```
#These factor variables evaluate quality of house with ordered levels,
#such as "Ex", "Fa", "Gd", "TA", and "Po".
#These will be matched to numbers: "5", "4", "3", "2", and "1".
#The larger the number, the higher the level.
#After transforming, all the variables can be used for heat map as numeric.
#ExterQual: Evaluates the quality of the material on the exterior
       #Ex-Excellent
       #Gd-Good
       #TA-Average/Typical
       #Fa-Fair
       #Po-Poor
#ExterCond: Evaluates the present condition of the material on the exterior
       #Ex-Excellent
       #Gd-Good
       #TA-Average/Typical
       #Fa-Fair
       #Po-Poor
#BsmtQual: Evaluates the height of the basement
       #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
       #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
#HeatingQC: Heating quality and condition
       #Ex
                Excellent
       #Gd
                Good
       #TA
                Average/Typical
       #Fa
                Fair
       #Po
                Poor
#CentralAir: Central air conditioning
       #N
                No
       #Y
                Yes
```

```
#KitchenQual: Kitchen quality
       #Ex
                Excellent
       #Gd
                Good
       #TA
                Typical/Average
       #Fa
                Fair
       #Po
               Poor
#FireplaceQu: Fireplace quality
       #Ex
                Excellent - Exceptional Masonry Fireplace
       #Gd
                Good - Masonry Fireplace in main level
                Average - Prefabricated Fireplace in main living area or Masonry
       #TA
Fireplace in basement
       #Fa
                Fair - Prefabricated Fireplace in basement
                Poor - Ben Franklin Stove
       #Po
       #NA
               No Fireplace
#GarageQual: Garage quality
                Excellent
       #Ex
       #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
#PoolQC: Pool quality
       #Ex
                Excellent
       #Gd
               Good
       #TA
               Average/Typical
       #Fa
                Fair
       #NA
               No Pool
#Fence: Fence quality
       #GdPrv
               Good Privacy
       #MnPrv
               Minimum Privacy
       #GdWo
               Good Wood
       #MnWw
               Minimum Wood/Wire
       #NA No Fence
```