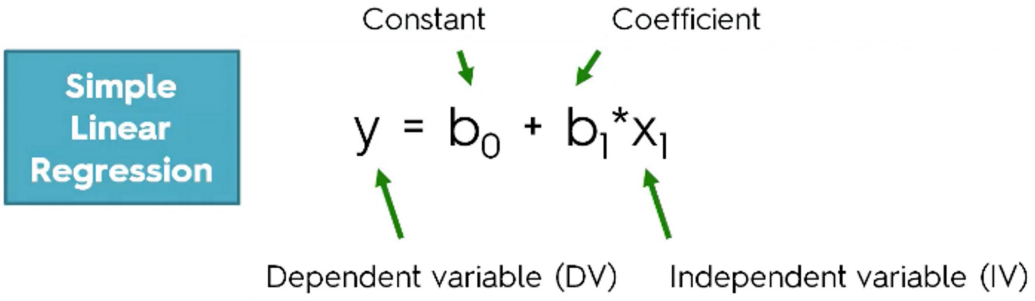
Step 1: Simple Linear Regression Intuition

Thursday, March 31, 2022 4:59 PM

Simple Regression formula:

$$y = b_0 + b_1 * x_1$$



- y is a Dependent Variable(DV). For Instance, how does a person's salary change with the years of experience he has.
- x_1 is an Independent Variable(IV) is variable that, we are assuming that it is causing dependent variable to change.
- b_1 is a coefficient for the independent variable and it kinda says how a unit change in x_1 affects in y.
- b_0 is a constant term.

Here,

y = salary (As it is dependent variable)

x_1 = Experience(It is independent variable)

b_0 = constant because if a freshers join the company his experience will be zero. As a result his salary will be:

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Salary = 30000 +b1 *0
       = 30000 + 0
       = 30000
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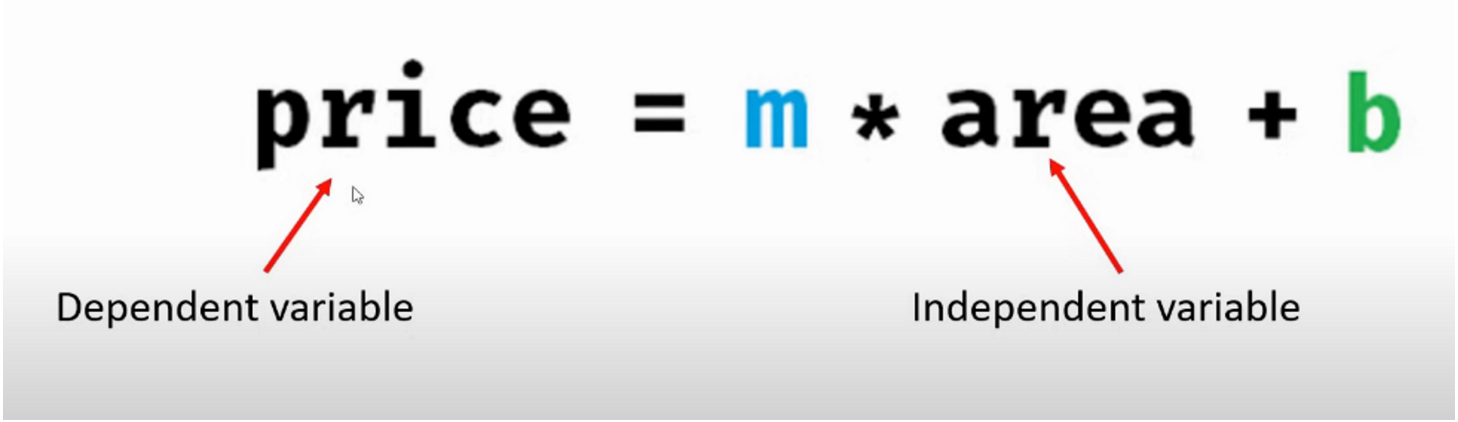
So, it is constant

b_1 = slope of the line (When b_1 will be more the slope of the line will also increase when multiplied by Experience.)

Above and Below formula are same actually. But I will consider upper one to avoid confusion as the upper one is actually taught by udemy instructor whereas the below one is taught by codebasics.



m is coefficient here also slope or gradient