

		Selecte d	Recorded Type	Explanation
MSSubClass: Identifies the type of dwelling involved in the sale.		1	continous variables	
20	1-STORY 1946 & NEWER ALL STYLES			
30	1-STORY 1945 & OLDER			
40	1-STORY W/FINISHED ATTIC ALL AGES			
45	1-1/2 STORY - UNFINISHED ALL AGES			
50	1-1/2 STORY FINISHED ALL AGES			
60	2-STORY 1946 & NEWER			
70	2-STORY 1945 & OLDER			
75	2-1/2 STORY ALL AGES			
80	SPLIT OR MULTI-LEVEL			
85	SPLIT FOYER			
90	DUPLEX - ALL STYLES AND AGES			
120	1-STORY PUD (Planned Unit Development) - 1946 & NEWER			
150	1-1/2 STORY PUD - ALL AGES			
160	2-STORY PUD - 1946 & NEWER			
180	PUD - MULTILEVEL - INCL SPLIT LEV/FOYER			
190	2 FAMILY CONVERSION - ALL STYLES AND AGES			
MSZoning: Identifies the general zoning classification of the sale.		1	as.factor()	
A	Agriculture			
C	Commercial			
FV	Floating Village Residential			
I	Industrial			
RH	Residential High Density			
RL	Residential Low Density			

	RP	Residential Low Density Park			
	RM	Residential Medium Density			
LotFrontage: Linear feet of street connected to property			0		Intuitionaly deleted
LotArea: Lot size in square feet			1	Continous variables	
Street: Type of road access to property			0		Intuitionaly deleted
	Grvl	Gravel			
	Pave	Paved			
Alley: Type of alley access to property			0		Lack of data
	Grvl	Gravel			
	Pave	Paved			
	NA	No alley access			
LotShape: General shape of property			1	ifelse(IR3, 0,1)	
	Reg	Regular			
	IR1	Slightly irregular			
	IR2	Moderately Irregular			
	IR3	Irregular			
LandContour: Flatness of the property			0		Intuitionaly deleted

Lvl	Near Flat/Level			
Bnk	Banked - Quick and significant rise from street grade to building			
HLS	Hillside - Significant slope from side to side			
Low	Depression			
Utilities: Type of utilities available		1	as.factor()	
AllPub	All public Utilities (E,G,W,& S)			
NoSewr	Electricity, Gas, and Water (Septic Tank)			
NoSeWa	Electricity and Gas Only			
ELO	Electricity only			
LotConfig: Lot configuration		0		Intuitionaly deleted
Inside	Inside lot			
Corner	Corner lot			
CulDSac	Cul-de-sac			
FR2	Frontage on 2 sides of property			
FR3	Frontage on 3 sides of property			
LandSlope: Slope of property		0		Intuitionaly deleted
Gtl	Gentle slope			
Mod	Moderate Slope			
Sev	Severe Slope			
Neighborhood: Physical locations within Ames city limits		1	as.factor()	
Blmngtn	Bloomington Heights			
Blueste	Bluestem			

BrDale	Briardale			
BrkSide	Brookside			
ClearCr	Clear Creek			
CollgCr	College Creek			
Crawfor	Crawford			
Edwards	Edwards			
Gilbert	Gilbert			
IDOTRR	Iowa DOT and Rail Road			
MeadowV	Meadow Village			
Mitchel	Mitchell			
Names	North Ames			
NoRidge	Northridge			
NPkVill	Northpark Villa			
NridgHt	Northridge Heights			
NWAmes	Northwest Ames			
OldTown	Old Town			
SWISU	South & West of Iowa State University			
Sawyer	Sawyer			
SawyerW	Sawyer West			
Somerst	Somerset			
StoneBr	Stone Brook			
Timber	Timberland			
Veenker	Veenker			
Condition1: Proximity to various conditions		1	as.factor()	
Artery	Adjacent to arterial street			
Feedr	Adjacent to feeder street			
Norm	Normal			
RRNn	Within 200' of North-South Railroad			
RRAn	Adjacent to North-South Railroad			

PosN	Near positive off-site feature--park, greenbelt, etc.			
PosA	Adjacent to postive off-site feature			
RRNe	Within 200' of East-West Railroad			
RRAe	Adjacent to East-West Railroad			
Condition2: Proximity to various conditions (if more than one is present)		1		
Artery	Adjacent to arterial street			
Feedr	Adjacent to feeder street			
Norm	Normal			
RRNn	Within 200' of North-South Railroad			
RRAn	Adjacent to North-South Railroad			
PosN	Near positive off-site feature--park, greenbelt, etc.			
PosA	Adjacent to postive off-site feature			
RRNe	Within 200' of East-West Railroad			
RRAe	Adjacent to East-West Railroad			
BldgType: Type of dwelling		0		Intuitionaly deleted
1Fam	Single-family Detached			
2FmCon	Two-family Conversion; originally built as one-family dwelling			
Duplx	Duplex			
TwnhsE	Townhouse End Unit			
TwnhsI	Townhouse Inside Unit			
HouseStyle: Style of dwelling		0		Intuitionaly deleted
1Story	One story			
1.5Fin	One and one-half story: 2nd level finished			

1.5Unf	One and one-half story: 2nd level unfinished			
2Story	Two story			
2.5Fin	Two and one-half story: 2nd level finished			
2.5Unf	Two and one-half story: 2nd level unfinished			
SFoyer	Split Foyer			
SLvl	Split Level			
OverallQual: Rates the overall material and finish of the house		1	Continuous variable	
10	Very Excellent			
9	Excellent			
8	Very Good			
7	Good			
6	Above Average			
5	Average			
4	Below Average			
3	Fair			
2	Poor			
1	Very Poor			
OverallCond: Rates the overall condition of the house		1	Continuous variable	
10	Very Excellent			
9	Excellent			
8	Very Good			
7	Good			
6	Above Average			
5	Average			
4	Below Average			
3	Fair			

	2	Poor			
	1	Very Poor			
YearBuilt: Original construction date			0		Intuitinally deleted
YearRemodAdd: Remodel date (same as construction date if no remodeling or additions)			0		Intuitinally deleted
RoofStyle: Type of roof			0		Intuitinally deleted
	Flat	Flat			
	Gable	Gable			
	Gambrel	Gabrel (Barn)			
	Hip	Hip			
	Mansard	Mansard			
	Shed	Shed			
RoofMatl: Roof material			0		Intuitinally deleted
	ClyTile	Clay or Tile			
	CompShg	Standard (Composite) Shingle			
	Membran	Membrane			
	Metal	Metal			
	Roll	Roll			
	Tar&Grv	Gravel & Tar			
	WdShake	Wood Shakes			
	WdShngl	Wood Shingles			
Exterior1st: Exterior covering on house			0		Intuitinally deleted

AsbShng	Asbestos Shingles			
AsphShn	Asphalt Shingles			
BrkComm	Brick Common			
BrkFace	Brick Face			
CBlock	Cinder Block			
CemntBd	Cement Board			
HdBoard	Hard Board			
ImStucc	Imitation Stucco			
MetalSd	Metal Siding			
Other	Other			
Plywood	Plywood			
PreCast	PreCast			
Stone	Stone			
Stucco	Stucco			
VinylSd	Vinyl Siding			
Wd Sdng	Wood Siding			
WdShing	Wood Shingles			
		0		
Exterior2nd: Exterior covering on house (if more than one material)				
AsbShng	Asbestos Shingles			
AsphShn	Asphalt Shingles			
BrkComm	Brick Common			
BrkFace	Brick Face			
CBlock	Cinder Block			
CemntBd	Cement Board			
HdBoard	Hard Board			
ImStucc	Imitation Stucco			
MetalSd	Metal Siding			
Other	Other			
Plywood	Plywood			

PreCast	PreCast			
Stone	Stone			
Stucco	Stucco			
VinylSd	Vinyl Siding			
Wd Sdng	Wood Siding			
WdShing	Wood Shingles			
MasVnrType: Masonry veneer type		0		
BrkCmn	Brick Common			
BrkFace	Brick Face			
CBlock	Cinder Block			
None	None			
Stone	Stone			
MasVnrArea: Masonry veneer area in square feet		1	Continous Variables	
ExterQual: Evaluates the quality of the material on the exterior		0		Delete since the ExterCond is more important
Ex	Excellent			
Gd	Good			
TA	Average/Typical			
Fa	Fair			
Po	Poor			
ExterCond: Evaluates the present condition of the material on the exterior		1	Categorical	

	Ex	Excellent			
	Gd	Good			
	TA	Average/Typical			
	Fa	Fair			
	Po	Poor			
Foundation: Type of foundation			0		Intuitinally deleted
	BrkTil	Brick & Tile			
	CBlock	Cinder Block			
	PConc	Poured Contrete			
	Slab	Slab			
	Stone	Stone			
	Wood	Wood			
BsmtQual: Evaluates the height of the basement			0		Intuitinally deleted
	Ex	Excellent (100+ inches)			
	Gd	Good (90-99 inches)			
	TA	Typical (80-89 inches)			
	Fa	Fair (70-79 inches)			
	Po	Poor (<70 inches			
	NA	No Basement			
BsmtCond: Evaluates the general condition of the basement			1	Categorical	
	Ex	Excellent			
	Gd	Good			
	TA	Typical - slight dampness allowed			

	Fa	Fair - dampness or some cracking or settling			
	Po	Poor - Severe cracking, settling, or wetness			
	NA	No Basement			
BsmtExposure: Refers to walkout or garden level walls			1	ifelse(yes, 1, 0)	
	Gd	Good Exposure			
	Av	Average Exposure (split levels or foyers typically score average or above)			
	Mn	Minimum Exposure			
	No	No Exposure			
	NA	No Basement			
BsmtFinType1: Rating of basement finished area			1	Categorical	
		Good Living Quarters			
	GLQ	Average Living Quarters			
	ALQ				
	BLQ	Below Average Living Quarters			
	Rec	Average Rec Room			
	LwQ	Low Quality			
	Unf	Unfinished			
	NA	No Basement			
BsmtFinSF1: Type 1 finished square feet			1	Continuous variable	
BsmtFinType2: Rating of basement finished area (if multiple types)			0		Intuitively deleted
	GLQ	Good Living Quarters			

	ALQ	Average Living Quarters			
	BLQ	Below Average Living Quarters			
	Rec	Average Rec Room			
	LwQ	Low Quality			
	Unf	Unfinished			
	NA	No Basement			
BsmtFinSF2: Type 2 finished square feet			0		Multicollinearity
BsmtUnfSF: Unfinished square feet of basement area			0		Multicollinearity
TotalBsmtSF: Total square feet of basement area			0		Multicollinearity
Heating: Type of heating			0		Intuitinally deleted, since we have overall utilities
	Floor	Floor Furnace			
	GasA	Gas forced warm air furnace			
	GasW	Gas hot water or steam heat			
	Grav	Gravity furnace			
	OthW	Hot water or steam heat other than gas			
	Wall	Wall furnace			
HeatingQC: Heating quality and condition			0		Intuitinally deleted, since we have overall utilities
	Ex	Excellent			

	Gd	Good			
	TA	Average/Typical			
	Fa	Fair			
	Po	Poor			
			0		Intuitinally deleted, since we have overall utilities
CentralAir: Central air conditioning					
	N	No			
	Y	Yes			
Electrical: Electrical system			0		Intuitinally deleted, since we have overall utilities
SBrkr		Standard Circuit Breakers & Romex			
FuseA		Fuse Box over 60 AMP and all Romex wiring (Average)			
FuseF		60 AMP Fuse Box and mostly Romex wiring (Fair)			
FuseP		60 AMP Fuse Box and mostly knob & tube wiring (poor)			
Mix		Mixed			
1stFlrSF: First Floor square feet			0		Intuitinally deleted, since we have lot size
2ndFlrSF: Second floor square feet			0		
LowQualFinSF: Low quality finished square feet (all floors)			1	continous variable	

GrLivArea: Above grade (ground) living area square feet		1	continous variable	Even checking it is a Multicolinearity variable, we delete many other variable such as Basement total sq feet, so I keep this as a factor
BsmtFullBath: Basement full bathrooms		1	continous variable	
BsmtHalfBath: Basement half bathrooms				
FullBath: Full bathrooms above grade				
HalfBath: Half baths above grade				
Bedroom: Bedrooms above grade (does NOT include basement bedrooms)		1	continous variable	
Kitchen: Kitchens above grade				
KitchenQual: Kitchen quality		1	as.factor	
Ex	Excellent			
Gd	Good			
TA	Typical/Average			
Fa	Fair			
Po	Poor			

TotRmsAbvGrd: Total rooms above grade (does not include bathrooms)		1	continous variable	
Functional: Home functionality (Assume typical unless deductions are warranted)		0		Intuitionaly deleted, since we have overall condition
Typ	Typical Functionality			
Min1	Minor Deductions 1			
Min2	Minor Deductions 2			
Mod	Moderate Deductions			
Maj1	Major Deductions 1			
Maj2	Major Deductions 2			
Sev	Severely Damaged			
Sal	Salvage only			
Fireplaces: Number of fireplaces		1	ifelse(yes, 1, 0)	
FireplaceQu: Fireplace quality				
Ex	Excellent - Exceptional Masonry Fireplace			
Gd	Good - Masonry Fireplace in main level			
TA	Average - Prefabricated Fireplace in main living area or Masonry Fireplace in basement			
Fa	Fair - Prefabricated Fireplace in basement			
Po	Poor - Ben Franklin Stove			
NA	No Fireplace			
GarageType: Garage location				
2Types	More than one type of garage			

Attchd	Attached to home			
Basment	Basement Garage			
BuiltIn	Built-In (Garage part of house - typically has room above garage)			
CarPort	Car Port			
Detchd	Detached from home			
NA	No Garage			
GarageYrBlt: Year garage was built				
GarageFinish: Interior finish of the garage				
Fin	Finished			
RFn	Rough Finished			
Unf	Unfinished			
NA	No Garage			
GarageCars: Size of garage in car capacity				
GarageArea: Size of garage in square feet		1	Binary	
GarageQual: Garage quality				
Ex	Excellent			
Gd	Good			
TA	Typical/Average			
Fa	Fair			
Po	Poor			
NA	No Garage			

GarageCond: Garage condition				
Ex	Excellent			
Gd	Good			
TA	Typical/Average			
Fa	Fair			
Po	Poor			
NA	No Garage			
PavedDrive: Paved driveway		0		Intuitionaly deleted
Y	Paved			
P	Partial Pavement			
N	Dirt/Gravel			
WoodDeckSF: Wood deck area in square feet		1	ifelse(yes, 1, 0)	
OpenPorchSF: Open porch area in square feet				
EnclosedPorch: Enclosed porch area in square feet				
3SsnPorch: Three season porch area in square feet				
ScreenPorch: Screen porch area in square feet				
PoolArea: Pool area in square feet				

PoolQC: Pool quality		0		Lack of data
Ex	Excellent			
Gd	Good			
TA	Average/Typical			
Fa	Fair			
NA	No Pool			
Fence: Fence quality		0		Lack of data
GdPrv	Good Privacy			
MnPrv	Minimum Privacy			
GdWo	Good Wood			
MnWw	Minimum Wood/Wire			
NA	No Fence			
MiscFeature: Miscellaneous feature not covered in other categories		1	ifelse(yes, 1, 0)	
Elev	Elevator			
Gar2	2nd Garage (if not described in garage section)			
Othr	Other			
Shed	Shed (over 100 SF)			
TenC	Tennis Court			
NA	None			
MiscVal: \$Value of miscellaneous feature		0		Lack of data

MoSold: Month Sold (MM)		0		Intuitively deleted (talk about reference paper)
YrSold: Year Sold (YYYY)		0		
SaleType: Type of sale		0		
WD	Warranty Deed - Conventional			
CWD	Warranty Deed - Cash			
VWD	Warranty Deed - VA Loan			
New	Home just constructed and sold			
COD	Court Officer Deed/Estate			
Con	Contract 15% Down payment regular terms			
ConLw	Contract Low Down payment and low interest			
ConLI	Contract Low Interest			
ConLD	Contract Low Down			
Oth	Other			
SaleCondition: Condition of sale		0		Intuitively deleted
Normal	Normal Sale			
Abnorml	Abnormal Sale - trade, foreclosure, short sale			
AdjLand	Adjoining Land Purchase			
Alloca	Allocation - two linked properties with separate deeds, typically condo with a garage unit			
Family	Sale between family members			
Partial	Home was not completed when last assessed (associated with New Homes)			

	Total of predictors	26		