

# REPORT

Sahana Kulal

NMAM INSTITUTE OF TECHNOLOGY

## Data Summary:

- ✓ The dataset contains 10,000 rows, 3 columns.
- ✓ The columns are Height, Weight and Gender.

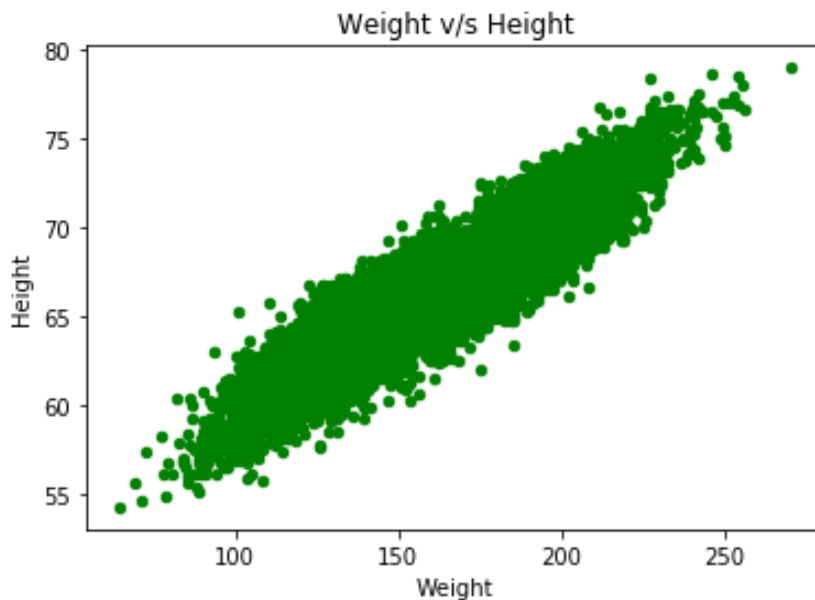
## Problem Statement:

Build a machine learning model to predict the height of a person based on the weight and gender.

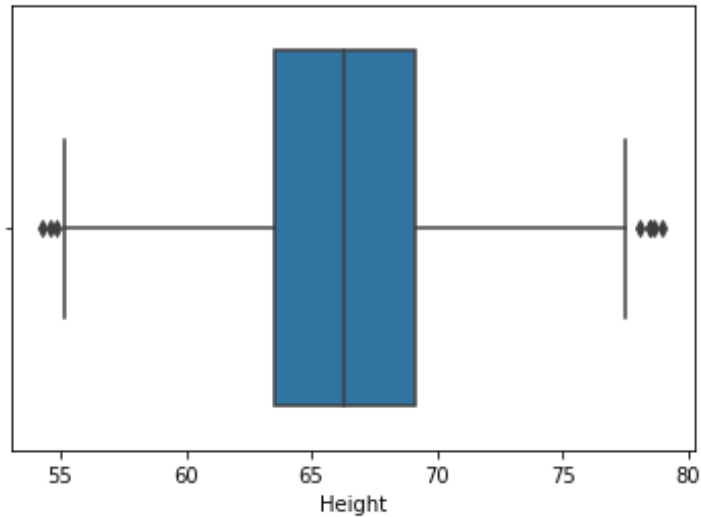
## Explanation:

- Plot Weight v/s Height:

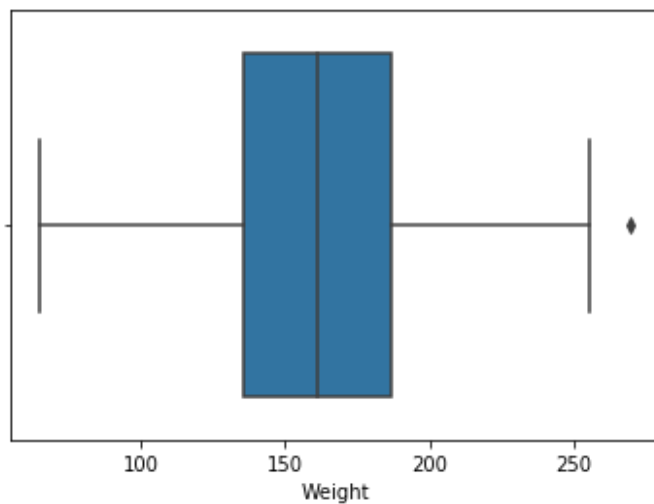
We can infer that as weight **increases** the height also **increases**.



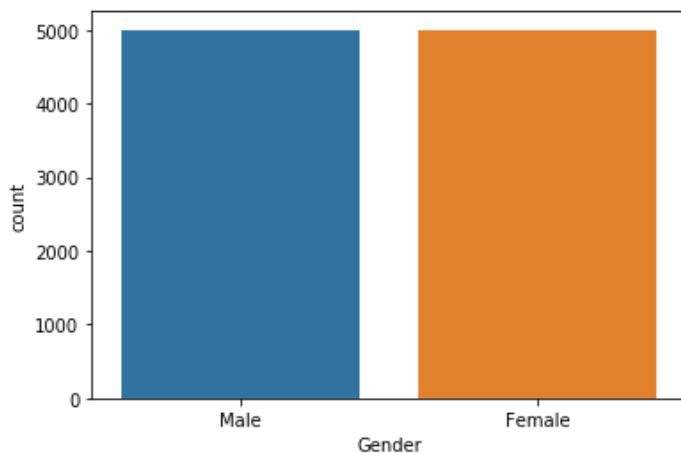
- The boxplot of the height column shows that the value of heights ranges approximately between **63 to 70 inches**.



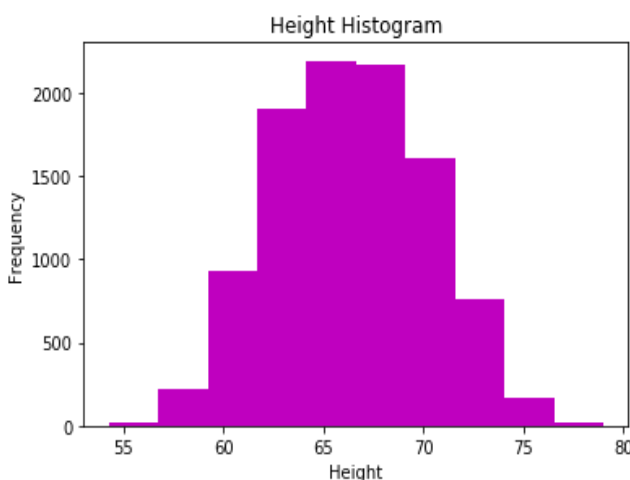
- The boxplot of the weight column shows that the value of weights ranges approximately between **140 to 190 pounds**.



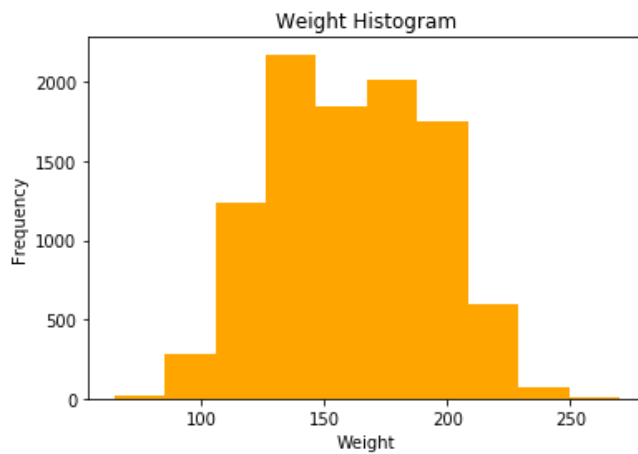
- The dataset contains **equal** number of Males and Females, i.e. 5000 each.



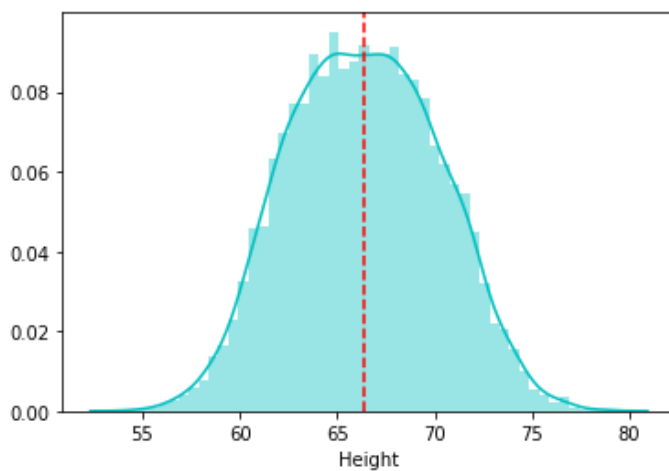
- The Height Histogram shows us that about 2000 people have the height approximately between **65 to 70 inches**.



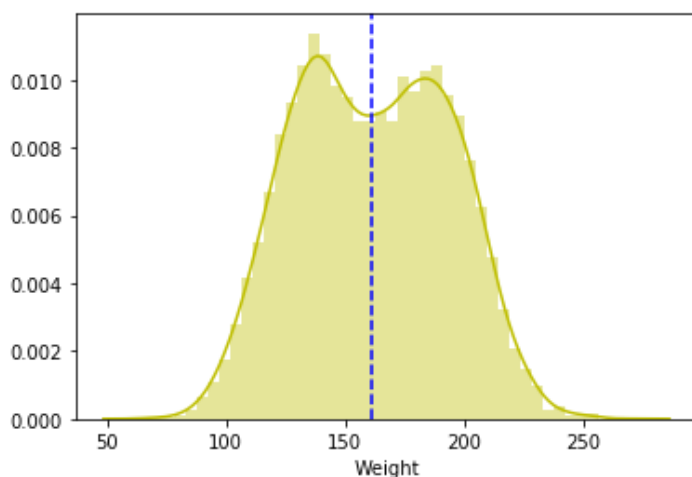
- The Weight Histogram shows us that about **2000** people have the height approximately between **130 to 150 pounds**. And about **1750** people have the weight above **150 and below 200 pounds**.



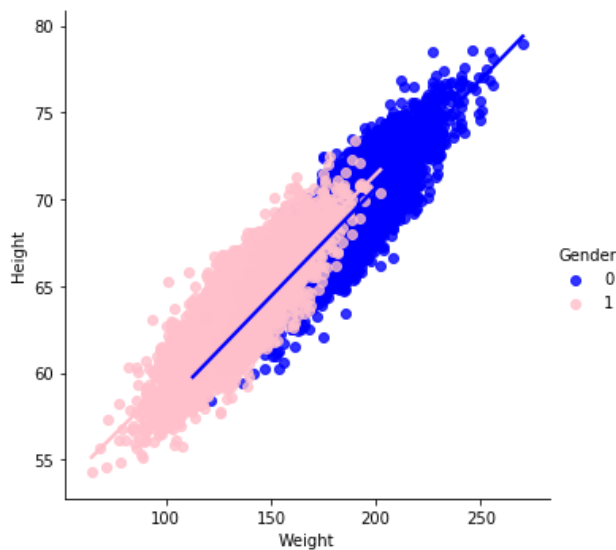
- The distribution plot of the Height values shows that it follows a **bell curve**. The **mean** is roughly around **66 inches**.



- The distribution plot of the Weight values shows us that the **mean** is around **160 pounds**.



- Through the Implot (Linear Model plot) we can see the best fit line for weight v/s height plot for males and females.

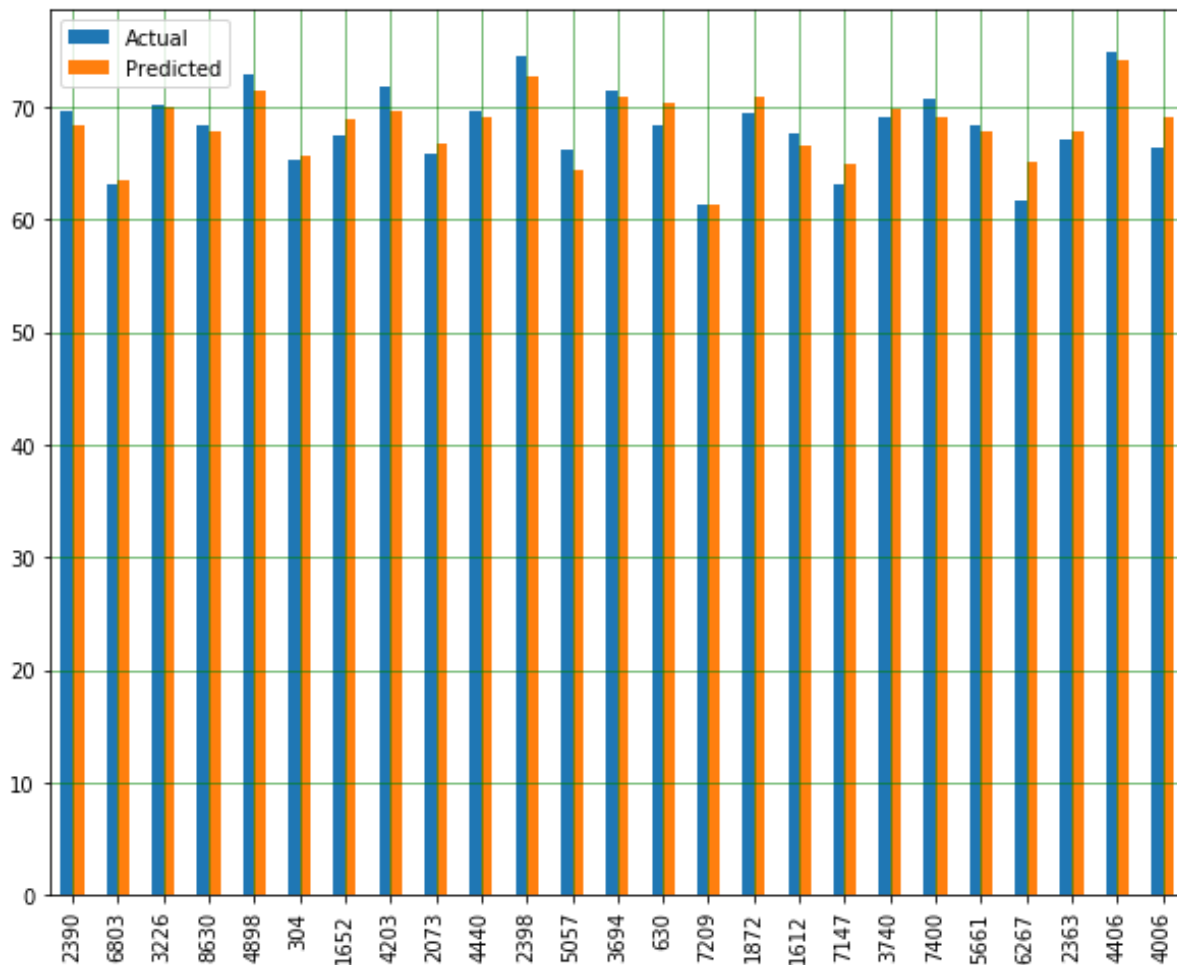


## Algorithm:

A **regression problem** is when the output variable is a real or continuous value. The algorithm taken here for the analysis is linear regression, as we can clearly see it's a regression problem.

## Accuracy:

r2_score	86.19
mean squared error	2.086
mean absolute error	1.156
root mean squared error	1.444



In the graph, we can see that the predicted values are nearly equal to the actual values and the error is quite less.

**THANK YOU!**

