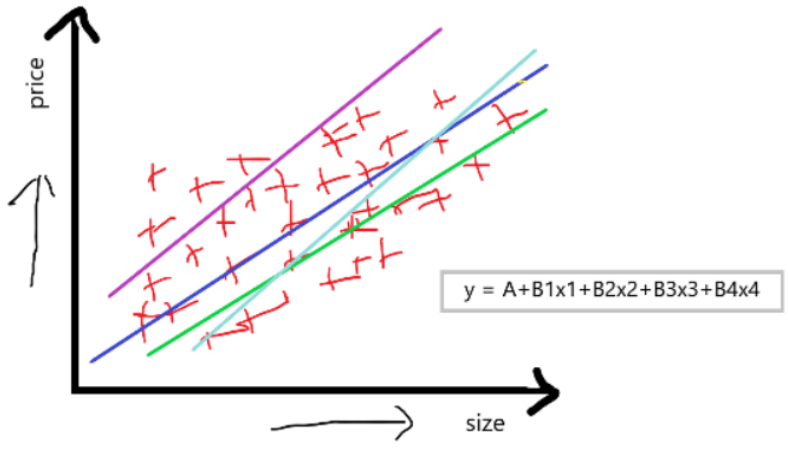
Multiple Linear Regression

- It is a statistical method used to study the linear relationship between a dependent variable and multiple independent variables.
- MLR, which involves more than one independent variable.
- Multiple linear regression is an extension of simple linear regression,
- where multiple independent variables are used to predict the dependent variable.
- Scikit-learn, a machine learning library in Python, can be used to implement multiple linear regression models and to read, preprocess, and split data.
- Categorical variables can be handled in multiple linear regression using one-hot encoding or label encoding.

Multiple Linear Regression (MLR) is basically indicating that we will have many features Such as **f1**, **f2**, **f3**, **f4,** and our output feature **f5.** If we take the same example as above we discussed, suppose:
f1 is the size of the house,
f2 is bad rooms in the house,
f3 is the locality of the house,
f4 is the condition of the house, and
f5 is our output feature, which is the price of the house.

equation: $y = A+B1x1+B2x2+B3x3+B4x4$

"If we have one dependent feature and multiple independent features then basically call it a **multiple linear regression**."



Train a Model for Multiple Linear Regression

- Step 1: Reading the Dataset
- **Step 2: Handling Categorical Variables**
- **Step 3: Splitting the Data**
- **Step 4: Applying the Model**