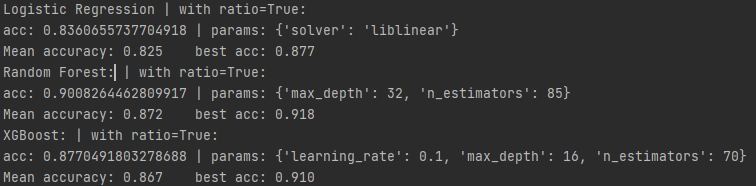
**Task 1 – Predict COVID-19 from routine blood tests:**

3. - The first new feature will be the ratio between Hemoglobin and Red blood cells () because they are strongly related with the amount of oxygen in the blood.  
 - The second new feature will be the ratio between Leukocytes and Red blood cells () which is the ratio between white blood cells (the type that fight against infections) and red blood cells.  
 - Another new feature will be the ratio between Lymphocytes and Red blood cells (), which is the ratio between white and red blood cells.  
 - Another new feature will be the ration between Monocytes and Red blood cells () which is the ratio between immune cells and red blood cells.  
 - Another new feature will be the ration between Neutrophils and Red blood cells () which is the ratio between immune cells and red blood cells.  
**Results:**  
The mean accuracy rate of the models are +-2% deviation from the results without the new features, but from the hyper-parameters changed. Both in RF and XGboost the number of estimators and the max depth decreased so we assume that the new models are more general and are not over-fitting the dataset.   
The above results are not z-score normalized like the given data set. If we will do normalization the results will be:  
