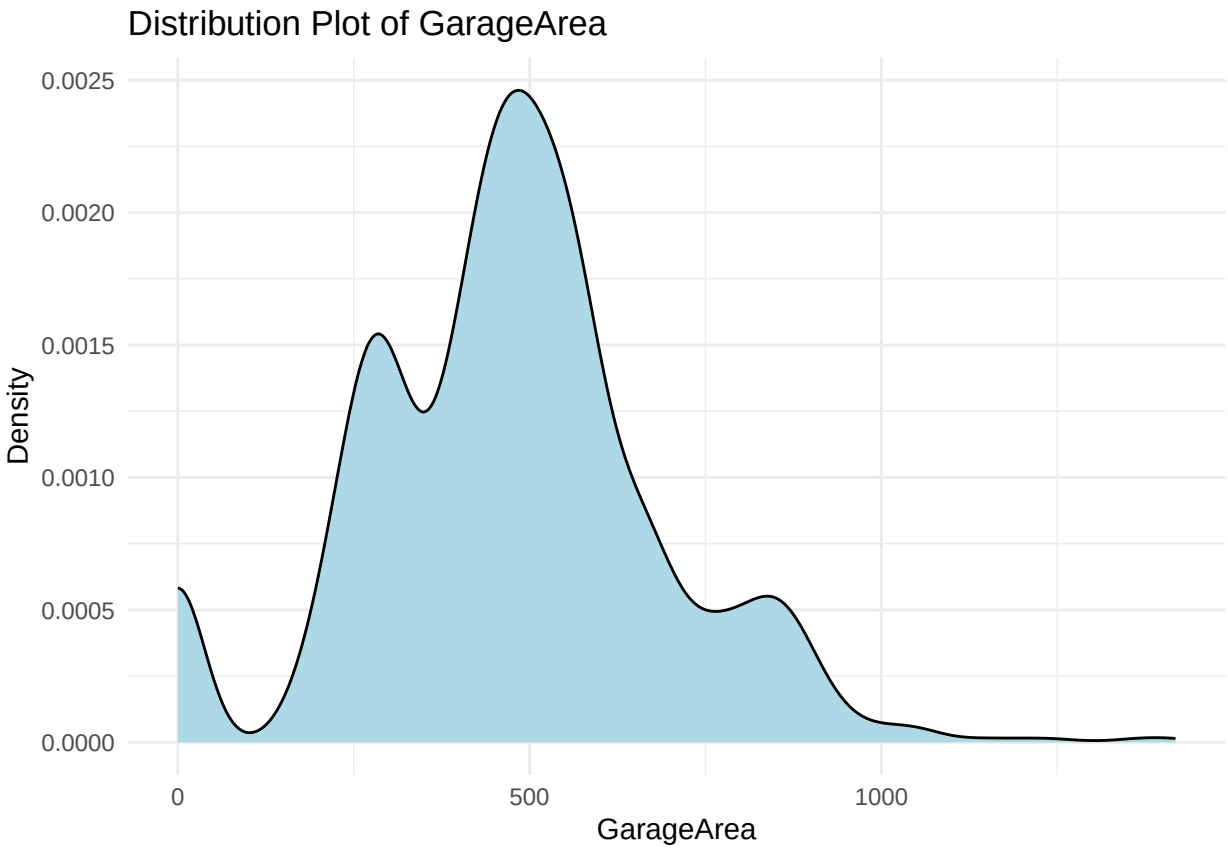

Distribution Plot of KitchenAbvGr
Density
8
6
4
2
0
0
1
2
3
KitchenAbvGr

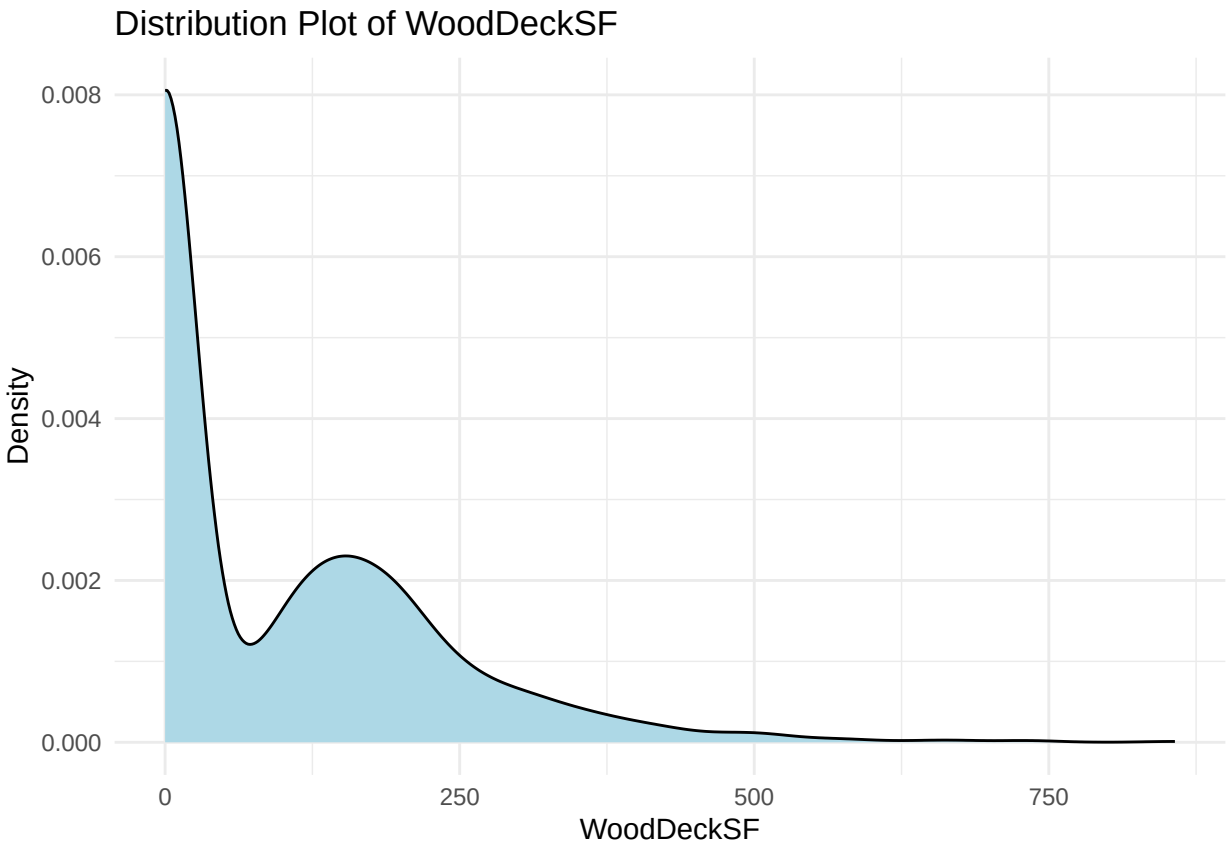

Distribution Plot of TotRmsAbvGrd
Density
0.0
0.1
0.2
0.3
5
10
TotRmsAbvGrd

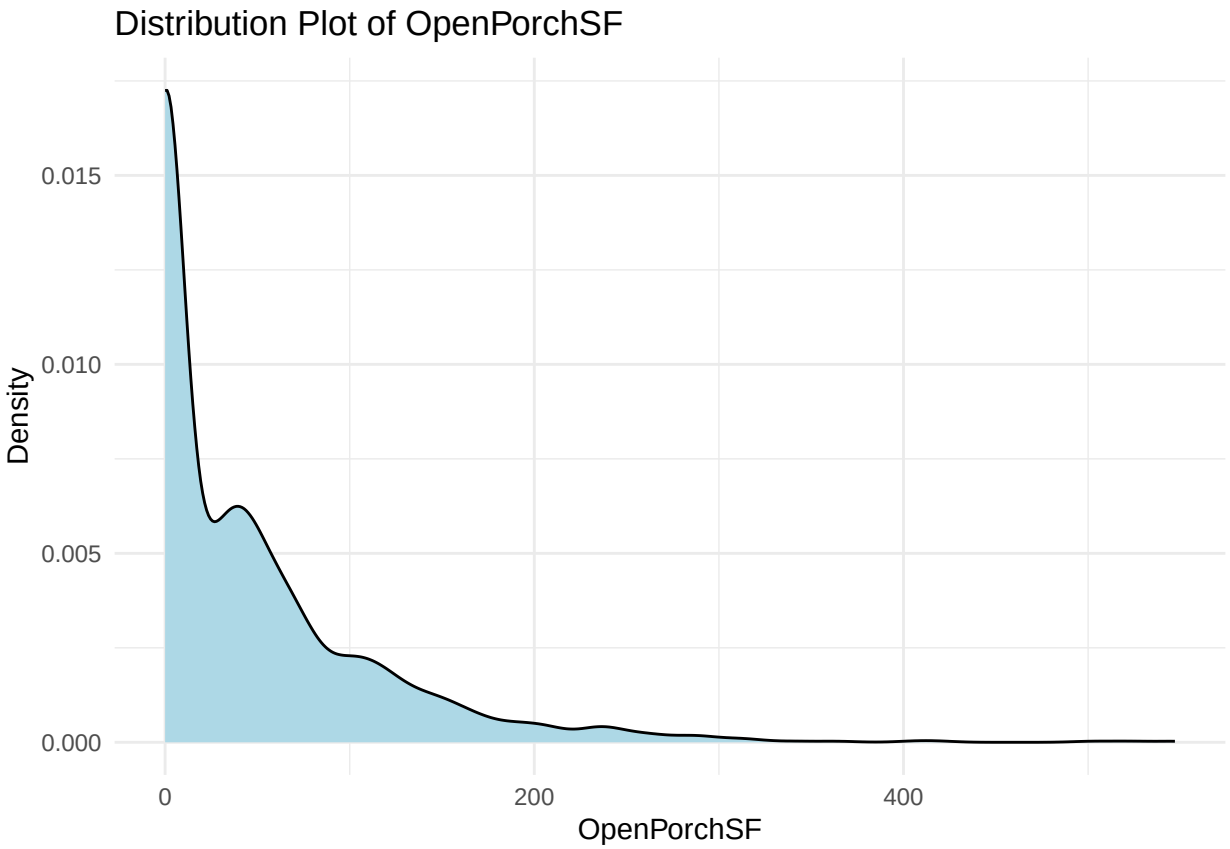

Distribution Plot of Fireplaces
Density
1.0
0.5
0.0
0
1
2
3
Fireplaces

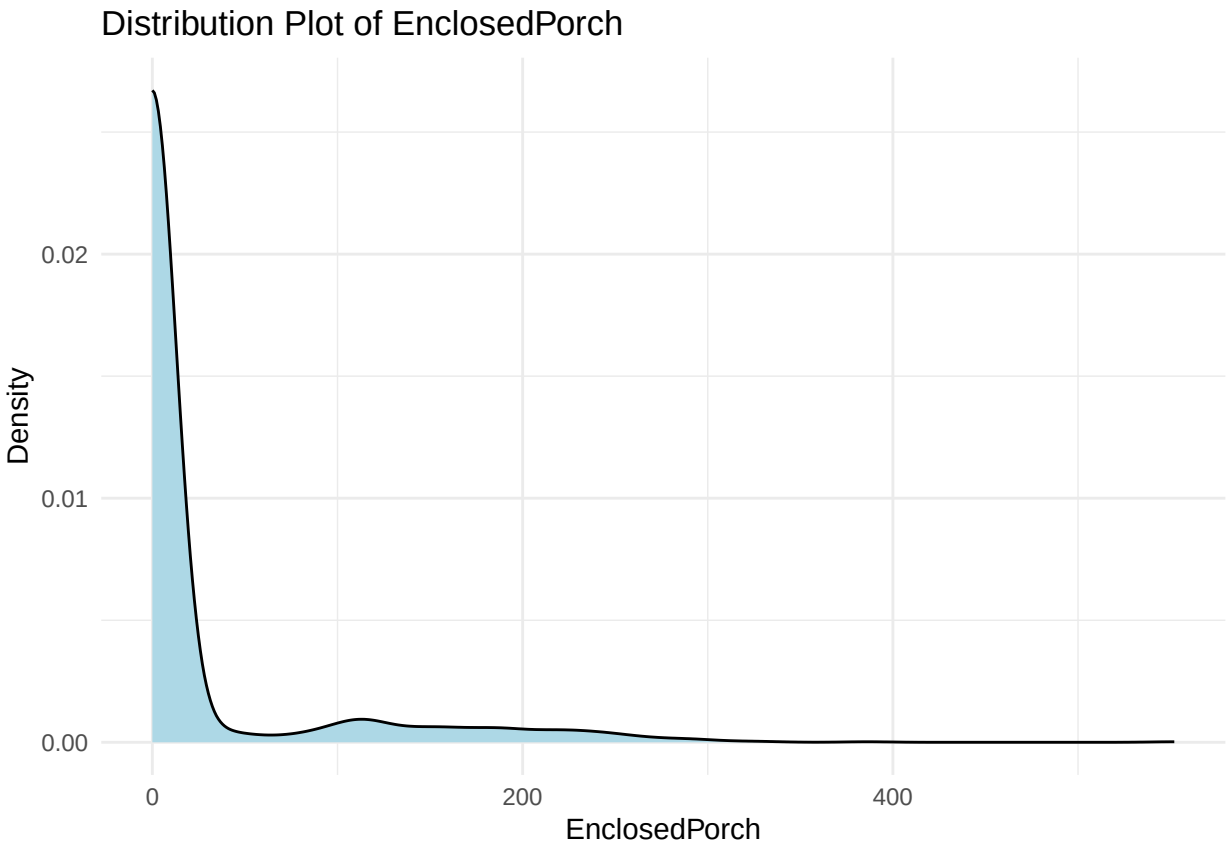

Distribution Plot of GarageYrBlt
Density
0.020
0.015
0.010
0.005
0.000
1920
1950
1980
2010
GarageYrBlt

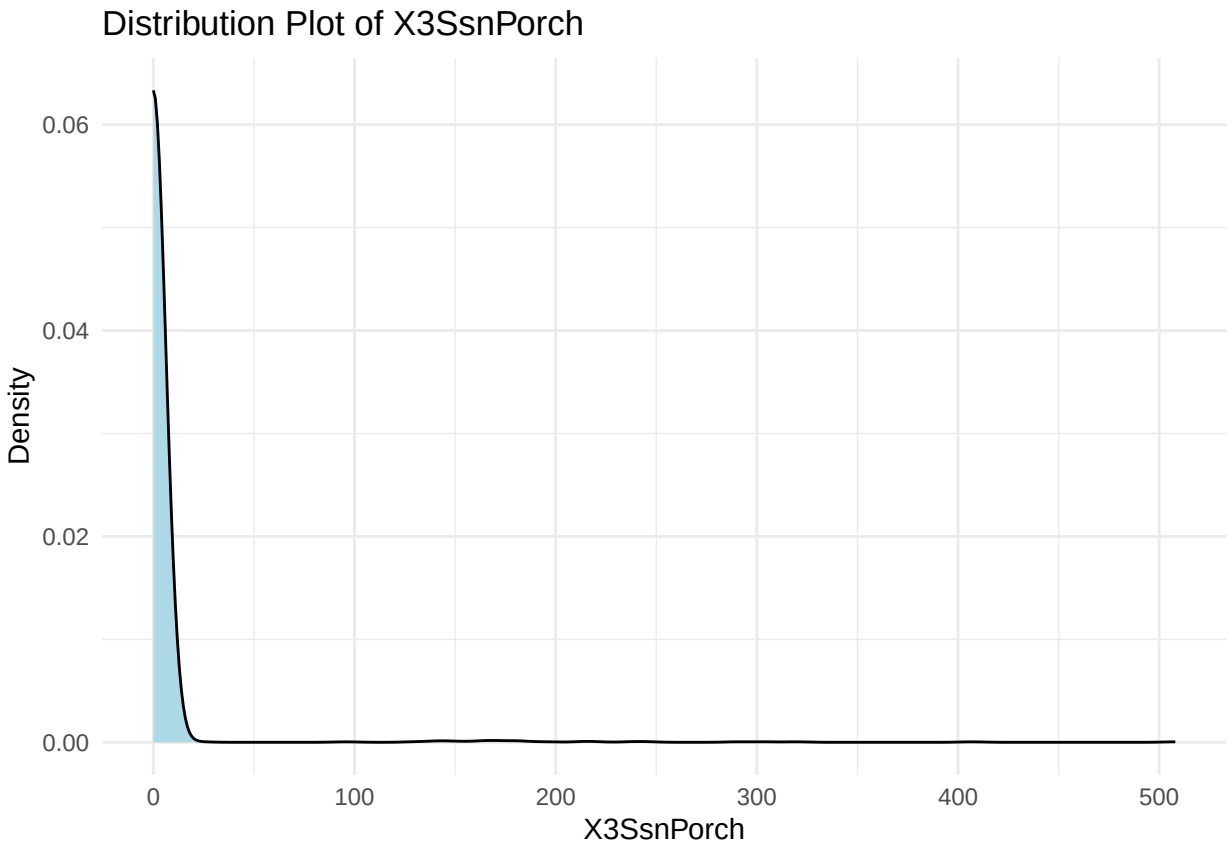

Distribution Plot of GarageCars
Density
1.5
1.0
0.5
0.0
0
1
2
3
4
GarageCars

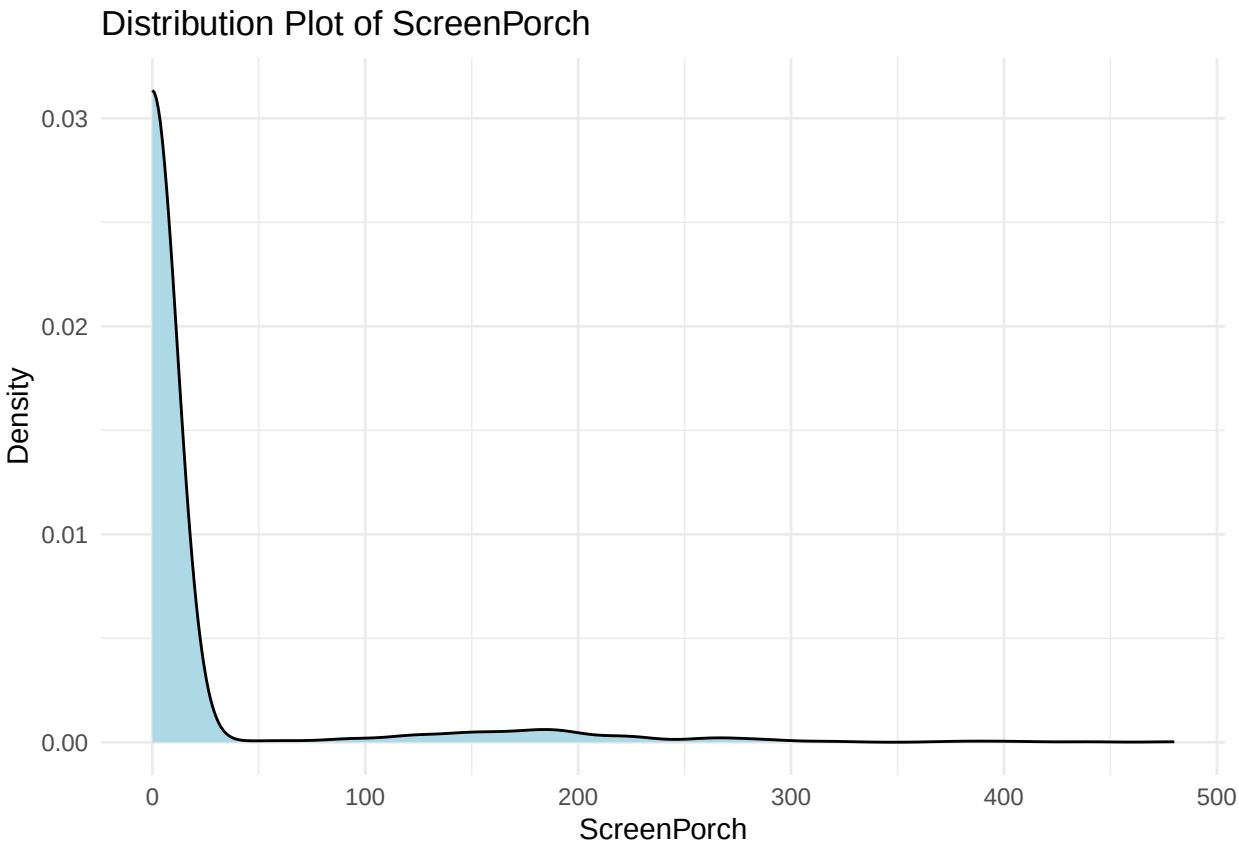

Distribution Plot of GarageArea
Density
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
0
500
1000
GarageArea

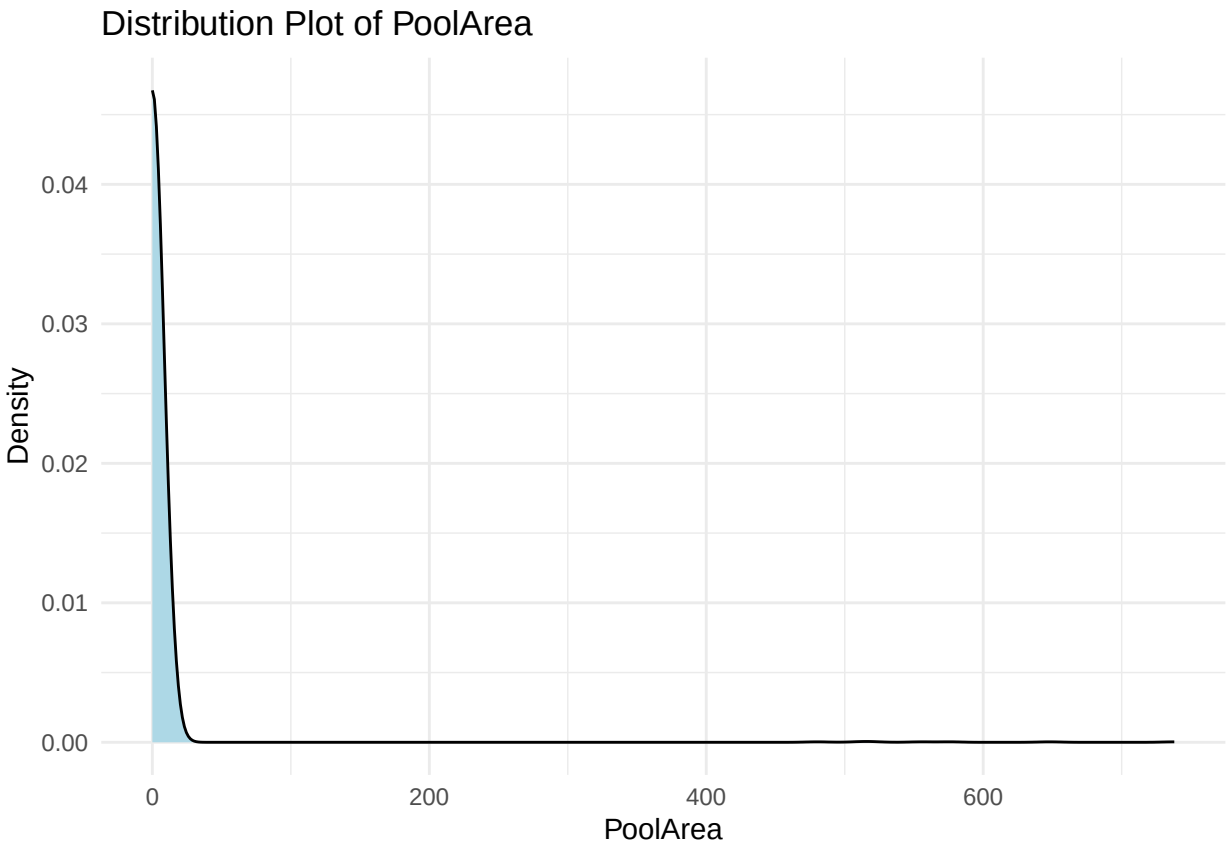

Distribution Plot of WoodDeckSF
0.008
0.006
0.004
0.002
0.000
Density
0
250
500
750
WoodDeckSF

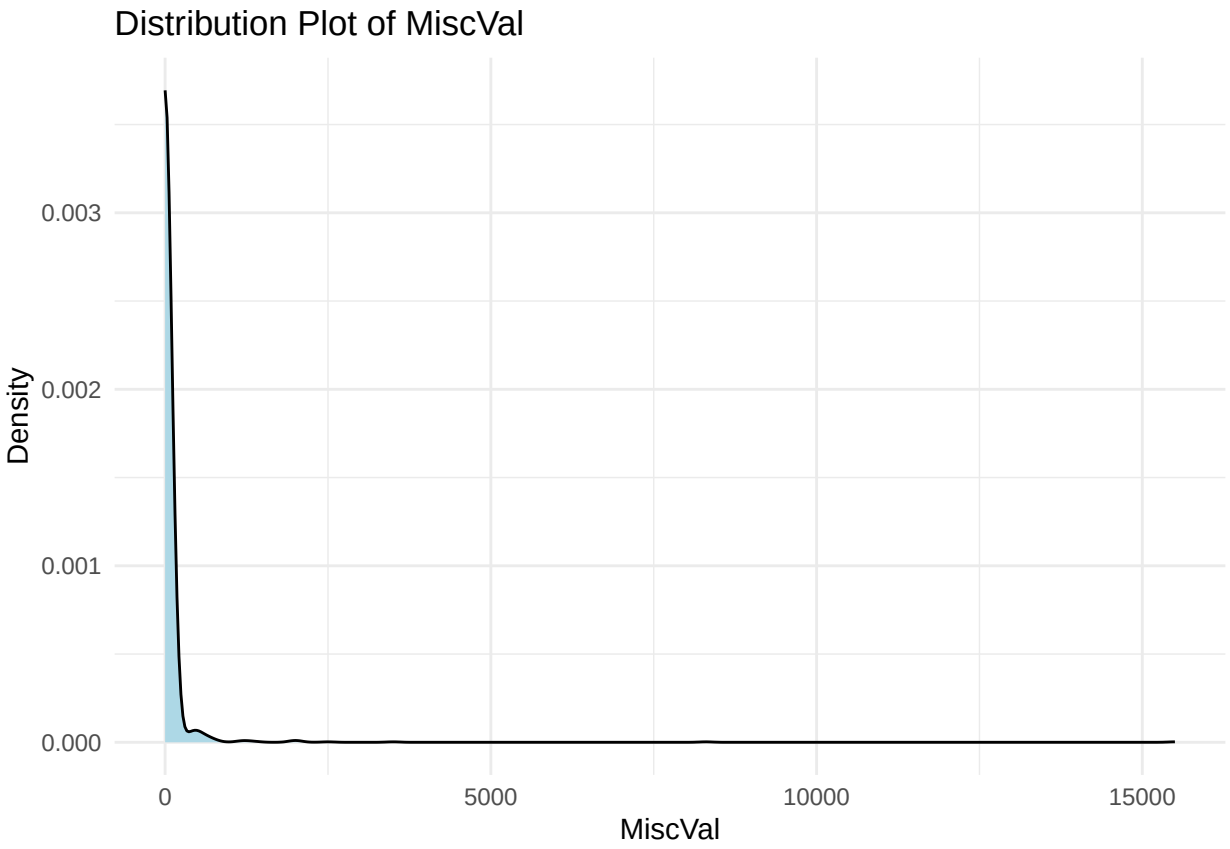

Distribution Plot of OpenPorchSF
Density
0.015
0.010
0.005
0.000
0
200
400
OpenPorchSF

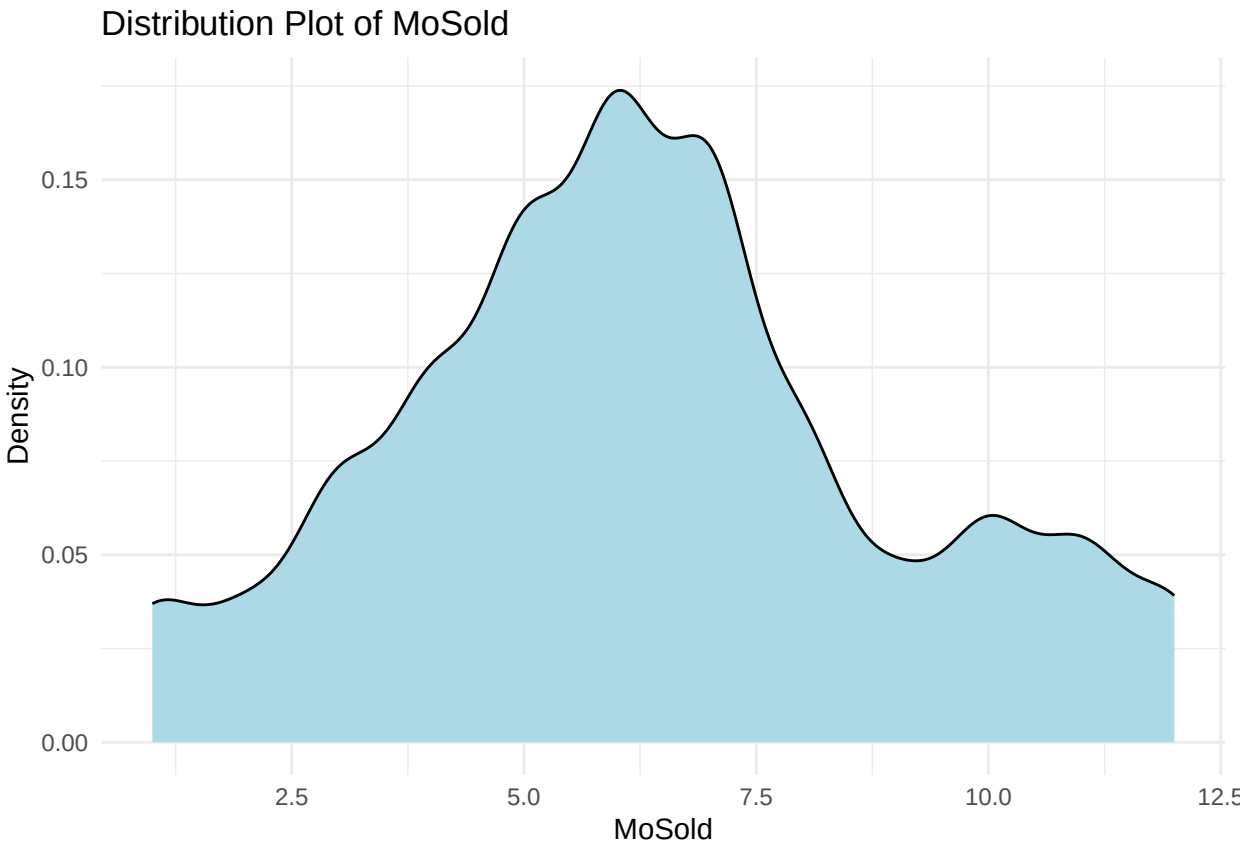

Distribution Plot of EnclosedPorch
Density
0.02
0.01
0.00
0
200
400
EnclosedPorch

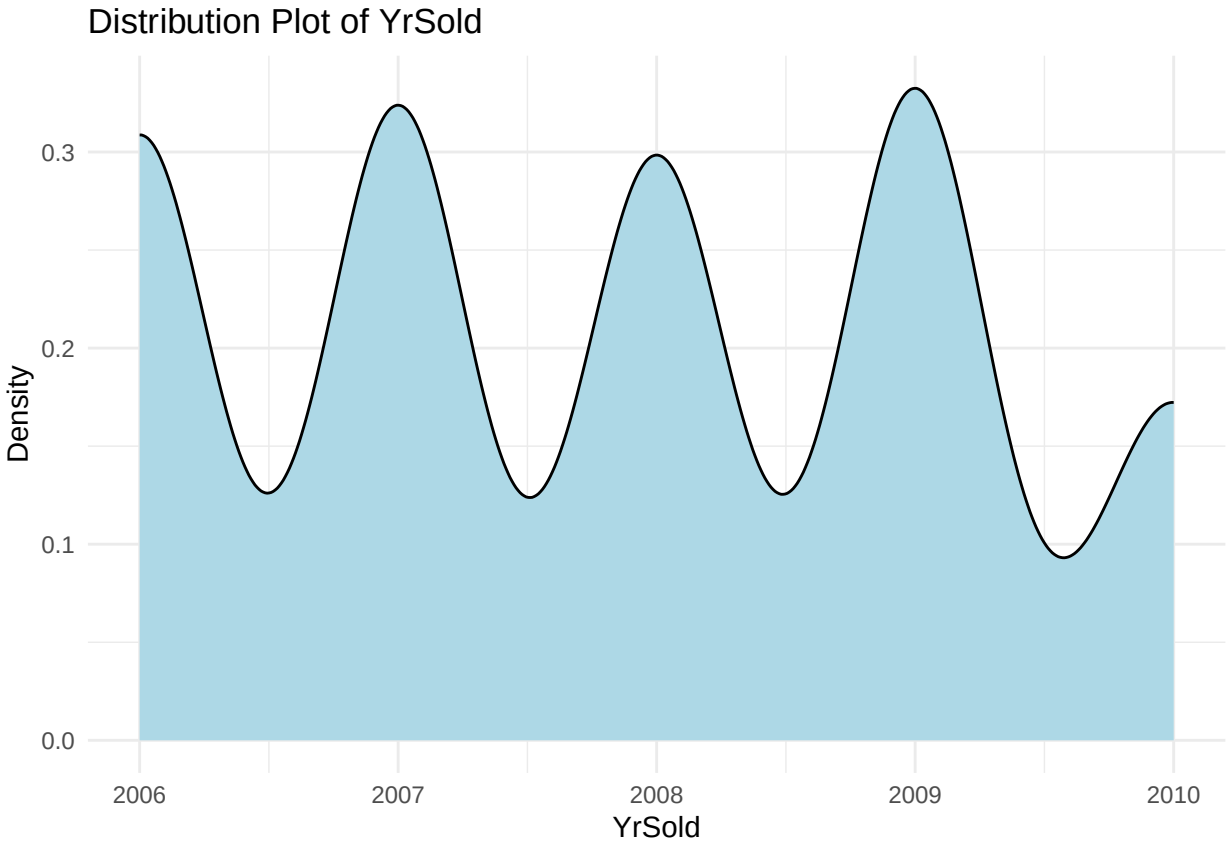

Distribution Plot of X3SsnPorch
Density
0.06
0.04
0.02
0.00
0
100
200
300
400
500
X3SsnPorch

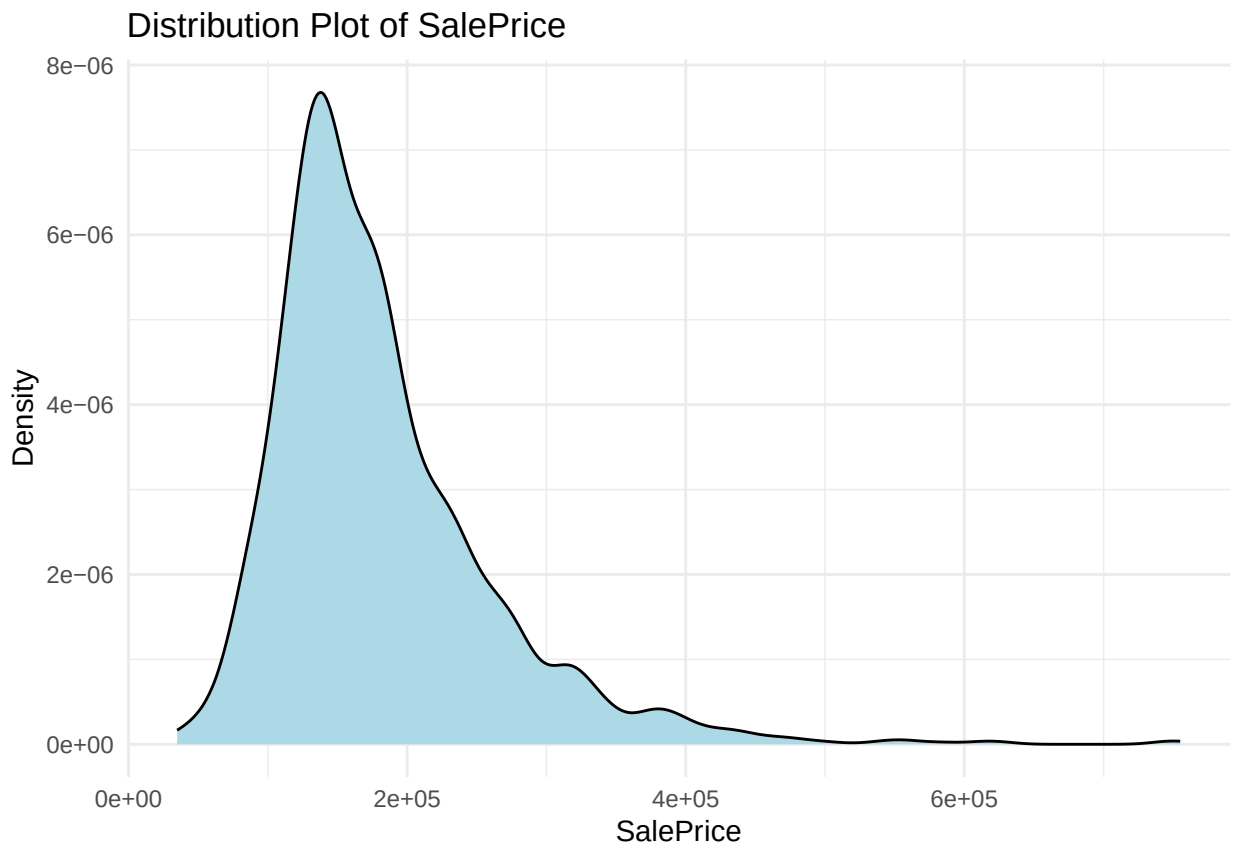

Distribution Plot of ScreenPorch
0.03
0.02
0.01
0.00
Density
0
100
200
300
400
500
ScreenPorch


Distribution Plot of PoolArea
Density
0.04
0.03
0.02
0.01
0.00
0
200
400
600
PoolArea


Distribution Plot of MiscVal
Density
0.003
0.002
0.001
0.000
0
5000
10000
15000
MiscVal


Distribution Plot of MoSold
Density
0.15
0.10
0.05
0.00
2.5
5.0
7.5
10.0
12.5
MoSold

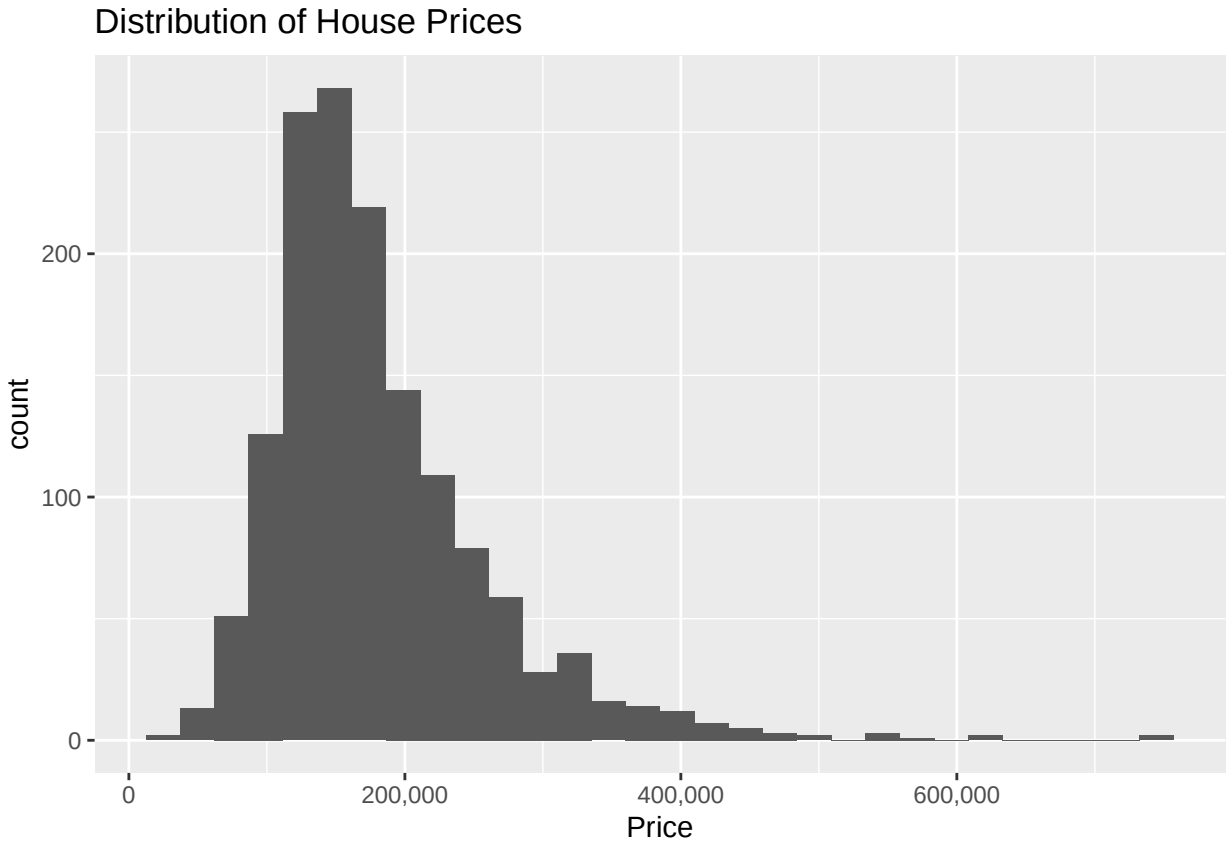

Distribution Plot of YrSold
Density
0.3
0.2
0.1
0.0
2006
2007
2008
2009
2010
YrSold



- Target Variable

```
ggplot(train, aes(x = train$SalePrice)) +
  geom_histogram()+
  labs(title = "Distribution of House Prices", x = "Price") +
  scale_x_continuous(labels = scales::comma)
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```




```
  theme_minimal()
```

```
## List of 136
##  $ line                            :List of 6
##   ..$ colour       : chr "black"
##   ..$ linewidth    : num 0.5
##   ..$ linetype     : num 1
##   ..$ lineend      : chr "butt"
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ rect                            :List of 5
##   ..$ fill         : chr "white"
##   ..$ colour       : chr "black"
##   ..$ linewidth    : num 0.5
##   ..$ linetype     : num 1
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ text                            :List of 11
##   ..$ family       : chr ""
##   ..$ face         : chr "plain"
##   ..$ colour       : chr "black"
##   ..$ size         : num 11
##   ..$ hjust        : num 0.5
##   ..$ vjust        : num 0.5
```

```
##   ..$ angle        : num 0
##   ..$ lineheight   : num 0.9
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ title                          : NULL
##  $ aspect.ratio                   : NULL
##  $ axis.title                     : NULL
##  $ axis.title.x                   :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 2.75points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.x.top               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 2.75points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.x.bottom            : NULL
##  $ axis.title.y                   :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : num 90
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 2.75points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.y.left              : NULL
```

```
##  $ axis.title.y.right             :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : num -90
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 2.75points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text                      :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : chr "grey30"
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x                    :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 2.2points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x.top                :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 2.2points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
```

```
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x.bottom              : NULL
##  $ axis.text.y                     :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 1
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 2.2points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.y.left                : NULL
##  $ axis.text.y.right               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 2.2points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.theta                 : NULL
##  $ axis.text.r                     :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0.5
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 2.2points 0points 2.2points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.ticks                      : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ axis.ticks.x                    : NULL
##  $ axis.ticks.x.top                : NULL
##  $ axis.ticks.x.bottom             : NULL
##  $ axis.ticks.y                    : NULL
##  $ axis.ticks.y.left               : NULL
##  $ axis.ticks.y.right              : NULL
```

```
##  $ axis.ticks.theta               : NULL
##  $ axis.ticks.r                   : NULL
##  $ axis.minor.ticks.x.top         : NULL
##  $ axis.minor.ticks.x.bottom      : NULL
##  $ axis.minor.ticks.y.left        : NULL
##  $ axis.minor.ticks.y.right       : NULL
##  $ axis.minor.ticks.theta         : NULL
##  $ axis.minor.ticks.r             : NULL
##  $ axis.ticks.length              : 'simpleUnit' num 2.75points
##   ..- attr(*, "unit")= int 8
##  $ axis.ticks.length.x            : NULL
##  $ axis.ticks.length.x.top        : NULL
##  $ axis.ticks.length.x.bottom     : NULL
##  $ axis.ticks.length.y            : NULL
##  $ axis.ticks.length.y.left       : NULL
##  $ axis.ticks.length.y.right      : NULL
##  $ axis.ticks.length.theta        : NULL
##  $ axis.ticks.length.r            : NULL
##  $ axis.minor.ticks.length        : 'rel' num 0.75
##  $ axis.minor.ticks.length.x      : NULL
##  $ axis.minor.ticks.length.x.top  : NULL
##  $ axis.minor.ticks.length.x.bottom: NULL
##  $ axis.minor.ticks.length.y      : NULL
##  $ axis.minor.ticks.length.y.left  : NULL
##  $ axis.minor.ticks.length.y.right : NULL
##  $ axis.minor.ticks.length.theta   : NULL
##  $ axis.minor.ticks.length.r      : NULL
##  $ axis.line                      : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ axis.line.x                    : NULL
##  $ axis.line.x.top                : NULL
##  $ axis.line.x.bottom             : NULL
##  $ axis.line.y                    : NULL
##  $ axis.line.y.left               : NULL
##  $ axis.line.y.right              : NULL
##  $ axis.line.theta                : NULL
##  $ axis.line.r                    : NULL
##  $ legend.background              : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ legend.margin                  : 'margin' num [1:4] 5.5points 5.5points 5.5points 5.5points
##   ..- attr(*, "unit")= int 8
##  $ legend.spacing                 : 'simpleUnit' num 11points
##   ..- attr(*, "unit")= int 8
##  $ legend.spacing.x               : NULL
##  $ legend.spacing.y               : NULL
##  $ legend.key                     : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ legend.key.size                : 'simpleUnit' num 1.2lines
##   ..- attr(*, "unit")= int 3
##  $ legend.key.height              : NULL
##  $ legend.key.width               : NULL
##  $ legend.key.spacing             : 'simpleUnit' num 5.5points
##   ..- attr(*, "unit")= int 8
##  $ legend.key.spacing.x           : NULL
```

```
##  $ legend.key.spacing.y           : NULL
##  $ legend.frame                   : NULL
##  $ legend.ticks                   : NULL
##  $ legend.ticks.length            : 'rel' num 0.2
##  $ legend.axis.line               : NULL
##  $ legend.text                    :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ legend.text.position           : NULL
##  $ legend.title                   :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ legend.title.position          : NULL
##  $ legend.position                : chr "right"
##  $ legend.position.inside         : NULL
##  $ legend.direction               : NULL
##  $ legend.byrow                   : NULL
##  $ legend.justification           : chr "center"
##  $ legend.justification.top       : NULL
##  $ legend.justification.bottom    : NULL
##  $ legend.justification.left      : NULL
##  $ legend.justification.right     : NULL
##  $ legend.justification.inside    : NULL
##  $ legend.location                : NULL
##  $ legend.box                     : NULL
##  $ legend.box.just                : NULL
##  $ legend.box.margin              : 'margin' num [1:4] 0cm 0cm 0cm 0cm
##   ..- attr(*, "unit")= int 1
##  $ legend.box.background          : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ legend.box.spacing             : 'simpleUnit' num 11points
##   ..- attr(*, "unit")= int 8
##   [list output truncated]
##  - attr(*, "class")= chr [1:2] "theme" "gg"
```

```
##  - attr(*, "complete")= logi TRUE
##  - attr(*, "validate")= logi TRUE
```

The distribution of house prices is rightly skewed, with more houses ranging below 200000.

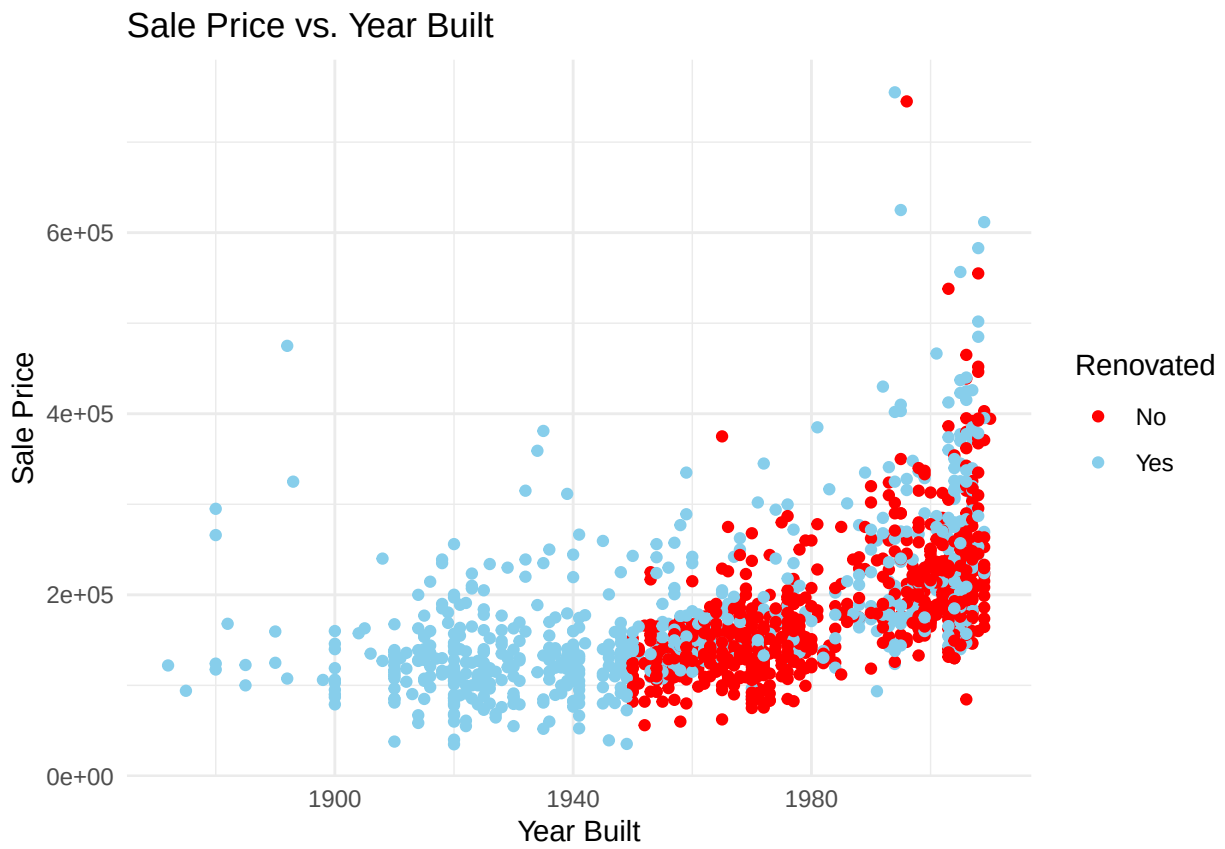
- Sale Price vs Year Sold

```
ggplot(train, aes(x = as.factor(train$YrSold), y = train$SalePrice, color = as.factor(train$YrSold))) +
  geom_boxplot(show.legend = FALSE)+
  scale_y_continuous(labels = scales::comma) +
  theme_minimal()+
  labs(title = "Sale Price vs Year of Sale", y = "Sale Price", x = "Year Sold")
```

There is an almost similar pattern across the years when it comes to Sale Prices.

- Sale Price VS Year Built VS Renovated

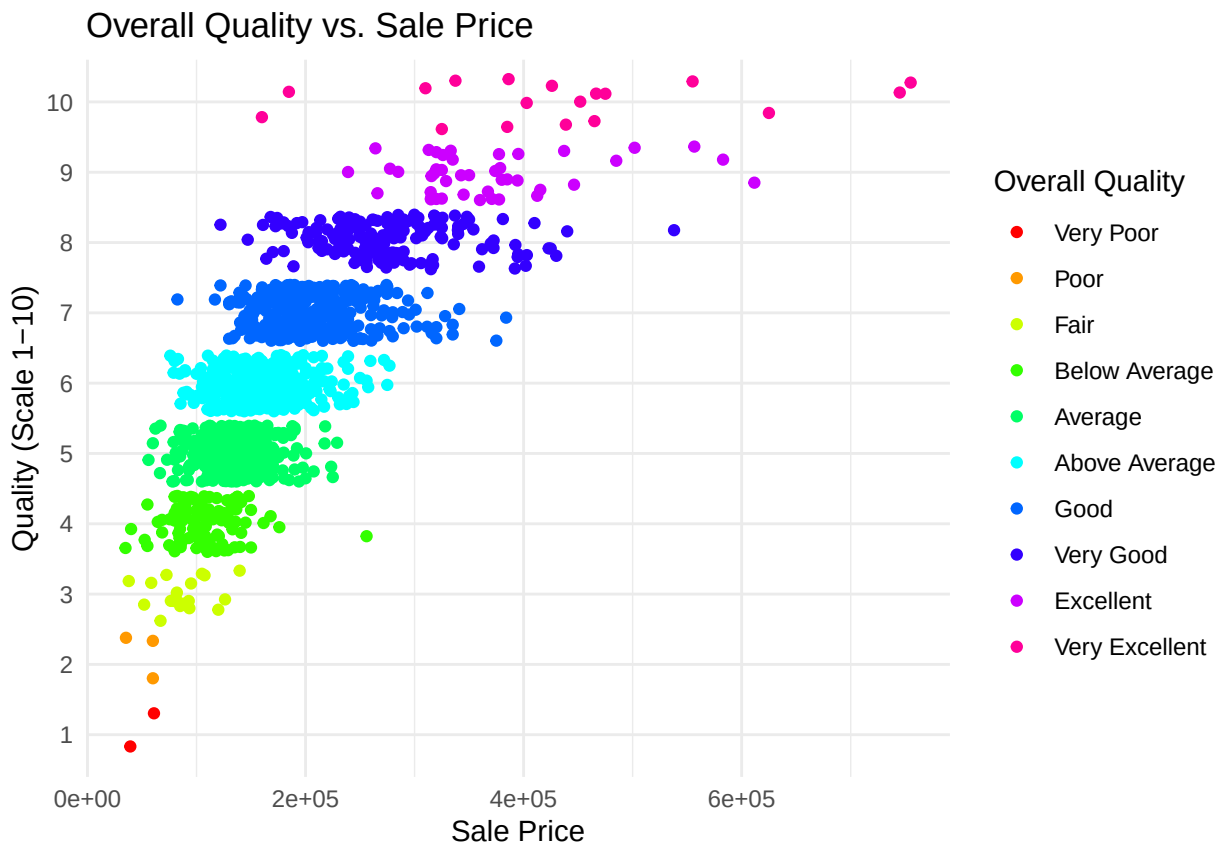
```
train <- train %>% mutate(Renovated = ifelse(YearBuilt == YearRemodAdd, "No", "Yes"))

#create plot
ggplot(train, aes(x= train$YearBuilt, y = train$SalePrice,color=train$Renovated))+
      geom_point()+
      labs(title="Sale Price vs. Year Built",x = "Year Built",y = "Sale Price", color = 'Renovated')+
      theme_minimal()+
  scale_color_manual(values = c("Yes" = "skyblue", "No" = "red"))
```



From the plot, we can say that newer houses are sold at higher prices and house build after 1940 were mostly renovated later.

- Sale Price vs Overall Quality

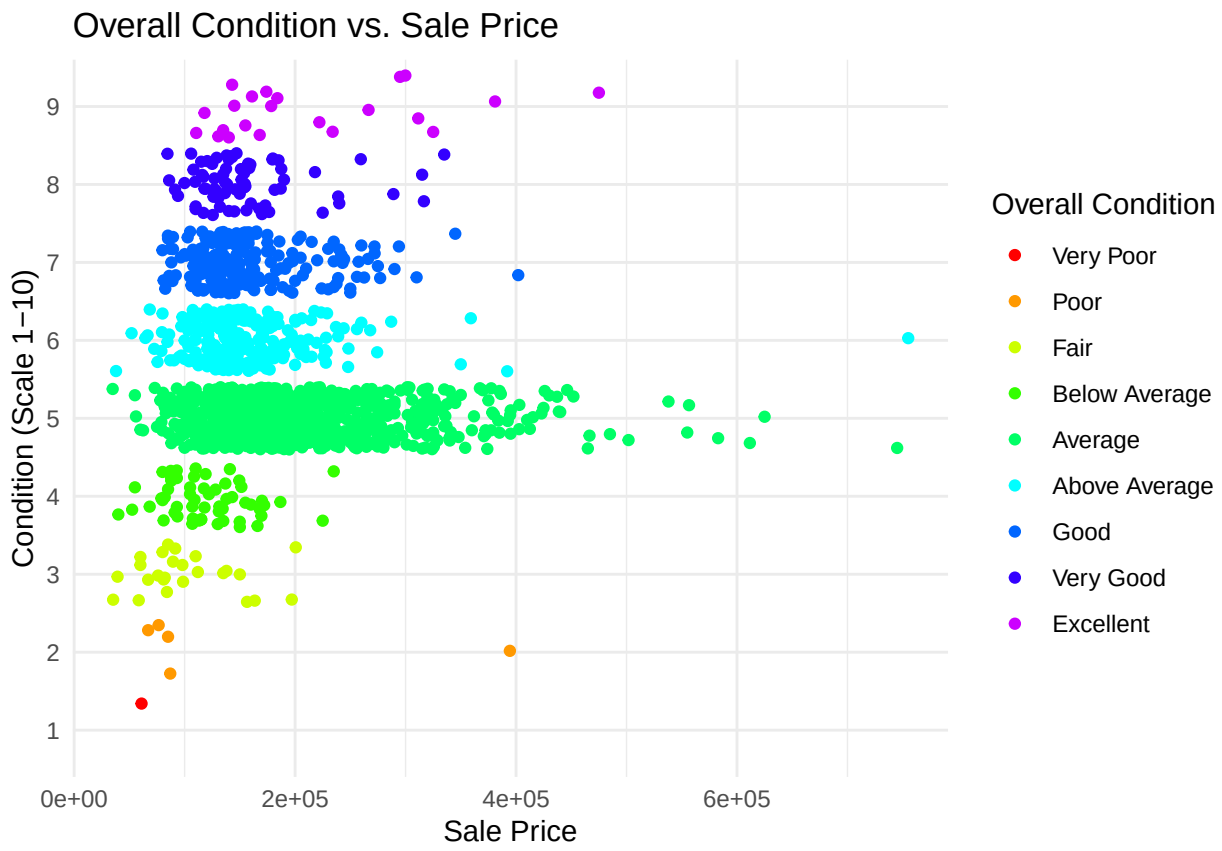
```
# Define custom labels for the quality scale
quality_labels <- c("1" = "Very Poor", "2" = "Poor", "3" = "Fair", "4" = "Below Average",
                    "5" = "Average", "6" = "Above Average", "7" = "Good", "8" = "Very Good",
                    "9" = "Excellent", "10" = "Very Excellent")


ggplot(train, aes(x= train$OverallQual, y= train$SalePrice, color=train$OverallQual))+
  geom_jitter()+
  scale_x_discrete()+
  labs(x = "Quality (Scale 1-10)",y= "Sale Price",title="Overall Quality vs. Sale Price",color = "Overal
  coord_flip()+
  scale_color_manual(values = rainbow(10), labels = quality_labels) +
  theme_minimal()
```



Houses with Very Good, Excellent and Very Excellent Quality are more expensive.

- Sale Price vs Overall Condition

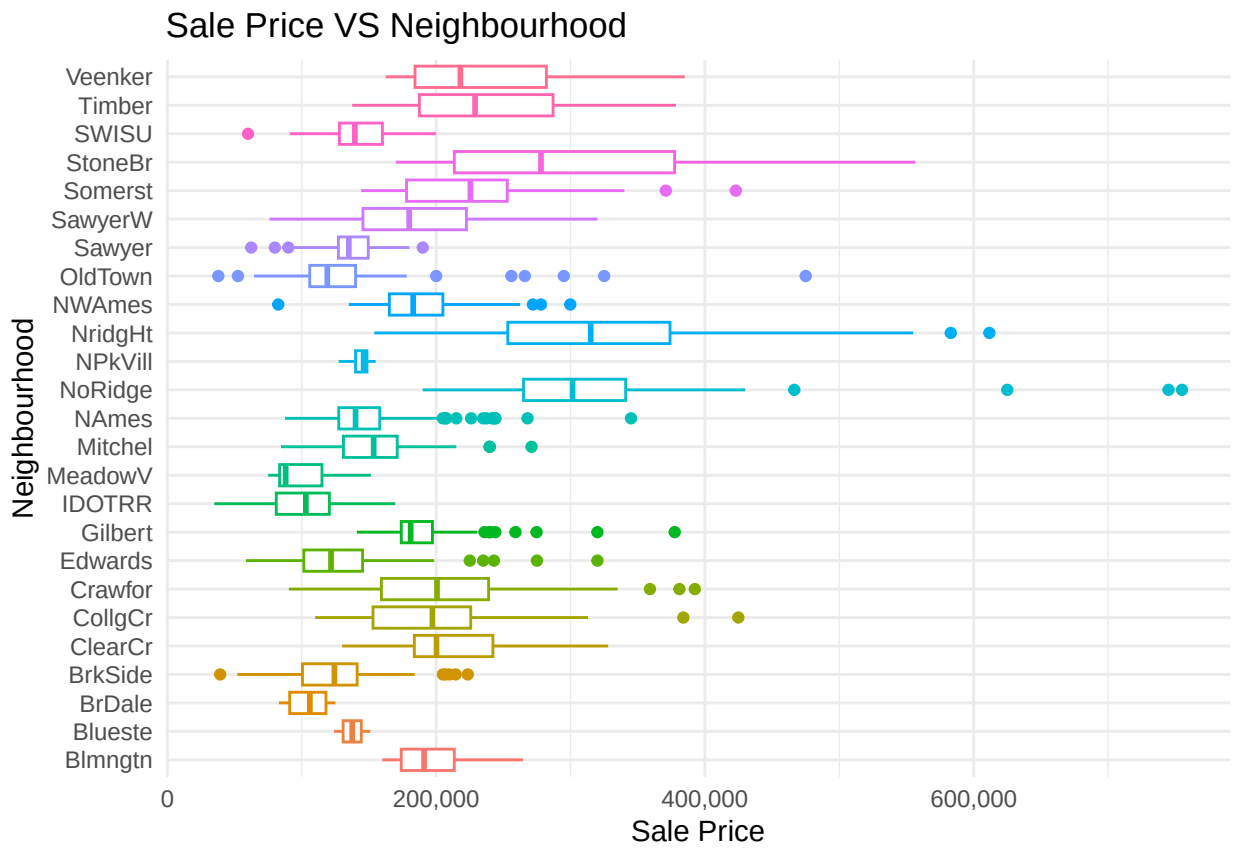
```
ggplot(train, aes(x= train$OverallCond, y= train$SalePrice, color=train$OverallCond))+
  geom_jitter()+
  scale_x_discrete()+
  labs(x = "Condition (Scale 1-10)",y= "Sale Price",title="Overall Condition vs. Sale Price",color = "O
  coord_flip()+
  scale_color_manual(values = rainbow(10), labels = quality_labels)+
  theme_minimal()
```



Houses with Very Good, Excellent and Very Excellent Overall Condition are more expensive.

- Sale Price VS Neighbourhood

```
ggplot(train, aes(x = train$Neighborhood, y = train$SalePrice))+
  geom_boxplot(aes(color = train$Neighborhood),show.legend = FALSE)+
  scale_y_continuous(labels = scales::comma)+
  labs(x = "Neighbourhood", y = "Sale Price", title = "Sale Price VS Neighbourhood")+
  theme_minimal()+
  coord_flip()
```



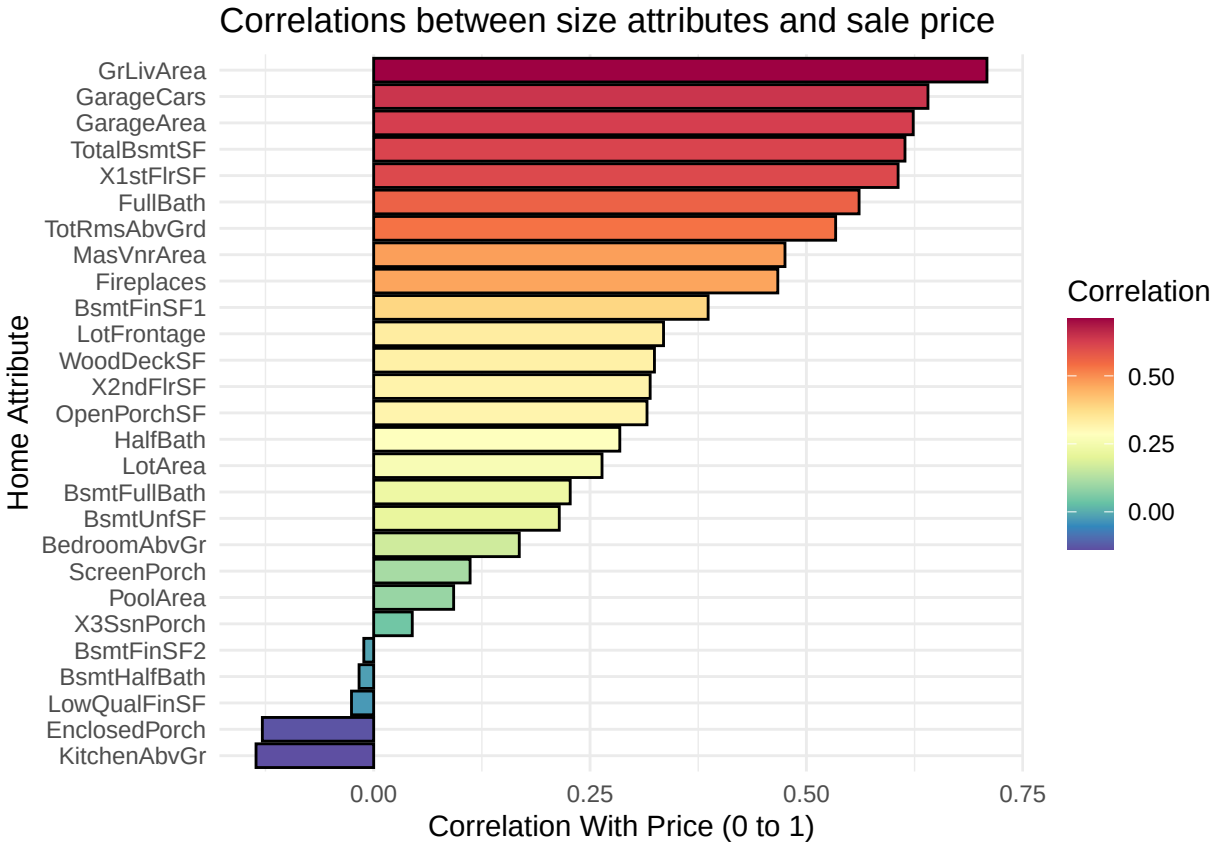
Northridge Heights and Stony Brook are the most expensive neighbourhoods as per the Sale Prices.

- Correlation

1. Size Attributes : Explore size attributes for houses and their correlation with sale price.

```
size = c('LotFrontage','LotArea','MasVnrArea','BsmtFinSF1','BsmtFinSF2','BsmtUnfSF','TotalBsmtSF','X1st
'HalfBath','BedroomAbvGr','KitchenAbvGr','TotRmsAbvGrd','Fireplaces','GarageCars','GarageArea', 'WoodDe

# Calculate correlations with SalePrice
size_corr <- train %>%
  dplyr::select(all_of(size), "SalePrice") %>%
  cor() %>%
  as.data.frame() %>%
  dplyr::select("SalePrice") %>%
  arrange(desc("SalePrice"))

# Remove the row where rowname is SalePrice
size_corr <- size_corr[-which(rownames(size_corr) == "SalePrice"), , drop = FALSE]


# Add column names for ggplot
size_corr$Attribute <- rownames(size_corr)
rownames(size_corr) <- NULL

# Create the plot
```

```
ggplot(size_corr, aes(x = SalePrice, y = reorder(Attribute, SalePrice))) +
  geom_bar(stat = "identity", aes(fill = SalePrice), color = "black") +
  scale_fill_gradientn(colors = rev(RColorBrewer::brewer.pal(11, "Spectral")),
                       name = "Correlation") +
  labs(
    title = "Correlations between size attributes and sale price",
    x = "Correlation With Price (0 to 1)",
    y = "Home Attribute"
  ) +
  theme_minimal()
```



Above grade (ground) living area, garage Cars, Garage Area, Total Basement Area and First Floor square feet are highly correlated with the Sale Price.

Full bathrooms above grade, Total Rooms above Grade, Masonry veneer area and no. of fireplaces are moderately correlated with the sale Price.

Type 2 finished square feet,Basement half bathrooms,Low quality finished square feet (all floors) ,Enclosed porch area in square feet and KitchenAbvGr are negatively correlated with Sale Price.

Feature Engineering

```
#The following 3 features describe the Total area of the house so a good idea is to sum them to a new v

train$TotalArea<-train$X1stFlrSF+train$X2ndFlrSF+train$TotalBsmtSF
```

```
#combine are those that describe the finished square feet area of the house.
train$TotalFinSF<-train$BsmtFinSF1+train$BsmtFinSF2+train$X1stFlrSF+train$X2ndFlrSF

#delete the features that we used to make our two new variables
train$BsmtFinSF1<-NULL
train$BsmtFinSF2<-NULL
train$X1stFlrSF<-NULL
train$X2ndFlrSF<-NULL
train$TotalBsmtSF<-NULL

dim(train)
```

```
## [1] 1459   78
```

```
#variables that describe the number full baths and half baths of the house can merge to one column
train$TotBath<-train$BsmtFullBath+(0.5*train$BsmtHalfBath)+train$FullBath+(0.5*train$HalfBath)

#Also Porches
train$TotPorch<-train$OpenPorchSF+train$EnclosedPorch+train$X3SsnPorch+train$ScreenPorch+train$WoodDeck

#Remove variables used
train$BsmtFullBath<-NULL
train$BsmtHalfBath<-NULL
train$HalfBath<-NULL
train$FullBath<-NULL
train$OpenPorchSF<-NULL
train$EnclosedPorch<-NULL
train$X3SsnPorch<-NULL
train$ScreenPorch<-NULL
train$WoodDeckSF<-NULL

dim(train)
```

```
## [1] 1459   71
```

```
#seperate those houses that have a pool with those who don't. It's pretty obvious that if we look for h

train$Pool<-c(rep(2,1459))
for (i in 1:nrow(train)){
  if (train$PoolArea[i]==0) {
    train$Pool[i]<-c(0)
  } else {
    train$Pool[i]<-c(1)
  }
}
train$Pool<-as.factor(train$Pool)

train$PoolQC<-NULL
train$PoolArea<-NULL
dim(train)
```

```
## [1] 1459   70
```

```r
# Function to calculate mode percentage for a categorical variable
mode_percentage <- function(column) {
  # Get frequency table
  freq_table <- table(column)

  # Find the mode (most frequent value)
  mode_value <- names(freq_table)[which.max(freq_table)]

  # Calculate the mode's percentage
  mode_percent <- max(freq_table) / length(column) * 100

  # Output result as a named vector
  result <- c(Mode = mode_value, Percentage = mode_percent)
  return(result)
}

# Apply the function to each categorical column in the data frame
cat_columns <- sapply(train, is.factor) | sapply(train, is.character)  # Identify categorical columns
mode_percentages <- sapply(train[, cat_columns], mode_percentage)

# Print the result
print(mode_percentages)
```

```
##            MSSubClass        MSZoning           Street
## Mode       "20"              "RL"               "Pave"
## Percentage "36.737491432488" "78.8211103495545" "99.5887594242632"
##            Alley              LotShape           LandContour
## Mode       "No alley access"  "Reg"              "Lvl"
## Percentage "93.7628512679918" "63.3310486634681" "89.787525702536"
##            Utilities          LotConfig          LandSlope
## Mode       "AllPub"           "Inside"           "Gtl"
## Percentage "99.9314599040439" "72.0356408498972" "94.6538725154215"
##            Neighborhood       Condition1         Condition2
## Mode       "NAmes"            "Norm"             "Norm"
## Percentage "15.4215215901302" "86.2919808087731" "98.971898560658"
##            BldgType           HouseStyle         OverallQual
## Mode       "1Fam"             "1Story"           "5"
## Percentage "83.5503769705278" "49.7601096641535" "27.1418779986292"
##            OverallCond        RoofStyle          RoofMatl
## Mode       "5"                "Gable"            "CompShg"
## Percentage "56.2028786840302" "78.1357093899932" "98.2179575051405"
##            Exterior1st        Exterior2nd        MasVnrType
## Mode       "VinylSd"          "VinylSd"          "None"
## Percentage "35.229609321453" "34.4756682659356" "59.698423577793"
##            ExterQual          ExterCond          Foundation
## Mode       "TA"               "TA"               "PConc"
## Percentage "62.0287868403016" "87.7998629198081" "44.2769019876628"
##            BsmtQual           BsmtCond           BsmtExposure
## Mode       "TA"               "TA"               "No"
## Percentage "44.4825222755312" "89.787525702536"  "65.318711446196"
##            BsmtFinType1       BsmtFinType2       Heating
## Mode       "Unf"              "Unf"              "GasA"
## Percentage "29.4037011651816" "86.0178204249486" "97.8067169294037"
```

```
##            HeatingQC          CentralAir         Electrical
## Mode       "Ex"               "Y"                "SBrkr"
## Percentage "50.7882111034955" "93.4886908841672" "91.4324880054832"
##            KitchenQual        Functional         FireplaceQu
## Mode       "TA"               "Typ"              "No basement"
## Percentage "50.3769705277587" "93.1459904043866" "47.2241261137766"
##            GarageType         GarageFinish       GarageQual
## Mode       "Attchd"           "Unf"              "TA"
## Percentage "59.6298834818369" "41.4667580534613" "89.787525702536"
##            GarageCond        PavedDrive         Fence
## Mode       "TA"              "Y"                "No Fence"
## Percentage "90.815627141878" "91.7751884852639" "80.7402330363262"
##            MiscFeature        SaleType           SaleCondition
## Mode       "None"             "WD"               "Normal"
## Percentage "96.2988348183687" "86.7717614804661" "82.0424948594928"
##            Renovated          Pool
## Mode       "No"               "0"
## Percentage "52.3646333104866" "99.5202193283071"
```

```
#variables which their mode is more than 90% of other categories are useless and we are going to delete

remove_cols <- c('Street','Alley','Utilities','LandSlope','Condition2','RoofMatl','Heating', 'CentralAi

t_data <- train[, !names(train) %in% remove_cols]
dim(t_data)
```

```
## [1] 1459   56
```

```
#One hot encode categorical variables
cat_dat <- t_data[,sapply(t_data, is.factor)]
num_dat <- t_data[,sapply(t_data, is.numeric)]

encode <- onehot(cat_dat)
```

```
## Warning: Variables excluded for having levels > max_levels: MSSubClassVariables
## excluded for having levels > max_levels: NeighborhoodVariables excluded for
## having levels > max_levels: Exterior1stVariables excluded for having levels >
## max_levels: Exterior2nd
```

```
cat_encoded <- as.data.frame(predict(encode, cat_dat))

# Combine encoded categorical data with numeric data
train_data <- cbind(num_dat, cat_encoded)
```

Model Building

```
# Fit an initial full model with all predictors
full_model <- lm(SalePrice ~ ., data = train_data)
summary(full_model)
```

```
##
## Call:
## lm(formula = SalePrice ~ ., data = train_data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -361632  -12084    -632   10624  244184
##
## Coefficients: (34 not defined because of singularities)
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 6.313e+05  1.284e+06   0.492 0.622945
## LotFrontage                -1.524e+02  5.113e+01  -2.980 0.002932 **
## LotArea                     3.268e-01  1.032e-01   3.166 0.001582 **
## YearBuilt                   2.347e+02  7.945e+01   2.954 0.003197 **
## YearRemodAdd               -1.921e+01  6.803e+01  -0.282 0.777730
## MasVnrArea                  2.711e+01  6.853e+00   3.956 8.03e-05 ***
## BsmtUnfSF                  -1.459e+00  3.513e+00  -0.415 0.677993
## LowQualFinSF               -4.404e+01  2.211e+01  -1.992 0.046550 *
## GrLivArea                   6.331e+01  8.367e+00   7.567 7.17e-14 ***
## BedroomAbvGr               -1.394e+03  1.639e+03  -0.851 0.394991
## KitchenAbvGr               -1.817e+04  6.608e+03  -2.749 0.006059 **
## TotRmsAbvGrd                1.825e+03  1.135e+03   1.607 0.108261
## Fireplaces                  4.350e+03  3.136e+03   1.387 0.165673
## GarageYrBlt                -1.510e+02  7.321e+01  -2.062 0.039407 *
## GarageCars                  1.522e+04  2.721e+03   5.593 2.71e-08 ***
## GarageArea                 -8.533e+00  9.485e+00  -0.900 0.368501
## MiscVal                    -4.494e-01  1.701e+00  -0.264 0.791700
## MoSold                     -2.506e+02  3.041e+02  -0.824 0.410117
## YrSold                     -3.276e+02  6.352e+02  -0.516 0.606149
## TotalArea                  -7.259e+00  4.987e+00  -1.456 0.145731
## TotalFinSF                         NA         NA      NA       NA
## TotBath                     6.106e+03  1.907e+03   3.202 0.001399 **
## TotPorch                    1.709e+01  5.973e+00   2.861 0.004285 **
## `MSZoning=C (all)`         -2.711e+04  1.106e+04  -2.450 0.014413 *
## `MSZoning=FV`               1.267e+04  4.919e+03   2.576 0.010118 *
## `MSZoning=RH`               1.352e+04  8.185e+03   1.651 0.098900 .
## `MSZoning=RL`               8.298e+03  2.916e+03   2.846 0.004503 **
## `MSZoning=RM`                      NA         NA      NA       NA
## `LotShape=IR1`              2.691e+02  1.946e+03   0.138 0.890021
## `LotShape=IR2`              1.021e+04  5.320e+03   1.919 0.055233 .
## `LotShape=IR3`             -2.407e+04  1.058e+04  -2.276 0.023009 *
## `LotShape=Reg`                     NA         NA      NA       NA
## `LandContour=Bnk`          -1.712e+04  4.319e+03  -3.964 7.78e-05 ***
## `LandContour=HLS`           2.360e+03  4.624e+03   0.510 0.609895
## `LandContour=Low`           6.811e+03  6.160e+03   1.106 0.269132
## `LandContour=Lvl`                  NA         NA      NA       NA
## `LotConfig=Corner`          1.915e+03  2.229e+03   0.859 0.390539
## `LotConfig=CulDSac`         9.666e+03  3.670e+03   2.634 0.008549 **
## `LotConfig=FR2`            -6.548e+03  4.647e+03  -1.409 0.159054
## `LotConfig=FR3`            -4.944e+03  1.555e+04  -0.318 0.750586
## `LotConfig=Inside`                 NA         NA      NA       NA
## `Condition1=Artery`        -3.376e+03  1.500e+04  -0.225 0.821946
## `Condition1=Feedr`         -1.454e+03  1.467e+04  -0.099 0.921076
## `Condition1=Norm`           1.174e+04  1.434e+04   0.819 0.412886
```

```
## `Condition1=PosA`          5.991e+03  1.819e+04   0.329 0.741889
## `Condition1=PosN`         -1.532e+04  1.603e+04  -0.956 0.339480
## `Condition1=RRAe`         -9.827e+03  1.739e+04  -0.565 0.572091
## `Condition1=RRAn`          9.322e+03  1.549e+04   0.602 0.547519
## `Condition1=RRNe`         -8.662e+03  2.549e+04  -0.340 0.734054
## `Condition1=RRNn`                 NA         NA      NA       NA
## `BldgType=1Fam`            1.677e+04  3.760e+03   4.461 8.84e-06 ***
## `BldgType=2fmCon`          1.145e+04  8.065e+03   1.420 0.155939
## `BldgType=Duplex`          1.406e+04  8.413e+03   1.671 0.094961 .
## `BldgType=Twnhs`          -1.043e+03  5.849e+03  -0.178 0.858481
## `BldgType=TwnhsE`                 NA         NA      NA       NA
## `HouseStyle=1.5Fin`        5.070e+03  5.440e+03   0.932 0.351516
## `HouseStyle=1.5Unf`        2.227e+04  1.000e+04   2.227 0.026150 *
## `HouseStyle=1Story`        1.613e+04  4.723e+03   3.415 0.000658 ***
## `HouseStyle=2.5Fin`       -1.943e+03  1.548e+04  -0.126 0.900146
## `HouseStyle=2.5Unf`       -1.178e+03  1.126e+04  -0.105 0.916710
## `HouseStyle=2Story`       -3.245e+03  4.930e+03  -0.658 0.510604
## `HouseStyle=SFoyer`        2.132e+03  6.732e+03   0.317 0.751551
## `HouseStyle=SLvl`                 NA         NA      NA       NA
## `OverallQual=1`           -9.904e+04  3.560e+04  -2.782 0.005486 **
## `OverallQual=2`           -9.913e+04  2.271e+04  -4.365 1.37e-05 ***
## `OverallQual=3`           -1.069e+05  1.349e+04  -7.924 4.89e-15 ***
## `OverallQual=4`           -1.009e+05  1.150e+04  -8.771  < 2e-16 ***
## `OverallQual=5`           -1.002e+05  1.102e+04  -9.094  < 2e-16 ***
## `OverallQual=6`           -9.546e+04  1.071e+04  -8.910  < 2e-16 ***
## `OverallQual=7`           -8.482e+04  1.037e+04  -8.178 6.76e-16 ***
## `OverallQual=8`           -5.669e+04  9.897e+03  -5.728 1.26e-08 ***
## `OverallQual=9`           -1.432e+04  9.281e+03  -1.543 0.123183
## `OverallQual=10`                  NA         NA      NA       NA
## `OverallCond=1`           -6.072e+04  6.082e+04  -0.998 0.318341
## `OverallCond=2`           -8.971e+03  2.141e+04  -0.419 0.675287
## `OverallCond=3`           -4.723e+04  1.066e+04  -4.430 1.02e-05 ***
## `OverallCond=4`           -3.235e+04  9.117e+03  -3.549 0.000401 ***
## `OverallCond=5`           -2.521e+04  8.205e+03  -3.072 0.002167 **
## `OverallCond=6`           -1.850e+04  8.116e+03  -2.280 0.022787 *
## `OverallCond=7`           -1.092e+04  7.859e+03  -1.390 0.164865
## `OverallCond=8`           -8.562e+03  8.203e+03  -1.044 0.296791
## `OverallCond=9`                   NA         NA      NA       NA
## `RoofStyle=Flat`          -1.059e+04  2.448e+04  -0.433 0.665443
## `RoofStyle=Gable`          4.049e+03  2.281e+04   0.178 0.859115
## `RoofStyle=Gambrel`        1.295e+04  2.486e+04   0.521 0.602512
## `RoofStyle=Hip`            6.072e+03  2.287e+04   0.265 0.790686
## `RoofStyle=Mansard`        2.974e+03  2.550e+04   0.117 0.907165
## `RoofStyle=Shed`                  NA         NA      NA       NA
## `MasVnrType=BrkCmn`       -1.476e+04  8.868e+03  -1.664 0.096334 .
## `MasVnrType=BrkFace`      -1.427e+03  3.379e+03  -0.422 0.672880
## `MasVnrType=None`          4.530e+03  3.641e+03   1.244 0.213649
## `MasVnrType=Stone`                NA         NA      NA       NA
## `ExterQual=Ex`             4.723e+03  6.971e+03   0.678 0.498202
## `ExterQual=Fa`             7.275e+03  1.051e+04   0.692 0.488920
## `ExterQual=Gd`             6.630e+03  3.054e+03   2.171 0.030107 *
## `ExterQual=TA`                    NA         NA      NA       NA
## `ExterCond=Ex`            -6.653e+03  1.964e+04  -0.339 0.734833
## `ExterCond=Fa`             1.136e+03  6.920e+03   0.164 0.869642
```

```
## `ExterCond=Gd`             -1.782e+03  2.940e+03  -0.606 0.544484
## `ExterCond=Po`             -5.419e+04  3.681e+04  -1.472 0.141205
## `ExterCond=TA`                    NA         NA      NA       NA
## `Foundation=BrkTil`         1.698e+04  1.831e+04   0.927 0.353999
## `Foundation=CBlock`         2.081e+04  1.802e+04   1.155 0.248320
## `Foundation=PConc`          2.378e+04  1.790e+04   1.328 0.184260
## `Foundation=Slab`           1.675e+04  2.086e+04   0.803 0.422283
## `Foundation=Stone`          2.562e+04  2.267e+04   1.130 0.258680
## `Foundation=Wood`                 NA         NA      NA       NA
## `BsmtQual=Ex`               1.993e+04  5.069e+03   3.932 8.86e-05 ***
## `BsmtQual=Fa`               1.136e+03  5.892e+03   0.193 0.847108
## `BsmtQual=Gd`               1.878e+03  2.975e+03   0.631 0.527917
## `BsmtQual=No basement`     -5.900e+04  3.331e+04  -1.771 0.076721 .
## `BsmtQual=TA`                     NA         NA      NA       NA
## `BsmtCond=Fa`              -7.838e+03  5.208e+03  -1.505 0.132582
## `BsmtCond=Gd`              -4.654e+03  4.045e+03  -1.151 0.250097
## `BsmtCond=No basement`             NA         NA      NA       NA
## `BsmtCond=Po`              -3.699e+04  4.267e+04  -0.867 0.386205
## `BsmtCond=TA`                     NA         NA      NA       NA
## `BsmtExposure=Av`           4.847e+03  2.651e+03   1.828 0.067744 .
## `BsmtExposure=Gd`           1.893e+04  3.610e+03   5.245 1.83e-07 ***
## `BsmtExposure=Mn`           2.915e+03  3.115e+03   0.936 0.349519
## `BsmtExposure=No`                 NA         NA      NA       NA
## `BsmtExposure=No basement`        NA         NA      NA       NA
## `BsmtFinType1=ALQ`          6.237e+03  3.474e+03   1.795 0.072828 .
## `BsmtFinType1=BLQ`          6.720e+03  3.819e+03   1.760 0.078726 .
## `BsmtFinType1=GLQ`          1.271e+04  3.261e+03   3.899 0.000102 ***
## `BsmtFinType1=LwQ`          1.710e+03  4.552e+03   0.376 0.707224
## `BsmtFinType1=No basement`        NA         NA      NA       NA
## `BsmtFinType1=Rec`          5.393e+03  3.866e+03   1.395 0.163230
## `BsmtFinType1=Unf`                NA         NA      NA       NA
## `BsmtFinType2=ALQ`          1.045e+04  7.621e+03   1.371 0.170490
## `BsmtFinType2=BLQ`         -4.582e+03  5.581e+03  -0.821 0.411803
## `BsmtFinType2=GLQ`         -1.244e+03  8.690e+03  -0.143 0.886231
## `BsmtFinType2=LwQ`         -4.033e+03  4.791e+03  -0.842 0.400129
## `BsmtFinType2=No basement`  3.961e+04  3.063e+04   1.293 0.196209
## `BsmtFinType2=Rec`         -1.438e+03  4.516e+03  -0.318 0.750295
## `BsmtFinType2=Unf`                NA         NA      NA       NA
## `HeatingQC=Ex`              2.651e+03  2.472e+03   1.072 0.283735
## `HeatingQC=Fa`             -5.280e+02  4.864e+03  -0.109 0.913584
## `HeatingQC=Gd`             -4.739e+01  2.627e+03  -0.018 0.985611
## `HeatingQC=Po`             -2.239e+04  3.267e+04  -0.685 0.493190
## `HeatingQC=TA`                    NA         NA      NA       NA
## `KitchenQual=Ex`            2.099e+04  4.960e+03   4.232 2.48e-05 ***
## `KitchenQual=Fa`            2.293e+03  5.750e+03   0.399 0.690093
## `KitchenQual=Gd`            9.676e+02  2.653e+03   0.365 0.715358
## `KitchenQual=TA`                  NA         NA      NA       NA
## `FireplaceQu=Ex`            5.041e+03  6.957e+03   0.725 0.468787
## `FireplaceQu=Fa`           -2.533e+03  5.623e+03  -0.450 0.652431
## `FireplaceQu=Gd`           -1.150e+02  2.641e+03  -0.044 0.965264
## `FireplaceQu=No basement`  -1.378e+03  4.382e+03  -0.315 0.753175
## `FireplaceQu=Po`           -4.383e+02  7.317e+03  -0.060 0.952245
## `FireplaceQu=TA`                  NA         NA      NA       NA
## `GarageType=2Types`        -3.593e+04  1.533e+04  -2.343 0.019270 *
```

```
## `GarageType=Attchd`        -9.838e+03  5.785e+03  -1.701 0.089267 .
## `GarageType=Basment`       -1.249e+04  9.333e+03  -1.338 0.181163
## `GarageType=BuiltIn`       -1.020e+04  6.844e+03  -1.490 0.136517
## `GarageType=CarPort`       -1.382e+04  1.207e+04  -1.145 0.252341
## `GarageType=Detchd`        -9.517e+03  5.670e+03  -1.679 0.093466 .
## `GarageType=No Garage`             NA         NA      NA       NA
## `GarageFinish=Fin`         -1.304e+02  2.912e+03  -0.045 0.964288
## `GarageFinish=No Garage`           NA         NA      NA       NA
## `GarageFinish=RFn`          2.192e+03  2.651e+03   0.827 0.408516
## `GarageFinish=Unf`                 NA         NA      NA       NA
## `GarageQual=Ex`             4.013e+04  1.848e+04   2.172 0.030025 *
## `GarageQual=Fa`            -8.320e+03  5.222e+03  -1.593 0.111359
## `GarageQual=Gd`             5.243e+03  8.439e+03   0.621 0.534515
## `GarageQual=No Garage`             NA         NA      NA       NA
## `GarageQual=Po`            -7.330e+03  2.341e+04  -0.313 0.754197
## `GarageQual=TA`                    NA         NA      NA       NA
## `Fence=GdPrv`              -3.032e+03  4.261e+03  -0.712 0.476842
## `Fence=GdWo`               -3.268e+03  4.451e+03  -0.734 0.462935
## `Fence=MnPrv`               1.332e+03  2.757e+03   0.483 0.628994
## `Fence=MnWw`               -3.732e+03  9.406e+03  -0.397 0.691613
## `Fence=No Fence`                   NA         NA      NA       NA
## `SaleType=COD`             -4.102e+03  5.177e+03  -0.792 0.428222
## `SaleType=Con`              3.456e+04  2.119e+04   1.631 0.103207
## `SaleType=ConLD`            9.134e+03  1.120e+04   0.816 0.414879
## `SaleType=ConLI`            6.591e+03  1.386e+04   0.476 0.634440
## `SaleType=ConLw`           -7.657e+02  1.451e+04  -0.053 0.957912
## `SaleType=CWD`              1.819e+03  1.541e+04   0.118 0.906069
## `SaleType=New`              3.015e+04  1.844e+04   1.635 0.102361
## `SaleType=Oth`              3.211e+03  1.795e+04   0.179 0.858069
## `SaleType=WD`                      NA         NA      NA       NA
## `SaleCondition=Abnorml`     8.424e+03  1.841e+04   0.458 0.647290
## `SaleCondition=AdjLand`     1.176e+04  2.414e+04   0.487 0.626155
## `SaleCondition=Alloca`      2.190e+04  2.061e+04   1.063 0.288073
## `SaleCondition=Family`      9.066e+03  1.945e+04   0.466 0.641274
## `SaleCondition=Normal`      1.418e+04  1.814e+04   0.781 0.434724
## `SaleCondition=Partial`            NA         NA      NA       NA
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 29250 on 1305 degrees of freedom
## Multiple R-squared:  0.8788, Adjusted R-squared:  0.8645
## F-statistic: 61.82 on 153 and 1305 DF,  p-value: < 2.2e-16
```

```
#Perform stepwise regression using AIC
stepwise_model <- stepAIC(full_model, direction = "both", trace = FALSE)
summary(stepwise_model)
```

```
##
## Call:
## lm(formula = SalePrice ~ LotFrontage + LotArea + YearBuilt +
##     MasVnrArea + LowQualFinSF + GrLivArea + KitchenAbvGr + TotRmsAbvGrd +
##     Fireplaces + GarageYrBlt + GarageCars + TotBath + TotPorch +
##     `MSZoning=C (all)` + `MSZoning=FV` + `MSZoning=RH` + `MSZoning=RL` +
##     `LotShape=IR2` + `LotShape=IR3` + `LandContour=Bnk` + `LotConfig=CulDSac` +
```

```
##     `LotConfig=FR2` + `Condition1=Norm` + `Condition1=PosN` +
##     `Condition1=RRAn` + `BldgType=1Fam` + `BldgType=2fmCon` +
##     `BldgType=Duplex` + `HouseStyle=1.5Fin` + `HouseStyle=1.5Unf` +
##     `HouseStyle=1Story` + `OverallQual=1` + `OverallQual=2` +
##     `OverallQual=3` + `OverallQual=4` + `OverallQual=5` + `OverallQual=6` +
##     `OverallQual=7` + `OverallQual=8` + `OverallQual=9` + `OverallCond=3` +
##     `OverallCond=4` + `OverallCond=5` + `OverallCond=6` + `RoofStyle=Flat` +
##     `MasVnrType=BrkCmn` + `MasVnrType=None` + `ExterQual=Gd` +
##     `ExterCond=Po` + `Foundation=PConc` + `BsmtQual=Ex` + `BsmtQual=No basement` +
##     `BsmtCond=Fa` + `BsmtCond=Po` + `BsmtExposure=Av` + `BsmtExposure=Gd` +
##     `BsmtFinType1=ALQ` + `BsmtFinType1=BLQ` + `BsmtFinType1=GLQ` +
##     `BsmtFinType1=Rec` + `BsmtFinType2=ALQ` + `KitchenQual=Ex` +
##     `GarageType=2Types` + `GarageQual=Ex` + `GarageQual=Fa` +
##     `SaleType=Con` + `SaleType=New` + `SaleCondition=Alloca` +
##     `SaleCondition=Normal` + `GarageQual=TA` + `OverallCond=9`,
##     data = train_data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -383615  -11955    -620   10478  247457
##
## Coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)            -8.481e+04  1.304e+05  -0.651 0.515421
## LotFrontage            -1.391e+02  4.644e+01  -2.995 0.002790 **
## LotArea                 3.411e-01  9.354e-02   3.647 0.000275 ***
## YearBuilt               2.488e+02  6.250e+01   3.981 7.23e-05 ***
## MasVnrArea              2.795e+01  6.456e+00   4.329 1.60e-05 ***
## LowQualFinSF           -3.072e+01  1.695e+01  -1.812 0.070187 .
## GrLivArea               5.112e+01  3.675e+00  13.911  < 2e-16 ***
## KitchenAbvGr           -1.917e+04  5.996e+03  -3.196 0.001423 **
## TotRmsAbvGrd            1.447e+03  9.521e+02   1.520 0.128801
## Fireplaces              5.941e+03  1.485e+03   4.002 6.62e-05 ***
## GarageYrBlt            -1.464e+02  6.263e+01  -2.338 0.019517 *
## GarageCars              1.326e+04  1.788e+03   7.413 2.14e-13 ***
## TotBath                 6.283e+03  1.656e+03   3.795 0.000154 ***
## TotPorch                1.539e+01  5.575e+00   2.761 0.005830 **
## `MSZoning=C (all)`     -2.047e+04  9.858e+03  -2.077 0.038008 *
## `MSZoning=FV`           1.300e+04  4.677e+03   2.780 0.005516 **
## `MSZoning=RH`           1.530e+04  7.739e+03   1.977 0.048232 *
## `MSZoning=RL`           8.969e+03  2.717e+03   3.301 0.000989 ***
## `LotShape=IR2`          1.033e+04  4.896e+03   2.110 0.035016 *
## `LotShape=IR3`         -2.680e+04  9.892e+03  -2.709 0.006832 **
## `LandContour=Bnk`      -1.638e+04  4.032e+03  -4.061 5.15e-05 ***
## `LotConfig=CulDSac`     9.931e+03  3.345e+03   2.969 0.003037 **
## `LotConfig=FR2`        -6.358e+03  4.379e+03  -1.452 0.146696
## `Condition1=Norm`       1.293e+04  2.609e+03   4.956 8.09e-07 ***
## `Condition1=PosN`      -1.380e+04  7.270e+03  -1.898 0.057912 .
## `Condition1=RRAn`       9.511e+03  6.319e+03   1.505 0.132491
## `BldgType=1Fam`         1.569e+04  3.250e+03   4.827 1.54e-06 ***
## `BldgType=2fmCon`       1.327e+04  7.155e+03   1.855 0.063851 .
## `BldgType=Duplex`       1.109e+04  7.273e+03   1.525 0.127505
## `HouseStyle=1.5Fin`     5.450e+03  2.988e+03   1.824 0.068354 .
## `HouseStyle=1.5Unf`     1.692e+04  8.264e+03   2.047 0.040831 *
```

```
## `HouseStyle=1Story`     1.490e+04  2.085e+03   7.148 1.41e-12 ***
## `OverallQual=1`        -9.530e+04  2.629e+04  -3.625 0.000300 ***
## `OverallQual=2`        -9.262e+04  2.041e+04  -4.537 6.20e-06 ***
## `OverallQual=3`        -1.045e+05  1.213e+04  -8.612  < 2e-16 ***
## `OverallQual=4`        -1.002e+05  1.004e+04  -9.977  < 2e-16 ***
## `OverallQual=5`        -1.005e+05  9.550e+03 -10.519  < 2e-16 ***
## `OverallQual=6`        -9.528e+04  9.294e+03 -10.252  < 2e-16 ***
## `OverallQual=7`        -8.379e+04  9.053e+03  -9.256  < 2e-16 ***
## `OverallQual=8`        -5.663e+04  8.641e+03  -6.554 7.89e-11 ***
## `OverallQual=9`        -1.249e+04  8.636e+03  -1.446 0.148272
## `OverallCond=3`        -3.880e+04  6.542e+03  -5.930 3.82e-09 ***
## `OverallCond=4`        -2.180e+04  4.495e+03  -4.850 1.37e-06 ***
## `OverallCond=5`        -1.604e+04  2.531e+03  -6.337 3.16e-10 ***
## `OverallCond=6`        -8.948e+03  2.595e+03  -3.448 0.000582 ***
## `RoofStyle=Flat`       -1.462e+04  8.663e+03  -1.688 0.091726 .
## `MasVnrType=BrkCmn`    -1.462e+04  7.877e+03  -1.855 0.063752 .
## `MasVnrType=None`       5.525e+03  2.382e+03   2.319 0.020516 *
## `ExterQual=Gd`          6.874e+03  2.500e+03   2.749 0.006054 **
## `ExterCond=Po`         -5.206e+04  2.989e+04  -1.742 0.081802 .
## `Foundation=PConc`      5.044e+03  2.501e+03   2.016 0.043943 *
## `BsmtQual=Ex`           1.972e+04  3.919e+03   5.032 5.50e-07 ***
## `BsmtQual=No basement` -1.244e+04  5.546e+03  -2.243 0.025058 *
## `BsmtCond=Fa`          -6.921e+03  4.764e+03  -1.453 0.146446
## `BsmtCond=Po`          -6.240e+04  2.402e+04  -2.598 0.009487 **
## `BsmtExposure=Av`       4.882e+03  2.355e+03   2.073 0.038361 *
## `BsmtExposure=Gd`       1.984e+04  3.152e+03   6.292 4.19e-10 ***
## `BsmtFinType1=ALQ`      5.343e+03  2.730e+03   1.957 0.050537 .
## `BsmtFinType1=BLQ`      5.404e+03  3.017e+03   1.792 0.073429 .
## `BsmtFinType1=GLQ`      1.293e+04  2.440e+03   5.298 1.36e-07 ***
## `BsmtFinType1=Rec`      4.347e+03  3.120e+03   1.393 0.163845
## `BsmtFinType2=ALQ`      1.024e+04  6.917e+03   1.480 0.139075
## `KitchenQual=Ex`        2.037e+04  4.105e+03   4.963 7.82e-07 ***
## `GarageType=2Types`    -2.950e+04  1.243e+04  -2.373 0.017776 *
## `GarageQual=Ex`         3.073e+04  1.773e+04   1.734 0.083180 .
## `GarageQual=Fa`        -1.719e+04  6.310e+03  -2.725 0.006512 **
## `SaleType=Con`          3.436e+04  2.061e+04   1.667 0.095757 .
## `SaleType=New`          2.182e+04  4.165e+03   5.238 1.87e-07 ***
## `SaleCondition=Alloca`  1.478e+04  9.395e+03   1.573 0.116008
## `SaleCondition=Normal`  6.313e+03  2.798e+03   2.257 0.024181 *
## `GarageQual=TA`        -9.806e+03  4.314e+03  -2.273 0.023186 *
## `OverallCond=9`         9.443e+03  6.667e+03   1.416 0.156899
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 28710 on 1387 degrees of freedom
## Multiple R-squared:  0.8758, Adjusted R-squared:  0.8695
## F-statistic: 137.8 on 71 and 1387 DF,  p-value: < 2.2e-16
```

```
# Check for multicollinearity
vif_values <- vif(stepwise_model)
vif_values
```

```
##            LotFrontage                LotArea              YearBuilt
##               1.851598               1.543114               6.302624
```

```
##             MasVnrArea           LowQualFinSF              GrLivArea
##               2.405304               1.202777               6.600592
##           KitchenAbvGr           TotRmsAbvGrd             Fireplaces
##               3.089856               4.239290               1.620729
##            GarageYrBlt             GarageCars                TotBath
##               3.994124               3.161488               2.993243
##             TotPorch     `MSZoning=C (all)`          `MSZoning=FV`
##               1.349868               1.170936               1.648029
##          `MSZoning=RH`          `MSZoning=RL`         `LotShape=IR2`
##               1.149968               2.181688               1.158894
##         `LotShape=IR3`      `LandContour=Bnk`    `LotConfig=CulDSac`
##               1.178970               1.188959               1.193645
##        `LotConfig=FR2`      `Condition1=Norm`      `Condition1=PosN`
##               1.058134               1.425013               1.202561
##      `Condition1=RRAn`        `BldgType=1Fam`      `BldgType=2fmCon`
##               1.237079               2.570461               1.884631
##      `BldgType=Duplex`    `HouseStyle=1.5Fin`    `HouseStyle=1.5Unf`
##               3.218564               1.491909               1.148957
##    `HouseStyle=1Story`        `OverallQual=1`        `OverallQual=2`
##               1.923363               1.675065               1.513741
##        `OverallQual=3`        `OverallQual=4`        `OverallQual=5`
##               3.521763              13.064345              31.927882
##        `OverallQual=6`        `OverallQual=7`        `OverallQual=8`
##              29.147282              24.782733              13.467363
##        `OverallQual=9`        `OverallCond=3`        `OverallCond=4`
##               3.776664               1.276055               1.342469
##        `OverallCond=5`        `OverallCond=6`       `RoofStyle=Flat`
##               2.790624               1.703728               1.173200
##    `MasVnrType=BrkCmn`      `MasVnrType=None`         `ExterQual=Gd`
##               1.117709               2.416743               2.463458
##         `ExterCond=Po`     `Foundation=PConc`          `BsmtQual=Ex`
##               1.083387               2.732350               2.067489
## `BsmtQual=No basement`          `BsmtCond=Fa`          `BsmtCond=Po`
##               1.345904               1.200679               1.398169
##      `BsmtExposure=Av`      `BsmtExposure=Gd`     `BsmtFinType1=ALQ`
##               1.261797               1.467315               1.689573
##     `BsmtFinType1=BLQ`     `BsmtFinType1=GLQ`     `BsmtFinType1=Rec`
##               1.468326               2.155187               1.427931
##     `BsmtFinType2=ALQ`       `KitchenQual=Ex`    `GarageType=2Types`
##               1.088584               1.904012               1.120564
##        `GarageQual=Ex`        `GarageQual=Fa`         `SaleType=Con`
##               1.141319               2.242572               1.029744
##         `SaleType=New` `SaleCondition=Alloca` `SaleCondition=Normal`
##               2.353137               1.274537               2.041118
##        `GarageQual=TA`        `OverallCond=9`
##               3.021361               1.168718
```

```r
# Remove high VIF variables in a loop (similar to the previous function)
remove_high_vif <- function(model, threshold = 5) {
  vif_values <- vif(model)

  # Loop to remove variables with high VIF
  while(any(vif_values > threshold)) {
    # Find the variable with the highest VIF
```

```
    highest_vif_var <- names(which.max(vif_values))
    cat("Removing variable:", highest_vif_var, "with VIF:", max(vif_values), "\n")

    # Update formula to exclude the high-VIF variable
    model_formula <- as.formula(
      paste(". ~ . -", highest_vif_var),
      env = environment(formula(model))
    )
    # Refit the model
    model <- update(model, model_formula)
    vif_values <- vif(model)
  }

  return(model)
}
```

```
# Apply the VIF removal function on the stepwise model
final_model <- remove_high_vif(stepwise_model, threshold = 5)
```

```
## Removing variable: `OverallQual=5` with VIF: 31.92788
## Removing variable: YearBuilt with VIF: 6.295364
## Removing variable: GrLivArea with VIF: 6.18335
```

```
summary(final_model)
```

```
##
## Call:
## lm(formula = SalePrice ~ LotFrontage + LotArea + MasVnrArea +
##     LowQualFinSF + KitchenAbvGr + TotRmsAbvGrd + Fireplaces +
##     GarageYrBlt + GarageCars + TotBath + TotPorch + `MSZoning=C (all)` +
##     `MSZoning=FV` + `MSZoning=RH` + `MSZoning=RL` + `LotShape=IR2` +
##     `LotShape=IR3` + `LandContour=Bnk` + `LotConfig=CulDSac` +
##     `LotConfig=FR2` + `Condition1=Norm` + `Condition1=PosN` +
##     `Condition1=RRAn` + `BldgType=1Fam` + `BldgType=2fmCon` +
##     `BldgType=Duplex` + `HouseStyle=1.5Fin` + `HouseStyle=1.5Unf` +
##     `HouseStyle=1Story` + `OverallQual=1` + `OverallQual=2` +
##     `OverallQual=3` + `OverallQual=4` + `OverallQual=6` + `OverallQual=7` +
##     `OverallQual=8` + `OverallQual=9` + `OverallCond=3` + `OverallCond=4` +
##     `OverallCond=5` + `OverallCond=6` + `RoofStyle=Flat` + `MasVnrType=BrkCmn` +
##     `MasVnrType=None` + `ExterQual=Gd` + `ExterCond=Po` + `Foundation=PConc` +
##     `BsmtQual=Ex` + `BsmtQual=No basement` + `BsmtCond=Fa` +
##     `BsmtCond=Po` + `BsmtExposure=Av` + `BsmtExposure=Gd` + `BsmtFinType1=ALQ` +
##     `BsmtFinType1=BLQ` + `BsmtFinType1=GLQ` + `BsmtFinType1=Rec` +
##     `BsmtFinType2=ALQ` + `KitchenQual=Ex` + `GarageType=2Types` +
##     `GarageQual=Ex` + `GarageQual=Fa` + `SaleType=Con` + `SaleType=New` +
##     `SaleCondition=Alloca` + `SaleCondition=Normal` + `GarageQual=TA` +
##     `OverallCond=9`, data = train_data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -271065  -15666    -527   13957  382389
##
```

```
## Coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)               1.361e+05  1.257e+05   1.083 0.278920
## LotFrontage               4.950e+01  5.162e+01   0.959 0.337733
## LotArea                   3.952e-01  1.059e-01   3.732 0.000198 ***
## MasVnrArea                6.097e+01  7.092e+00   8.597  < 2e-16 ***
## LowQualFinSF             -1.356e+01  1.897e+01  -0.715 0.474880
## KitchenAbvGr             -2.205e+04  6.769e+03  -3.257 0.001152 **
## TotRmsAbvGrd              1.067e+04  8.482e+02  12.573  < 2e-16 ***
## Fireplaces                1.058e+04  1.659e+03   6.376 2.46e-10 ***
## GarageYrBlt              -7.106e+01  6.341e+01  -1.121 0.262659
## GarageCars                1.800e+04  2.011e+03   8.954  < 2e-16 ***
## TotBath                   1.434e+04  1.792e+03   8.003 2.53e-15 ***
## TotPorch                  2.917e+01  6.215e+00   4.694 2.95e-06 ***
## `MSZoning=C (all)`       -2.482e+04  1.119e+04  -2.217 0.026793 *
## `MSZoning=FV`             1.694e+04  5.249e+03   3.228 0.001278 **
## `MSZoning=RH`             1.841e+04  8.784e+03   2.096 0.036240 *
## `MSZoning=RL`             9.497e+03  2.998e+03   3.168 0.001570 **
## `LotShape=IR2`            1.115e+04  5.560e+03   2.006 0.045070 *
## `LotShape=IR3`           -2.161e+04  1.123e+04  -1.924 0.054538 .
## `LandContour=Bnk`        -1.172e+04  4.540e+03  -2.581 0.009949 **
## `LotConfig=CulDSac`       1.419e+04  3.779e+03   3.756 0.000180 ***
## `LotConfig=FR2`          -7.400e+03  4.970e+03  -1.489 0.136719
## `Condition1=Norm`         1.356e+04  2.960e+03   4.582 5.02e-06 ***
## `Condition1=PosN`        -1.309e+03  8.229e+03  -0.159 0.873634
## `Condition1=RRAn`         7.595e+03  7.170e+03   1.059 0.289637
## `BldgType=1Fam`           7.986e+03  3.642e+03   2.193 0.028478 *
## `BldgType=2fmCon`        -1.949e+03  8.043e+03  -0.242 0.808564
## `BldgType=Duplex`        -2.277e+03  8.220e+03  -0.277 0.781846
## `HouseStyle=1.5Fin`       6.398e+03  3.345e+03   1.913 0.055987 .
## `HouseStyle=1.5Unf`       1.165e+04  9.348e+03   1.246 0.212874
## `HouseStyle=1Story`       1.010e+04  2.313e+03   4.366 1.36e-05 ***
## `OverallQual=1`           6.468e+03  2.768e+04   0.234 0.815247
## `OverallQual=2`           3.685e+03  2.027e+04   0.182 0.855725
## `OverallQual=3`          -1.475e+04  8.244e+03  -1.789 0.073762 .
## `OverallQual=4`          -1.715e+03  3.682e+03  -0.466 0.641466
## `OverallQual=6`           1.262e+03  2.586e+03   0.488 0.625752
## `OverallQual=7`           1.136e+04  3.321e+03   3.422 0.000641 ***
## `OverallQual=8`           3.251e+04  4.226e+03   7.694 2.69e-14 ***
## `OverallQual=9`           4.942e+04  6.890e+03   7.172 1.19e-12 ***
## `OverallCond=3`          -3.776e+04  7.425e+03  -5.086 4.16e-07 ***
## `OverallCond=4`          -1.860e+04  5.092e+03  -3.653 0.000269 ***
## `OverallCond=5`          -1.279e+04  2.764e+03  -4.630 4.00e-06 ***
## `OverallCond=6`          -6.714e+03  2.929e+03  -2.292 0.022027 *
## `RoofStyle=Flat`         -1.392e+04  9.813e+03  -1.418 0.156379
## `MasVnrType=BrkCmn`      -1.809e+04  8.947e+03  -2.022 0.043349 *
## `MasVnrType=None`         1.067e+04  2.670e+03   3.996 6.78e-05 ***
## `ExterQual=Gd`            1.123e+04  2.802e+03   4.008 6.46e-05 ***
## `ExterCond=Po`           -2.964e+04  3.391e+04  -0.874 0.382177
## `Foundation=PConc`        8.099e+03  2.802e+03   2.890 0.003912 **
## `BsmtQual=Ex`             3.302e+04  4.336e+03   7.616 4.80e-14 ***
## `BsmtQual=No basement`   -9.015e+03  6.292e+03  -1.433 0.152167
## `BsmtCond=Fa`            -4.433e+03  5.374e+03  -0.825 0.409594
## `BsmtCond=Po`            -6.527e+04  2.729e+04  -2.392 0.016889 *
```

```
## `BsmtExposure=Av`       2.938e+03  2.648e+03   1.109 0.267506
## `BsmtExposure=Gd`       2.485e+04  3.544e+03   7.011 3.67e-12 ***
## `BsmtFinType1=ALQ`      6.795e+01  3.077e+03   0.022 0.982383
## `BsmtFinType1=BLQ`      2.734e+03  3.422e+03   0.799 0.424440
## `BsmtFinType1=GLQ`      1.219e+04  2.760e+03   4.418 1.07e-05 ***
## `BsmtFinType1=Rec`      1.942e+03  3.540e+03   0.549 0.583281
## `BsmtFinType2=ALQ`      6.738e+03  7.850e+03   0.858 0.390858
## `KitchenQual=Ex`        3.886e+04  4.457e+03   8.720  < 2e-16 ***
## `GarageType=2Types`    -3.339e+04  1.411e+04  -2.366 0.018132 *
## `GarageQual=Ex`         5.233e+04  2.001e+04   2.616 0.009004 **
## `GarageQual=Fa`        -2.266e+04  7.147e+03  -3.171 0.001553 **
## `SaleType=Con`          3.373e+04  2.342e+04   1.440 0.150105
## `SaleType=New`          1.960e+04  4.705e+03   4.166 3.30e-05 ***
## `SaleCondition=Alloca`  1.167e+04  1.066e+04   1.094 0.274016
## `SaleCondition=Normal`  4.839e+03  3.176e+03   1.524 0.127758
## `GarageQual=TA`        -1.263e+04  4.793e+03  -2.636 0.008486 **
## `OverallCond=9`         1.974e+04  7.463e+03   2.645 0.008267 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 32620 on 1390 degrees of freedom
## Multiple R-squared:  0.8394, Adjusted R-squared:  0.8315
## F-statistic: 106.8 on 68 and 1390 DF,  p-value: < 2.2e-16
```

Fine Tune Model

```
# Apply log transformation to the target variable
train_data$log_sale <- log(train_data$SalePrice)
```

```
# Step 2: Extract the formula from `final_model`, removing the response part
predictor_formula <- reformulate(attr(terms(final_model), "term.labels"))

# Step 3: Fit a new model with log-transformed target
log_model <- lm(as.formula(paste("log_sale ~", paste(attr(terms(final_model), "term.labels"), collapse =
                data = train_data)

summary(log_model)
```

```
##
## Call:
## lm(formula = as.formula(paste("log_sale ~", paste(attr(terms(final_model),
##     "term.labels"), collapse = " + "))), data = train_data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.05599 -0.07366  0.00160  0.07828  0.74926
##
## Coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)             1.090e+01  5.443e-01  20.030  < 2e-16 ***
## LotFrontage             4.511e-04  2.235e-04   2.018 0.043749 *
```

```
## LotArea                 1.669e-06  4.586e-07   3.639 0.000284 ***
## MasVnrArea              1.402e-04  3.071e-05   4.565 5.45e-06 ***
## LowQualFinSF            3.163e-05  8.216e-05   0.385 0.700302
## KitchenAbvGr           -7.189e-02  2.931e-02  -2.453 0.014302 *
## TotRmsAbvGrd            4.892e-02  3.673e-03  13.319  < 2e-16 ***
## Fireplaces              6.145e-02  7.185e-03   8.553  < 2e-16 ***
## GarageYrBlt             2.365e-05  2.746e-04   0.086 0.931378
## GarageCars              8.904e-02  8.707e-03  10.226  < 2e-16 ***
## TotBath                 7.652e-02  7.759e-03   9.862  < 2e-16 ***
## TotPorch                1.668e-04  2.691e-05   6.197 7.55e-10 ***
## `MSZoning=C (all)`     -3.235e-01  4.847e-02  -6.674 3.59e-11 ***
## `MSZoning=FV`           1.538e-01  2.273e-02   6.766 1.95e-11 ***
## `MSZoning=RH`           1.321e-01  3.804e-02   3.472 0.000533 ***
## `MSZoning=RL`           9.954e-02  1.298e-02   7.667 3.29e-14 ***
## `LotShape=IR2`          3.840e-02  2.407e-02   1.595 0.110932
## `LotShape=IR3`         -9.200e-02  4.863e-02  -1.892 0.058713 .
## `LandContour=Bnk`      -5.472e-02  1.966e-02  -2.784 0.005450 **
## `LotConfig=CulDSac`     6.733e-02  1.636e-02   4.115 4.10e-05 ***
## `LotConfig=FR2`        -1.969e-02  2.152e-02  -0.915 0.360444
## `Condition1=Norm`       7.325e-02  1.282e-02   5.716 1.33e-08 ***
## `Condition1=PosN`       4.447e-02  3.563e-02   1.248 0.212285
## `Condition1=RRAn`       3.475e-02  3.105e-02   1.119 0.263202
## `BldgType=1Fam`         3.245e-02  1.577e-02   2.058 0.039777 *
## `BldgType=2fmCon`       2.009e-03  3.483e-02   0.058 0.954011
## `BldgType=Duplex`       2.168e-02  3.559e-02   0.609 0.542593
## `HouseStyle=1.5Fin`     4.297e-02  1.448e-02   2.967 0.003061 **
## `HouseStyle=1.5Unf`     2.533e-02  4.048e-02   0.626 0.531576
## `HouseStyle=1Story`     5.287e-02  1.002e-02   5.279 1.51e-07 ***
## `OverallQual=1`        -3.618e-01  1.198e-01  -3.019 0.002578 **
## `OverallQual=2`        -3.307e-01  8.775e-02  -3.769 0.000171 ***
## `OverallQual=3`        -2.003e-01  3.570e-02  -5.610 2.43e-08 ***
## `OverallQual=4`        -6.245e-02  1.594e-02  -3.916 9.42e-05 ***
## `OverallQual=6`         5.539e-02  1.120e-02   4.945 8.52e-07 ***
## `OverallQual=7`         1.240e-01  1.438e-02   8.626  < 2e-16 ***
## `OverallQual=8`         2.096e-01  1.830e-02  11.452  < 2e-16 ***
## `OverallQual=9`         2.370e-01  2.983e-02   7.944 4.03e-15 ***
## `OverallCond=3`        -2.945e-01  3.215e-02  -9.159  < 2e-16 ***
## `OverallCond=4`        -1.340e-01  2.205e-02  -6.077 1.57e-09 ***
## `OverallCond=5`        -8.646e-02  1.197e-02  -7.225 8.23e-13 ***
## `OverallCond=6`        -4.758e-02  1.268e-02  -3.752 0.000183 ***
## `RoofStyle=Flat`       -2.084e-03  4.249e-02  -0.049 0.960897
## `MasVnrType=BrkCmn`    -8.335e-02  3.874e-02  -2.151 0.031613 *
## `MasVnrType=None`       1.758e-02  1.156e-02   1.520 0.128711
## `ExterQual=Gd`          4.983e-02  1.213e-02   4.107 4.24e-05 ***
## `ExterCond=Po`         -2.116e-01  1.468e-01  -1.441 0.149804
## `Foundation=PConc`      5.807e-02  1.213e-02   4.786 1.88e-06 ***
## `BsmtQual=Ex`           8.655e-02  1.877e-02   4.610 4.39e-06 ***
## `BsmtQual=No basement` -1.055e-01  2.725e-02  -3.874 0.000112 ***
## `BsmtCond=Fa`          -3.049e-02  2.327e-02  -1.310 0.190255
## `BsmtCond=Po`          -3.664e-01  1.181e-01  -3.101 0.001967 **
## `BsmtExposure=Av`       1.136e-02  1.147e-02   0.990 0.322173
## `BsmtExposure=Gd`       8.506e-02  1.535e-02   5.543 3.56e-08 ***
## `BsmtFinType1=ALQ`      1.676e-02  1.332e-02   1.258 0.208541
## `BsmtFinType1=BLQ`      2.013e-02  1.482e-02   1.358 0.174530
```

```
## `BsmtFinType1=GLQ`      5.269e-02  1.195e-02   4.409 1.12e-05 ***
## `BsmtFinType1=Rec`      2.492e-02  1.533e-02   1.626 0.104194
## `BsmtFinType2=ALQ`      2.077e-02  3.399e-02   0.611 0.541215
## `KitchenQual=Ex`        1.179e-01  1.930e-02   6.110 1.29e-09 ***
## `GarageType=2Types`    -1.336e-01  6.111e-02  -2.185 0.029021 *
## `GarageQual=Ex`         2.071e-01  8.663e-02   2.391 0.016931 *
## `GarageQual=Fa`        -5.022e-02  3.095e-02  -1.623 0.104906
## `SaleType=Con`          1.214e-01  1.014e-01   1.198 0.231304
## `SaleType=New`          1.062e-01  2.037e-02   5.211 2.16e-07 ***
## `SaleCondition=Alloca`  7.085e-02  4.617e-02   1.535 0.125109
## `SaleCondition=Normal`  5.692e-02  1.375e-02   4.140 3.69e-05 ***
## `GarageQual=TA`         1.873e-02  2.076e-02   0.903 0.366932
## `OverallCond=9`         8.923e-02  3.231e-02   2.761 0.005830 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.1412 on 1390 degrees of freedom
## Multiple R-squared:  0.8809, Adjusted R-squared:  0.8751
## F-statistic: 151.2 on 68 and 1390 DF,  p-value: < 2.2e-16
```

```
# Perform stepwise selection again on the transformed target variable, if desired
#log_stepwise_model <- stepAIC(log_model, direction = "both")
#summary(log_stepwise_model)
```