

Assignment 1

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#Downloaded the Dataset From Kaggle

#Importing the dataset to RStudio

```
train <- read.csv("C:/Users/Kittu Varma/Downloads/train.csv")
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	

#Summary of the train dataset

```
summary(train)
```

```
##           Id           MSSubClass      MSZoning      LotFrontage
##  Min.      : 1.0    Min.      : 20.0    Length:1460    Min.      : 21.00
## 1st Qu.: 365.8    1st Qu.: 20.0    Class :character 1st Qu.: 59.00
## Median : 730.5    Median : 50.0    Mode  :character Median : 69.00
## Mean   : 730.5    Mean   : 56.9                      Mean   : 70.05
## 3rd Qu.:1095.2    3rd Qu.: 70.0                      3rd Qu.: 80.00
## Max.    :1460.0    Max.    :190.0                      Max.    :313.00
##                                     NA's    :259
##           LotArea      Street           Alley      LotShape
##  Min.      : 1300    Length:1460    Length:1460    Length:1460
## 1st Qu.: 7554    Class :character  Class :character  Class :character
## Median : 9478    Mode  :character  Mode  :character  Mode  :character
## Mean   : 10517
## 3rd Qu.: 11602
## Max.    :215245
##
## LandContour      Utilities      LotConfig      LandSlope
## Length:1460      Length:1460      Length:1460      Length:1460
## Class :character  Class :character  Class :character  Class :character
## Mode  :character  Mode  :character  Mode  :character  Mode  :character
##
##
##
## Neighborhood      Condition1      Condition2      BldgType
## Length:1460      Length:1460      Length:1460      Length:1460
## Class :character  Class :character  Class :character  Class :character
## Mode  :character  Mode  :character  Mode  :character  Mode  :character
##
##
##
## HouseStyle      OverallQual      OverallCond      YearBuilt
## Length:1460      Min.      : 1.000    Min.      :1.000    Min.      :1872
## Class :character  1st Qu.: 5.000    1st Qu.:5.000    1st Qu.:1954
## Mode  :character  Median : 6.000    Median :5.000    Median :1973
##                      Mean   : 6.099    Mean   :5.575    Mean   :1971
##                      3rd Qu.: 7.000    3rd Qu.:6.000    3rd Qu.:2000
##                      Max.    :10.000    Max.    :9.000    Max.    :2010
##
## YearRemodAdd      RoofStyle      RoofMatl      Exterior1st
## Min.      :1950    Length:1460      Length:1460      Length:1460
## 1st Qu.:1967    Class :character  Class :character  Class :character
## Median :1994    Mode  :character  Mode  :character  Mode  :character
## Mean   :1985
## 3rd Qu.:2004
## Max.    :2010
##
## Exterior2nd      MasVnrType      MasVnrArea      ExterQual
## Length:1460      Length:1460      Min.      : 0.0    Length:1460
## Class :character  Class :character  1st Qu.: 0.0    Class :character
```

```

## Mode :character Mode :character Median : 0.0 Mode :character
## Mean : 103.7
## 3rd Qu.: 166.0
## Max. :1600.0
## NA's :8
## ExterCond Foundation BsmtQual BsmtCond
## Length:1460 Length:1460 Length:1460 Length:1460
## Class :character Class :character Class :character Class :character
## Mode :character Mode :character Mode :character Mode :character
##
##
##
## BsmtExposure BsmtFinType1 BsmtFinSF1 BsmtFinType2
## Length:1460 Length:1460 Min. : 0.0 Length:1460
## Class :character Class :character 1st Qu.: 0.0 Class :character
## Mode :character Mode :character Median : 383.5 Mode :character
## Mean : 443.6
## 3rd Qu.: 712.2
## Max. :5644.0
##
## BsmtFinSF2 BsmtUnfSF TotalBsmtSF Heating
## Min. : 0.00 Min. : 0.0 Min. : 0.0 Length:1460
## 1st Qu.: 0.00 1st Qu.: 223.0 1st Qu.: 795.8 Class :character
## Median : 0.00 Median : 477.5 Median : 991.5 Mode :character
## Mean : 46.55 Mean : 567.2 Mean :1057.4
## 3rd Qu.: 0.00 3rd Qu.: 808.0 3rd Qu.:1298.2
## Max. :1474.00 Max. :2336.0 Max. :6110.0
##
## HeatingQC CentralAir Electrical X1stFlrSF
## Length:1460 Length:1460 Length:1460 Min. : 334
## Class :character Class :character Class :character 1st Qu.: 882
## Mode :character Mode :character Mode :character Median :1087
## Mean :1163
## 3rd Qu.:1391
## Max. :4692
##
## X2ndFlrSF LowQualFinSF GrLivArea BsmtFullBath
## Min. : 0 Min. : 0.000 Min. : 334 Min. :0.0000
## 1st Qu.: 0 1st Qu.: 0.000 1st Qu.:1130 1st Qu.:0.0000
## Median : 0 Median : 0.000 Median :1464 Median :0.0000
## Mean : 347 Mean : 5.845 Mean :1515 Mean :0.4253
## 3rd Qu.: 728 3rd Qu.: 0.000 3rd Qu.:1777 3rd Qu.:1.0000
## Max. :2065 Max. :572.000 Max. :5642 Max. :3.0000
##
## BsmtHalfBath FullBath HalfBath BedroomAbvGr
## Min. :0.00000 Min. :0.000 Min. :0.0000 Min. :0.000
## 1st Qu.:0.00000 1st Qu.:1.000 1st Qu.:0.0000 1st Qu.:2.000
## Median :0.00000 Median :2.000 Median :0.0000 Median :3.000
## Mean :0.05753 Mean :1.565 Mean :0.3829 Mean :2.866
## 3rd Qu.:0.00000 3rd Qu.:2.000 3rd Qu.:1.0000 3rd Qu.:3.000
## Max. :2.00000 Max. :3.000 Max. :2.0000 Max. :8.000
##
## KitchenAbvGr KitchenQual TotRmsAbvGrd Functional

```

```

## Min. :0.000 Length:1460 Min. : 2.000 Length:1460
## 1st Qu.:1.000 Class :character 1st Qu.: 5.000 Class :character
## Median :1.000 Mode :character Median : 6.000 Mode :character
## Mean :1.047 Mean : 6.518
## 3rd Qu.:1.000 3rd Qu.: 7.000
## Max. :3.000 Max. :14.000
##
## Fireplaces FireplaceQu GarageType GarageYrBlt
## Min. :0.000 Length:1460 Length:1460 Min. :1900
## 1st Qu.:0.000 Class :character Class :character 1st Qu.:1961
## Median :1.000 Mode :character Mode :character Median :1980
## Mean :0.613 Mean :1979
## 3rd Qu.:1.000 3rd Qu.:2002
## Max. :3.000 Max. :2010
## NA's :81
## GarageFinish GarageCars GarageArea GarageQual
## Length:1460 Min. :0.000 Min. : 0.0 Length:1460
## Class :character 1st Qu.:1.000 1st Qu.: 334.5 Class :character
## Mode :character Median :2.000 Median : 480.0 Mode :character
## Mean :1.767 Mean : 473.0
## 3rd Qu.:2.000 3rd Qu.: 576.0
## Max. :4.000 Max. :1418.0
##
## GarageCond PavedDrive WoodDeckSF OpenPorchSF
## Length:1460 Length:1460 Min. : 0.00 Min. : 0.00
## Class :character Class :character 1st Qu.: 0.00 1st Qu.: 0.00
## Mode :character Mode :character Median : 0.00 Median : 25.00
## Mean : 94.24 Mean : 46.66
## 3rd Qu.:168.00 3rd Qu.: 68.00
## Max. :857.00 Max. :547.00
##
## EnclosedPorch X3SsnPorch ScreenPorch PoolArea
## Min. : 0.00 Min. : 0.00 Min. : 0.00 Min. : 0.000
## 1st Qu.: 0.00 1st Qu.: 0.00 1st Qu.: 0.00 1st Qu.: 0.000
## Median : 0.00 Median : 0.00 Median : 0.00 Median : 0.000
## Mean : 21.95 Mean : 3.41 Mean : 15.06 Mean : 2.759
## 3rd Qu.: 0.00 3rd Qu.: 0.00 3rd Qu.: 0.00 3rd Qu.: 0.000
## Max. :552.00 Max. :508.00 Max. :480.00 Max. :738.000
##
## PoolQC Fence MiscFeature MiscVal
## Length:1460 Length:1460 Length:1460 Min. : 0.00
## Class :character Class :character Class :character 1st Qu.: 0.00
## Mode :character Mode :character Mode :character Median : 0.00
## Mean : 43.49
## 3rd Qu.: 0.00
## Max. :15500.00
##
## MoSold YrSold SaleType SaleCondition
## Min. : 1.000 Min. :2006 Length:1460 Length:1460
## 1st Qu.: 5.000 1st Qu.:2007 Class :character Class :character
## Median : 6.000 Median :2008 Mode :character Mode :character
## Mean : 6.322 Mean :2008
## 3rd Qu.: 8.000 3rd Qu.:2009
## Max. :12.000 Max. :2010

```

```
##
##      SalePrice
##  Min.   : 34900
## 1st Qu.:129975
##  Median :163000
##   Mean  :180921
## 3rd Qu.:214000
##   Max.   :755000
##
```

```
#Transformation of OverallQual Variable
```

```
train$OverallQual <- (train$OverallQual - mean(train$OverallQual)/sd(train$OverallQual))
train$OverallQual
```

```
##      [1]  2.5897829  1.5897829  2.5897829  2.5897829  3.5897829  0.5897829
##      [7]  3.5897829  2.5897829  2.5897829  0.5897829  0.5897829  4.5897829
##     [13]  0.5897829  2.5897829  1.5897829  2.5897829  1.5897829 -0.4102171
##     [19]  0.5897829  0.5897829  3.5897829  2.5897829  3.5897829  0.5897829
##     [25]  0.5897829  3.5897829  0.5897829  3.5897829  0.5897829 -0.4102171
##     [31] -0.4102171  0.5897829  3.5897829  0.5897829  4.5897829  3.5897829
##     [37]  0.5897829  0.5897829  0.5897829 -0.4102171  1.5897829  0.5897829
##     [43]  0.5897829  0.5897829  0.5897829  4.5897829  2.5897829  3.5897829
##     [49] -0.4102171  0.5897829  1.5897829  1.5897829  0.5897829  4.5897829
##     [55]  0.5897829  1.5897829  3.5897829  2.5897829  5.5897829  0.5897829
##     [61]  1.5897829  0.5897829  3.5897829  2.5897829  2.5897829  3.5897829
##     [67]  2.5897829  2.5897829 -0.4102171  2.5897829  2.5897829 -0.4102171
##     [73]  2.5897829  0.5897829 -1.4102171 -0.4102171 -0.4102171  0.5897829
##     [79] -0.4102171  0.5897829  1.5897829  1.5897829  3.5897829  0.5897829
##     [85]  2.5897829  3.5897829  1.5897829  1.5897829 -1.4102171 -0.4102171
##     [91] -0.4102171  0.5897829  0.5897829  1.5897829  1.5897829  1.5897829
##     [97]  2.5897829 -0.4102171  0.5897829 -0.4102171  1.5897829  1.5897829
##    [103]  0.5897829  2.5897829  2.5897829  3.5897829 -0.4102171  0.5897829
##    [109]  0.5897829  1.5897829  1.5897829  2.5897829  2.5897829  1.5897829
##    [115]  1.5897829  1.5897829  0.5897829  0.5897829  2.5897829  1.5897829
##    [121]  1.5897829 -0.4102171  1.5897829  1.5897829  1.5897829  1.5897829
##    [127]  1.5897829  0.5897829  1.5897829  0.5897829  2.5897829  1.5897829
##    [133]  0.5897829  3.5897829  0.5897829  2.5897829  0.5897829  2.5897829
##    [139]  3.5897829  1.5897829 -0.4102171  2.5897829  0.5897829  2.5897829
##    [145]  0.5897829  1.5897829  0.5897829  2.5897829  2.5897829  0.5897829
##    [151]  0.5897829  3.5897829  1.5897829  1.5897829  1.5897829  1.5897829
##    [157]  0.5897829  3.5897829  2.5897829  2.5897829  1.5897829  4.5897829
##    [163]  2.5897829 -0.4102171  1.5897829  0.5897829  0.5897829  3.5897829
##    [169]  2.5897829  3.5897829  0.5897829  1.5897829  2.5897829  1.5897829
##    [175]  1.5897829  1.5897829  1.5897829  0.5897829  4.5897829  0.5897829
##    [181]  1.5897829  2.5897829  0.5897829  2.5897829  0.5897829  5.5897829
##    [187]  2.5897829  0.5897829  0.5897829  3.5897829  3.5897829  2.5897829
##    [193]  2.5897829  2.5897829  0.5897829  1.5897829  2.5897829  3.5897829
##    [199]  1.5897829  3.5897829 -0.4102171  1.5897829  1.5897829  1.5897829
##    [205]  0.5897829  2.5897829  0.5897829 -0.4102171  2.5897829  1.5897829
##    [211]  0.5897829  1.5897829  2.5897829  0.5897829  1.5897829  0.5897829
##    [217]  2.5897829 -0.4102171  2.5897829  2.5897829  2.5897829  1.5897829
##    [223]  1.5897829 -0.4102171  5.5897829  0.5897829  2.5897829  1.5897829
```

##	[229]	0.5897829	2.5897829	1.5897829	3.5897829	1.5897829	0.5897829
##	[235]	1.5897829	1.5897829	2.5897829	2.5897829	3.5897829	1.5897829
##	[241]	3.5897829	0.5897829	0.5897829	1.5897829	2.5897829	2.5897829
##	[247]	1.5897829	1.5897829	2.5897829	1.5897829	-1.4102171	3.5897829
##	[253]	1.5897829	1.5897829	0.5897829	2.5897829	1.5897829	2.5897829
##	[259]	2.5897829	0.5897829	1.5897829	3.5897829	1.5897829	0.5897829
##	[265]	0.5897829	1.5897829	1.5897829	0.5897829	0.5897829	1.5897829
##	[271]	3.5897829	2.5897829	3.5897829	1.5897829	0.5897829	2.5897829
##	[277]	2.5897829	-0.4102171	4.5897829	2.5897829	2.5897829	1.5897829
##	[283]	2.5897829	3.5897829	1.5897829	2.5897829	1.5897829	-0.4102171
##	[289]	0.5897829	1.5897829	3.5897829	0.5897829	0.5897829	2.5897829
##	[295]	1.5897829	1.5897829	0.5897829	2.5897829	1.5897829	1.5897829
##	[301]	0.5897829	3.5897829	2.5897829	0.5897829	2.5897829	3.5897829
##	[307]	2.5897829	1.5897829	-0.4102171	4.5897829	1.5897829	1.5897829
##	[313]	0.5897829	2.5897829	2.5897829	2.5897829	2.5897829	3.5897829
##	[319]	2.5897829	2.5897829	4.5897829	3.5897829	2.5897829	-1.4102171
##	[325]	2.5897829	0.5897829	3.5897829	1.5897829	1.5897829	0.5897829
##	[331]	0.5897829	0.5897829	3.5897829	2.5897829	1.5897829	0.5897829
##	[337]	4.5897829	2.5897829	2.5897829	1.5897829	3.5897829	-0.4102171
##	[343]	-1.4102171	4.5897829	0.5897829	1.5897829	1.5897829	1.5897829
##	[349]	2.5897829	4.5897829	4.5897829	2.5897829	0.5897829	1.5897829
##	[355]	1.5897829	1.5897829	1.5897829	0.5897829	0.5897829	3.5897829
##	[361]	1.5897829	0.5897829	2.5897829	1.5897829	1.5897829	0.5897829
##	[367]	1.5897829	1.5897829	0.5897829	0.5897829	1.5897829	-0.4102171
##	[373]	1.5897829	0.5897829	2.5897829	-3.4102171	0.5897829	3.5897829
##	[379]	4.5897829	1.5897829	0.5897829	2.5897829	2.5897829	1.5897829
##	[385]	1.5897829	3.5897829	0.5897829	1.5897829	2.5897829	5.5897829
##	[391]	0.5897829	1.5897829	0.5897829	-0.4102171	0.5897829	0.5897829
##	[397]	0.5897829	0.5897829	0.5897829	2.5897829	3.5897829	2.5897829
##	[403]	0.5897829	3.5897829	1.5897829	-0.4102171	1.5897829	1.5897829
##	[409]	2.5897829	3.5897829	0.5897829	0.5897829	2.5897829	0.5897829
##	[415]	2.5897829	2.5897829	1.5897829	1.5897829	0.5897829	0.5897829
##	[421]	2.5897829	1.5897829	0.5897829	3.5897829	1.5897829	2.5897829
##	[427]	2.5897829	-0.4102171	2.5897829	1.5897829	1.5897829	1.5897829
##	[433]	0.5897829	1.5897829	-0.4102171	2.5897829	1.5897829	1.5897829
##	[439]	0.5897829	1.5897829	5.5897829	-0.4102171	0.5897829	2.5897829
##	[445]	2.5897829	1.5897829	1.5897829	2.5897829	1.5897829	-1.4102171
##	[451]	1.5897829	2.5897829	1.5897829	3.5897829	0.5897829	2.5897829
##	[457]	0.5897829	-0.4102171	3.5897829	0.5897829	3.5897829	2.5897829
##	[463]	0.5897829	1.5897829	0.5897829	2.5897829	2.5897829	0.5897829
##	[469]	3.5897829	1.5897829	3.5897829	2.5897829	1.5897829	3.5897829
##	[475]	3.5897829	0.5897829	1.5897829	4.5897829	3.5897829	-0.4102171
##	[481]	4.5897829	4.5897829	2.5897829	1.5897829	0.5897829	0.5897829
##	[487]	0.5897829	0.5897829	0.5897829	-0.4102171	0.5897829	1.5897829
##	[493]	1.5897829	0.5897829	0.5897829	-0.4102171	3.5897829	2.5897829
##	[499]	0.5897829	0.5897829	1.5897829	2.5897829	0.5897829	2.5897829
##	[505]	1.5897829	0.5897829	3.5897829	1.5897829	2.5897829	0.5897829
##	[511]	0.5897829	2.5897829	0.5897829	1.5897829	0.5897829	5.5897829
##	[517]	1.5897829	2.5897829	1.5897829	2.5897829	-0.4102171	1.5897829
##	[523]	1.5897829	5.5897829	2.5897829	2.5897829	0.5897829	4.5897829
##	[529]	-0.4102171	1.5897829	1.5897829	1.5897829	0.5897829	-3.4102171
##	[535]	3.5897829	0.5897829	2.5897829	-0.4102171	0.5897829	3.5897829
##	[541]	4.5897829	3.5897829	2.5897829	2.5897829	2.5897829	2.5897829
##	[547]	1.5897829	0.5897829	0.5897829	2.5897829	1.5897829	0.5897829

##	[553]	3.5897829	-0.4102171	2.5897829	0.5897829	0.5897829	-0.4102171
##	[559]	2.5897829	2.5897829	0.5897829	0.5897829	0.5897829	1.5897829
##	[565]	2.5897829	1.5897829	4.5897829	2.5897829	3.5897829	0.5897829
##	[571]	0.5897829	1.5897829	2.5897829	2.5897829	0.5897829	0.5897829
##	[577]	2.5897829	0.5897829	2.5897829	0.5897829	1.5897829	3.5897829
##	[583]	1.5897829	5.5897829	-0.4102171	3.5897829	1.5897829	0.5897829
##	[589]	0.5897829	0.5897829	2.5897829	5.5897829	0.5897829	1.5897829
##	[595]	0.5897829	3.5897829	1.5897829	2.5897829	0.5897829	1.5897829
##	[601]	3.5897829	1.5897829	3.5897829	2.5897829	2.5897829	2.5897829
##	[607]	0.5897829	0.5897829	3.5897829	-0.4102171	4.5897829	1.5897829
##	[613]	3.5897829	0.5897829	-0.4102171	1.5897829	1.5897829	1.5897829
##	[619]	4.5897829	3.5897829	-1.4102171	1.5897829	0.5897829	1.5897829
##	[625]	1.5897829	1.5897829	0.5897829	1.5897829	0.5897829	1.5897829
##	[631]	0.5897829	3.5897829	2.5897829	0.5897829	1.5897829	1.5897829
##	[637]	-2.4102171	0.5897829	0.5897829	3.5897829	3.5897829	2.5897829
##	[643]	3.5897829	0.5897829	4.5897829	1.5897829	0.5897829	1.5897829
##	[649]	1.5897829	-0.4102171	2.5897829	-0.4102171	2.5897829	1.5897829
##	[655]	3.5897829	1.5897829	0.5897829	2.5897829	1.5897829	0.5897829
##	[661]	2.5897829	3.5897829	1.5897829	-0.4102171	3.5897829	3.5897829
##	[667]	1.5897829	1.5897829	0.5897829	-0.4102171	1.5897829	1.5897829
##	[673]	1.5897829	1.5897829	1.5897829	1.5897829	-0.4102171	0.5897829
##	[679]	3.5897829	0.5897829	1.5897829	0.5897829	1.5897829	4.5897829
##	[685]	2.5897829	2.5897829	2.5897829	2.5897829	3.5897829	1.5897829
##	[691]	1.5897829	5.5897829	2.5897829	0.5897829	0.5897829	1.5897829
##	[697]	0.5897829	0.5897829	0.5897829	2.5897829	3.5897829	2.5897829
##	[703]	3.5897829	0.5897829	2.5897829	-0.4102171	2.5897829	3.5897829
##	[709]	2.5897829	0.5897829	-1.4102171	-0.4102171	3.5897829	-0.4102171
##	[715]	1.5897829	1.5897829	2.5897829	0.5897829	2.5897829	0.5897829
##	[721]	3.5897829	1.5897829	-0.4102171	-0.4102171	4.5897829	-0.4102171
##	[727]	1.5897829	2.5897829	0.5897829	-0.4102171	3.5897829	2.5897829
##	[733]	2.5897829	0.5897829	0.5897829	2.5897829	-1.4102171	3.5897829
##	[739]	0.5897829	2.5897829	0.5897829	1.5897829	2.5897829	0.5897829
##	[745]	3.5897829	3.5897829	2.5897829	2.5897829	2.5897829	-0.4102171
##	[751]	-0.4102171	2.5897829	1.5897829	3.5897829	1.5897829	1.5897829
##	[757]	3.5897829	1.5897829	2.5897829	3.5897829	1.5897829	0.5897829
##	[763]	2.5897829	3.5897829	3.5897829	4.5897829	2.5897829	1.5897829
##	[769]	2.5897829	3.5897829	0.5897829	-0.4102171	1.5897829	0.5897829
##	[775]	3.5897829	1.5897829	2.5897829	0.5897829	0.5897829	1.5897829
##	[781]	2.5897829	1.5897829	2.5897829	0.5897829	1.5897829	1.5897829
##	[787]	0.5897829	2.5897829	-0.4102171	1.5897829	2.5897829	1.5897829
##	[793]	2.5897829	3.5897829	2.5897829	1.5897829	1.5897829	0.5897829
##	[799]	4.5897829	0.5897829	1.5897829	-0.4102171	2.5897829	4.5897829
##	[805]	0.5897829	2.5897829	0.5897829	0.5897829	0.5897829	0.5897829
##	[811]	1.5897829	1.5897829	0.5897829	1.5897829	0.5897829	2.5897829
##	[817]	0.5897829	3.5897829	1.5897829	2.5897829	2.5897829	-0.4102171
##	[823]	2.5897829	1.5897829	3.5897829	5.5897829	0.5897829	2.5897829
##	[829]	0.5897829	2.5897829	1.5897829	2.5897829	2.5897829	1.5897829
##	[835]	0.5897829	-0.4102171	0.5897829	1.5897829	0.5897829	0.5897829
##	[841]	1.5897829	0.5897829	1.5897829	0.5897829	0.5897829	0.5897829
##	[847]	2.5897829	0.5897829	1.5897829	1.5897829	1.5897829	3.5897829
##	[853]	2.5897829	1.5897829	0.5897829	0.5897829	1.5897829	1.5897829
##	[859]	2.5897829	1.5897829	2.5897829	0.5897829	1.5897829	0.5897829
##	[865]	2.5897829	0.5897829	3.5897829	-0.4102171	0.5897829	2.5897829
##	[871]	0.5897829	1.5897829	0.5897829	0.5897829	0.5897829	3.5897829

##	[877]	-0.4102171	4.5897829	0.5897829	0.5897829	0.5897829	2.5897829
##	[883]	1.5897829	-0.4102171	0.5897829	4.5897829	0.5897829	0.5897829
##	[889]	3.5897829	1.5897829	0.5897829	1.5897829	1.5897829	0.5897829
##	[895]	0.5897829	1.5897829	-0.4102171	0.5897829	4.5897829	0.5897829
##	[901]	-0.4102171	0.5897829	2.5897829	2.5897829	0.5897829	0.5897829
##	[907]	3.5897829	2.5897829	0.5897829	1.5897829	0.5897829	0.5897829
##	[913]	0.5897829	0.5897829	1.5897829	-0.4102171	-2.4102171	-0.4102171
##	[919]	2.5897829	1.5897829	1.5897829	0.5897829	1.5897829	1.5897829
##	[925]	1.5897829	0.5897829	3.5897829	2.5897829	3.5897829	2.5897829
##	[931]	3.5897829	0.5897829	4.5897829	2.5897829	2.5897829	-0.4102171
##	[937]	2.5897829	2.5897829	2.5897829	2.5897829	1.5897829	2.5897829
##	[943]	-0.4102171	0.5897829	1.5897829	0.5897829	0.5897829	3.5897829
##	[949]	2.5897829	1.5897829	0.5897829	0.5897829	0.5897829	0.5897829
##	[955]	1.5897829	1.5897829	1.5897829	0.5897829	2.5897829	2.5897829
##	[961]	0.5897829	1.5897829	1.5897829	4.5897829	2.5897829	1.5897829
##	[967]	0.5897829	0.5897829	-1.4102171	1.5897829	-0.4102171	2.5897829
##	[973]	1.5897829	2.5897829	2.5897829	2.5897829	-0.4102171	2.5897829
##	[979]	-0.4102171	0.5897829	2.5897829	3.5897829	2.5897829	3.5897829
##	[985]	0.5897829	0.5897829	1.5897829	4.5897829	1.5897829	2.5897829
##	[991]	3.5897829	3.5897829	1.5897829	1.5897829	5.5897829	-0.4102171
##	[997]	0.5897829	1.5897829	-1.4102171	2.5897829	-1.4102171	0.5897829
##	[1003]	3.5897829	0.5897829	2.5897829	0.5897829	1.5897829	-0.4102171
##	[1009]	2.5897829	0.5897829	0.5897829	0.5897829	1.5897829	0.5897829
##	[1015]	1.5897829	3.5897829	2.5897829	3.5897829	2.5897829	2.5897829
##	[1021]	-0.4102171	2.5897829	0.5897829	2.5897829	3.5897829	0.5897829
##	[1027]	0.5897829	3.5897829	0.5897829	1.5897829	0.5897829	2.5897829
##	[1033]	3.5897829	2.5897829	0.5897829	-0.4102171	4.5897829	3.5897829
##	[1039]	-0.4102171	-0.4102171	0.5897829	1.5897829	1.5897829	2.5897829
##	[1045]	3.5897829	-1.4102171	4.5897829	0.5897829	0.5897829	-0.4102171
##	[1051]	2.5897829	2.5897829	1.5897829	0.5897829	3.5897829	1.5897829
##	[1057]	2.5897829	2.5897829	4.5897829	1.5897829	3.5897829	-1.4102171
##	[1063]	0.5897829	1.5897829	0.5897829	2.5897829	1.5897829	1.5897829
##	[1069]	1.5897829	0.5897829	0.5897829	1.5897829	0.5897829	1.5897829
##	[1075]	2.5897829	2.5897829	0.5897829	0.5897829	1.5897829	0.5897829
##	[1081]	1.5897829	0.5897829	2.5897829	1.5897829	1.5897829	1.5897829
##	[1087]	-0.4102171	3.5897829	2.5897829	3.5897829	-1.4102171	2.5897829
##	[1093]	1.5897829	0.5897829	0.5897829	1.5897829	1.5897829	3.5897829
##	[1099]	-0.4102171	2.5897829	-2.4102171	0.5897829	0.5897829	1.5897829
##	[1105]	0.5897829	3.5897829	2.5897829	2.5897829	1.5897829	3.5897829
##	[1111]	1.5897829	2.5897829	0.5897829	0.5897829	0.5897829	3.5897829
##	[1117]	3.5897829	0.5897829	0.5897829	0.5897829	1.5897829	2.5897829
##	[1123]	-0.4102171	0.5897829	2.5897829	-0.4102171	2.5897829	2.5897829
##	[1129]	2.5897829	0.5897829	-0.4102171	0.5897829	1.5897829	3.5897829
##	[1135]	1.5897829	1.5897829	1.5897829	0.5897829	1.5897829	0.5897829
##	[1141]	0.5897829	0.5897829	3.5897829	0.5897829	-0.4102171	0.5897829
##	[1147]	1.5897829	2.5897829	2.5897829	2.5897829	1.5897829	0.5897829
##	[1153]	1.5897829	1.5897829	2.5897829	0.5897829	0.5897829	2.5897829
##	[1159]	3.5897829	1.5897829	1.5897829	1.5897829	0.5897829	-0.4102171
##	[1165]	0.5897829	2.5897829	3.5897829	1.5897829	1.5897829	5.5897829
##	[1171]	1.5897829	1.5897829	2.5897829	0.5897829	1.5897829	3.5897829
##	[1177]	0.5897829	1.5897829	0.5897829	0.5897829	2.5897829	3.5897829
##	[1183]	5.5897829	0.5897829	0.5897829	0.5897829	-1.4102171	3.5897829
##	[1189]	2.5897829	2.5897829	-0.4102171	3.5897829	0.5897829	1.5897829
##	[1195]	1.5897829	1.5897829	2.5897829	2.5897829	2.5897829	-0.4102171

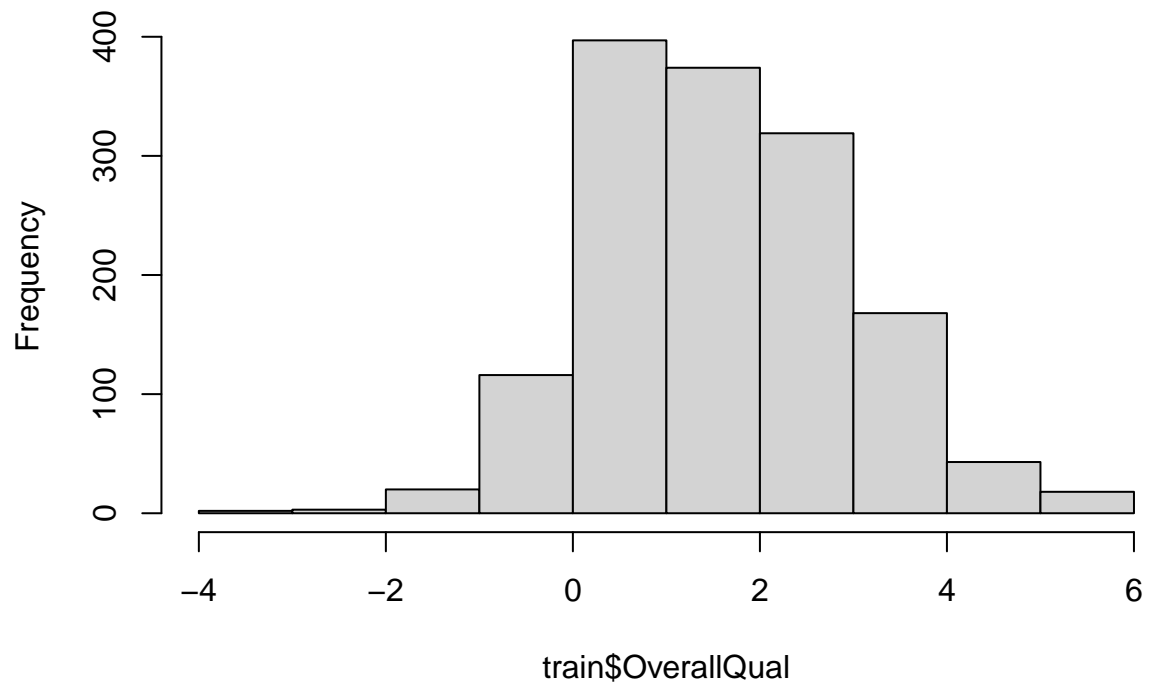
```
## [1201] -0.4102171  2.5897829  0.5897829  2.5897829  0.5897829  2.5897829
## [1207] -0.4102171  1.5897829  0.5897829  3.5897829  1.5897829  3.5897829
## [1213] -0.4102171 -0.4102171  0.5897829  0.5897829  1.5897829  3.5897829
## [1219] -0.4102171  1.5897829  0.5897829  0.5897829  1.5897829  0.5897829
## [1225]  2.5897829  1.5897829  1.5897829  0.5897829  4.5897829  0.5897829
## [1231]  0.5897829  0.5897829 -0.4102171  0.5897829  0.5897829  0.5897829
## [1237]  2.5897829  2.5897829  1.5897829  3.5897829  2.5897829  2.5897829
## [1243]  2.5897829  5.5897829  3.5897829  1.5897829  2.5897829  1.5897829
## [1249]  1.5897829  0.5897829  2.5897829  2.5897829  0.5897829  2.5897829
## [1255]  2.5897829  1.5897829  3.5897829  0.5897829  2.5897829  1.5897829
## [1261]  1.5897829  0.5897829 -0.4102171  1.5897829  1.5897829  2.5897829
## [1267]  2.5897829  4.5897829  3.5897829  0.5897829  2.5897829  1.5897829
## [1273]  0.5897829  1.5897829  0.5897829  0.5897829  1.5897829  1.5897829
## [1279]  3.5897829 -0.4102171  2.5897829  2.5897829  0.5897829  1.5897829
## [1285]  1.5897829  1.5897829  1.5897829  0.5897829  3.5897829  3.5897829
## [1291]  0.5897829  0.5897829  0.5897829  2.5897829  0.5897829  0.5897829
## [1297]  0.5897829  1.5897829  5.5897829  0.5897829  2.5897829  1.5897829
## [1303]  3.5897829  2.5897829  2.5897829  4.5897829  2.5897829  0.5897829
## [1309]  0.5897829  1.5897829  2.5897829  2.5897829  3.5897829  4.5897829
## [1315] -0.4102171  1.5897829  3.5897829  2.5897829  3.5897829 -0.4102171
## [1321]  1.5897829 -1.4102171  2.5897829 -0.4102171  3.5897829 -0.4102171
## [1327] -1.4102171  0.5897829  1.5897829  2.5897829  3.5897829  0.5897829
## [1333] -0.4102171  0.5897829  0.5897829  1.5897829  0.5897829 -0.4102171
## [1339]  2.5897829  0.5897829 -0.4102171  1.5897829  3.5897829  1.5897829
## [1345]  2.5897829 -0.4102171  2.5897829  3.5897829  2.5897829  3.5897829
## [1351]  0.5897829  1.5897829  1.5897829  3.5897829  2.5897829  2.5897829
## [1357]  0.5897829  0.5897829  1.5897829  4.5897829  0.5897829  2.5897829
## [1363] -0.4102171  1.5897829  2.5897829  2.5897829  2.5897829  0.5897829
## [1369]  1.5897829  3.5897829 -0.4102171  1.5897829  2.5897829  5.5897829
## [1375]  2.5897829  3.5897829  1.5897829  0.5897829  1.5897829  0.5897829
## [1381] -1.4102171  1.5897829  2.5897829  0.5897829  1.5897829 -0.4102171
## [1387]  2.5897829  1.5897829  4.5897829  1.5897829  2.5897829  0.5897829
## [1393]  0.5897829  1.5897829  2.5897829  3.5897829  0.5897829  0.5897829
## [1399]  0.5897829  1.5897829  1.5897829  1.5897829  2.5897829  3.5897829
## [1405] -1.4102171  3.5897829  0.5897829  0.5897829 -0.4102171  2.5897829
## [1411]  2.5897829  1.5897829 -0.4102171  3.5897829  1.5897829  2.5897829
## [1417] -0.4102171  3.5897829  0.5897829  1.5897829  1.5897829  1.5897829
## [1423]  1.5897829  1.5897829  0.5897829  1.5897829  2.5897829  0.5897829
## [1429]  0.5897829  1.5897829  0.5897829  1.5897829 -0.4102171  1.5897829
## [1435]  0.5897829  1.5897829 -0.4102171  3.5897829  1.5897829  2.5897829
## [1441]  1.5897829  1.5897829  5.5897829  1.5897829  2.5897829  1.5897829
## [1447]  0.5897829  3.5897829 -0.4102171  0.5897829  0.5897829  3.5897829
## [1453]  0.5897829  0.5897829  2.5897829  1.5897829  1.5897829  2.5897829
## [1459]  0.5897829  0.5897829
```

#Histogram and Scatter plot

#Histogram Chart

```
hist(train$OverallQual)
```

Histogram of train\$OverallQual



```
#plotting the scatter plot  
plot(train$BsmtFinSF1,train$BsmtUnfSF)
```

