

Sale Price Prediction of Ames Houses

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Data Dictionary

The full data set contains 766 homes and the following 28 variables:

- **LotArea**: Lot size in square feet. A numeric variable.
- **Neighborhood**: Physical location within Ames city limits. A categorical variable with the following levels:
 - “NAmes” : North Ames
 - “Sawyer” : Sawyer
 - “OldTown” : Old Town
 - “Edwards” : Edwards
 - “CollgCr” : College Creek
- **OverallQual**: Overall quality of the house’s material and finish. The scale ranges from 1 (Very Poor) to 9 (Very Excellent). A numeric variable.
- **OverallCond**: Overall condition rating. The scale ranges from 1 (Very Poor) to 9 (Very Excellent). A numeric variable.
- **YearBuilt**: Original construction date. A numeric variable.
- **YearRemodAdd**: Remodel date. A numeric variable.
- **BsmtFinSf1**: Type 1 finished square feet. A numeric variable.
- **BsmtFinSf2**: Type 2 finished square feet. A numeric variable.
- **TotalBsmtSf**: Total square feet of basement area. A numeric variable.
- **FirstFlrSf**: First floor square feet. A numeric variable.
- **SecondFlrSf**: Second floor square feet. A numeric variable.
- **GrLivArea**: Above grade (ground) living area square feet. A numeric variable.
- **BsmtFullBath**: Number of full bathrooms in the basement. A numeric variable.
- **BsmtHalfBath**: Number of half baths in the basement. A numeric variable.
- **FullBath**: Number of full bathrooms above ground. A numeric variable.
- **HalfBath**: Number of half baths above ground. A numeric variable.
- **BedroomAbvGr**: Number of Bedrooms above ground. A numeric variable.
- **KitchenAbvGr**: Number of Kitchens above ground. A numeric variable.
- **TotRmsAbvGrd**: Total rooms above ground (does not include bathrooms). A numeric variable.
- **Fireplaces**: Number of fireplaces. A numeric variable. A numeric variable.
- **GarageCars**: Size of garage in car capacity. A numeric variable.
- **GarageArea**: Size of garage in square feet. A numeric variable.
- **WoodDeckSf**: Wood deck area in square feet. A numeric variable.
- **OpenPorchSf**: Open porch area in square feet. A numeric variable.
- **EnclosedPorch**: Enclosed porch area in square feet. A numeric variable.
- **ThreeSsnProch**: Three season porch area in square feet. A numeric variable.
- **ScreenPorch**: Screen porch area in square feet. A numeric variable.
- **SalePrice**: The property’s sale price in dollars. A numeric response variable.

Evidence of Data

```
data = read.csv('ames_housing.csv')
head(data, nrow=10)
```

```
##   LotArea Neighborhood OverallQual OverallCond YearBuilt YearRemodAdd
## 1   11622           NAmes         5         6     1961      1961
## 2   14267           NAmes         6         6     1958      1958
## 3   11241           NAmes         6         7     1970      1970
## 4   12537           NAmes         5         6     1971      2008
## 5    8450           NAmes         5         6     1968      1968
## 6    8400           NAmes         4         5     1970      1970
##   BsmtFinSf1 BsmtFinSf2 TotalBsmtSf FirstFlrSf SecondFlrSf GrLivArea
## 1         468         144         882         896           0         896
## 2         923           0        1329        1329           0        1329
## 3         578           0        1004        1004           0        1004
## 4         734           0        1078        1078           0        1078
## 5         775           0        1056        1056           0        1056
## 6         804          78         882         882           0         882
##   BsmtFullBath BsmtHalfBath FullBath HalfBath BedroomAbvGr KitchenAbvGr
## 1             0             0         1         0             2             1
## 2             0             0         1         1             3             1
## 3             1             0         1         0             2             1
## 4             1             0         1         1             3             1
## 5             1             0         1         0             3             1
## 6             1             0         1         0             2             1
##   TotRmsAbvGrd Fireplaces GarageCars GarageArea WoodDeckSf OpenPorchSf
## 1             5           0           1         730         140           0
## 2             6           0           1         312         393          36
## 3             5           1           2         480           0           0
## 4             6           1           2         500           0           0
## 5             6           1           1         304           0          85
## 6             4           0           2         525         240           0
##   EnclosedPorch ThreeSsnPorch ScreenPorch SalePrice
## 1             0             0          120    105000
## 2             0             0           0    172000
## 3             0             0           0    149000
## 4             0             0           0    149900
## 5            184             0           0    142000
## 6             0             0           0    126000
```