* **Project Summary:-**The project tries to create a model based on data provided by the World Health Organization (WHO) to evaluate the life expectancy for different countries in years. The data offers a timeframe from 2000 to 2015. The data originates from here: https://www.kaggle.com/kumarajarshi/life-expectancy-who/data The output algorithms have been used to test if they can maintain their accuracy in predicting the life expectancy for data they haven’t been trained. Following algorithms will be used:

Linear Regression  
 Ridge Regression  
 Lasso Regression  
 ElasticNet Regression  
 Linear Regression with Polynomic features  
 Decision Tree Regression  
 Random Forest Regression

### Project Requirements:-

1. Dataset

2. IBM Cloud Platform

3. IBM Watson Services

4. IBM Watson Studio

5. Jupyter Notebook Software

6. Knowledge of Python Programming.

### Project Background:- Although there have been lot of studies undertaken in the past on factors affecting life expectancy considering demographic variables, income composition and mortality rates. It was found that affect of immunization and human development index was not taken into account in the past. Also, some of the past research was done considering multiple linear regression based on data set of one year for all the countries. Hence, this gives motivation to resolve both the factors stated previously by formulating a regression model based on mixed effects model and multiple linear regression while considering data from a period of 2000 to 2015 for all the countries. Important immunization like Hepatitis B, Polio and Diphtheria will also be considered. In a nutshell, this study will focus on immunization factors, mortality factors, economic factors, social factors and other health related factors as well. Since the observations this dataset are based on different countries, it will be easier for a country to determine the predicting factor which is contributing to lower value of life expectancy. This will help in suggesting a country which area should be given importance in order to efficiently improve the life expectancy of its population.

### Scope of Project:-

This project will predict life expectancy more accurately. The Project would allow peoples to make more personalized assessments of people to predict life expectancy based on various factors like Regional,GDP, Mental and Physical Illness etc, which in turn could enable health care providers to make better use of limited life-saving resources and potentially reduce health care costs.

The "Life Expectancy" program can be more generically used to how well a person is performing and how long he/she expected to live in given circumstances. Since life prediction is not an easy task, It's just can not be quantized to something that only depends on all blood related features. So more work can be put to find other features from other medical tests that can be linked to something as important as life expectancy. In it's current state it can be consider as good metric of how healthy a person is and not accurate life expectancy measuring tool. for future scope the current program can be trained with different ML algorithms to give better results.