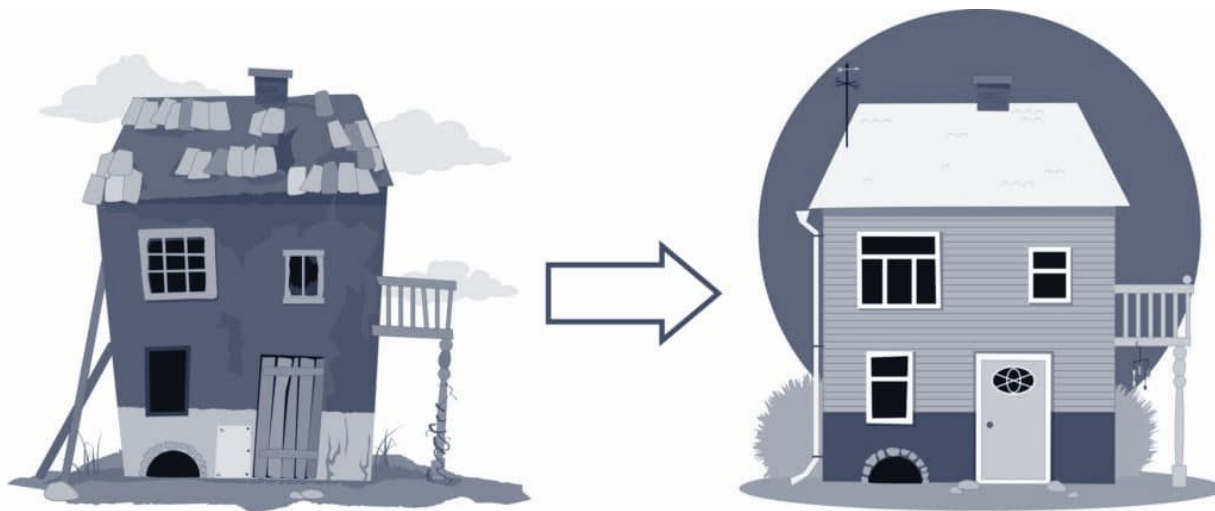


How to Fix and Flip in King County



The Problem



Which factors have the greatest influence on a good selling price?

Starting Point

- Data from May 2014 to May 2015
- < 20.000 Data Sets
- 20 explanatory variables and one Prediction Target

Aim:

Find the main predictors for an excellent selling price.

- Exploratory Data Analysis
- Simple and Multiple Linear Regression



Missing values – and what to do about:

Four of our 21 variables have missing values	Modifications made
waterfront has 11 % missing values.	Find the nearest non-NaN neighbour based on latitude and longitude and pass the value.
view has no values for 0.3 % of instances.	Missing values are padded with Null.
sqft_basement is not known in 2.1 % of all cases.	check for the meaning of sqft_basement and it's relationship to sqft_above and sqft_living
yr_renovated is missing in 17.8 %.	Introducing of the new variable renovated.

70,8 % of the Variances
in the Prices can be
explained by

- Number of Bathrooms
- sqft of LivingSpace
- Location (indicated by Latitude)
- The Renovation
- The Grade

OLS Regression Results			
Dep. Variable:	log_price	R-squared:	0.708
Model:	OLS	Adj. R-squared:	0.708
Method:	Least Squares	F-Statistic:	1.049e+04
Date:	Fri, 18 Sep 2020	Prob (F-statistic):	0.00
Time:	09:53:13	Log-Likelihood:	-3486.8
No. Observations:	21596	AIC:	6986.
Df Residuals:	21590	BIC:	7033.
Df Model:	5		
Covariance Type:	nonrobust		
	coef	std err	t P> t [0.025 0.975]
Intercept	-58.4051	0.669	-87.300 0.000 -59.716 -57.094
bathrooms	-0.0004	0.004	-0.089 0.929 -0.008 0.007
sqft_living	0.0002	3.8e-06	60.972 0.000 0.000 0.000
lat	1.4668	0.014	104.001 0.000 1.439 1.494
renovated	0.2017	0.011	18.962 0.000 0.181 0.223
grade	0.1574	0.003	59.810 0.000 0.152 0.163
Omnibus:	629.035	Durbin-Watson:	1.991
Prob(Omnibus):	0.000	Jarque-Bera (JB):	993.808
Skew:	0.282	Prob(JB):	1.58e-216
Kurtosis:	3.887	Cond. No.	7.86e+05

Conclusion

1. It's all about the Location.
2. Addition of Livingspace and Bathrooms is worth it.
3. Renovating makes the Difference.
→ An increase of the Grade.

