Required Data for the implementation of our project

As per our discussion we have finalized the team research project (3 parts/ assignments package 500 pounds as per tutor guidelines or instructions) will implement analysis report and one documentation with PPT(Optional) explanation to the student, the dataset will provide by student or tutor from kaggle)

Total Payment Process(500 Pounds):

step1: 30% Advance Payment,

Step 2: 30 % Before Delivery First Part/assignment 1,

Step3: 20 % Payment Before Delivery Part2/ Assignment 2,

Step 4: 20% Payment Before Delivery Part 3/ Assignment 3

Payment Received:

17th November 2024- 150 pound received

17th December 2024-210 Pound Received

Dataset Link:https://www.kaggle.com/datasets/mylesoneill/world-university-rankings

Github Names and Url:

All students must and create Github Account(<https://github.com/> ) with your Student University Email,

Steps: click on this website,

Student 1:

Student Name: Muddukrishna Kaduru

Student ID: 23032908

Github URL: https://github.com/Krishna0339

Github Password: Krishna@0339

Student 2:

Student Name: Jagadeesh kasamsetty

Student ID: 23031552

Github URL: https://github.com/Jagadeesh-Kasamsetty

Github Password: Jagadeesh@23031552

Student 3:

Student Name: Praveen kumar Reddy Puchala

Student ID: 23029700

Github URL: https://github.com/Praveenkumarreedy

Github Password: Prawin@2014

Student 4:

Student Name: Nagendra Jakkamasetty

Student ID: 23016752

Github URL: https://github.com/Nagendrajakkamsetty

Github Password: Nani2468@

Student 5:

Student Name: Nagalakshmi

Student ID: 23036310

Github URL: Https://github.com/NagalakshmiVellalacheruvu

Github Password: Saihyderabad1

https://github.com/Krishna0339

https://github.com/Praveenkumarreedy

Https://github.com/Jagadeesh-Kasamsetty

Https://github.com/NagalakshmiVellalacheruvu

https://github.com/Nagendrajakkamsetty

Dataset first two header rows :

| **world\_rank** | **institution** | **country** | **national\_rank** | **quality\_of\_education** | **alumni\_employment** | **quality\_of\_faculty** | **publications** | **influence** | **citations** | **broad\_impact** | **patents** | **score** | **year** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Harvard University | USA | 1 | 7 | 9 | 1 | 1 | 1 | 1 | NA | 5 | 100.00 | 2012 |
| 2 | Massachusetts Institute of Technology | USA | 2 | 9 | 17 | 3 | 12 | 4 | 4 | NA | 1 | 91.67 | 2012 |

Independent variable:quality\_of\_education

Dependent Variable:World Rank

Research Question:How does the quality of education influence university rankings (world rank) between 2012 and 2015?

Why choose this Dataset?

This dataset was chosen because it provides valuable insights into global university rankings, which are influenced by various factors such as education quality, alumni employment, and research. Analyzing the relationship between **quality of education** and **world rank** helps understand how educational standards impact global university performance over time.

Not Nominal

Pearson correlation coefficient

Pearson's product-moment correlation

Hypothisis:

data: df\_filtered$quality\_of\_education and df\_filtered$world\_rank

t = 43.028, df = 2198, p-value < 2.2e-16

alternative hypothesis: true correlation is not equal to 0

95 percent confidence interval:

0.6528222 0.6982264

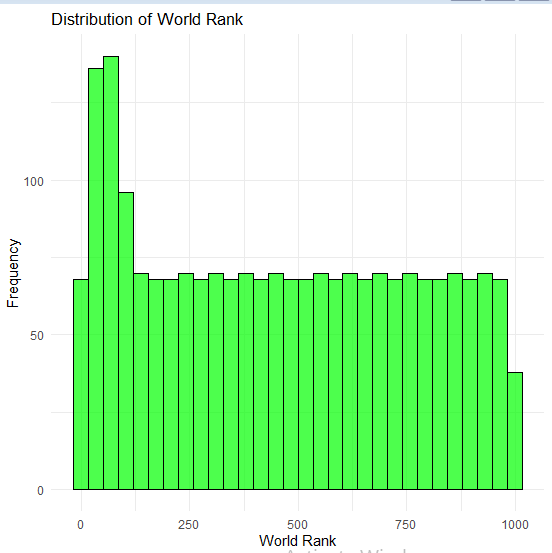
sample estimates:

cor

0.6761658

**Images:**

World Rank Histogram



Research Question: How does the quality of education influence the world ranking of institutions?

Dependent Variable:world\_rank

Independent Variable:quality\_of\_education

Choose Dataset?

I chose this dataset because it allows for an analysis of how the **quality of education** (independent variable) influences the **world rank** of universities (dependent variable). By examining this relationship, the dataset provides valuable insights into how educational quality impacts global university rankings, helping to guide improvements in higher education.

Github group link:

<https://github.com/Krishna0339/World-University-Ranking.git>

Each line indicates brief?

Each line in the dataset represents a university's performance metrics for a specific year. It includes details like the world and national rankings, quality of education, alumni employment, faculty quality, research output (publications, influence, citations), patents, and overall score, providing a comprehensive evaluation of the institution's global standing.

**Dependent Variable**: world\_rank

**Independent Variable:** quality\_of\_education

The data type of the dependent variable is: continuous

Research Question: How does the quality of education influence the world ranking of institutions?

### **Null Hypothesis (H₀):**

**"There is no significant relationship between the quality of education and the world ranking of institutions."**

This hypothesis assumes that changes in the quality of education have no effect on the world ranking of universities. In other words, the world ranking is independent of the perceived quality of education.

**H₀**: No relationship between quality\_of\_education and world\_rank.

### **Alternative Hypothesis (H₁):**

**"The quality of education is significantly related to the world ranking of institutions."**

This hypothesis suggests that institutions with a higher quality of education will tend to have better world rankings. The implication is that improvements in education quality can result in higher rankings.

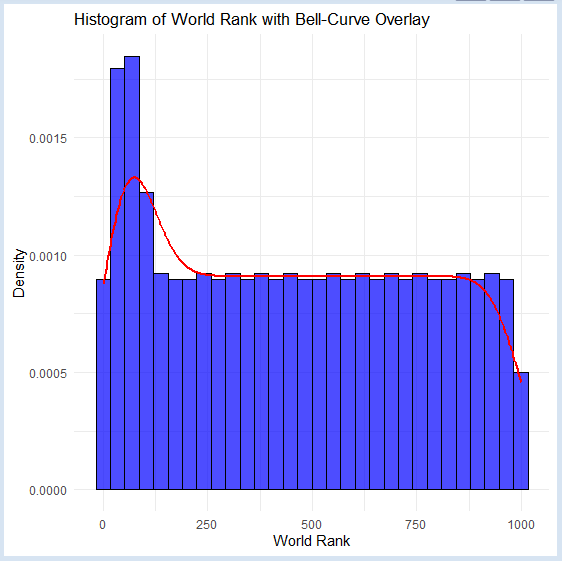
**H₁**: A relationship exists between quality\_of\_education and world\_rank.

**From what you can tell now, is the data (dependent variable) normally distributed or not?**

Ans: Not normally distributed

Queston : 24

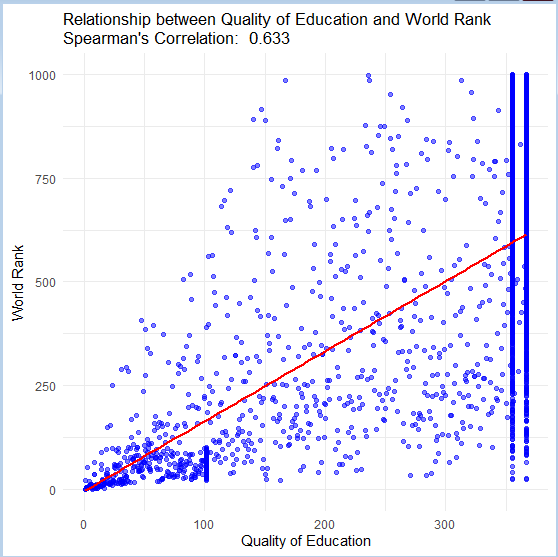
Answer: Yes



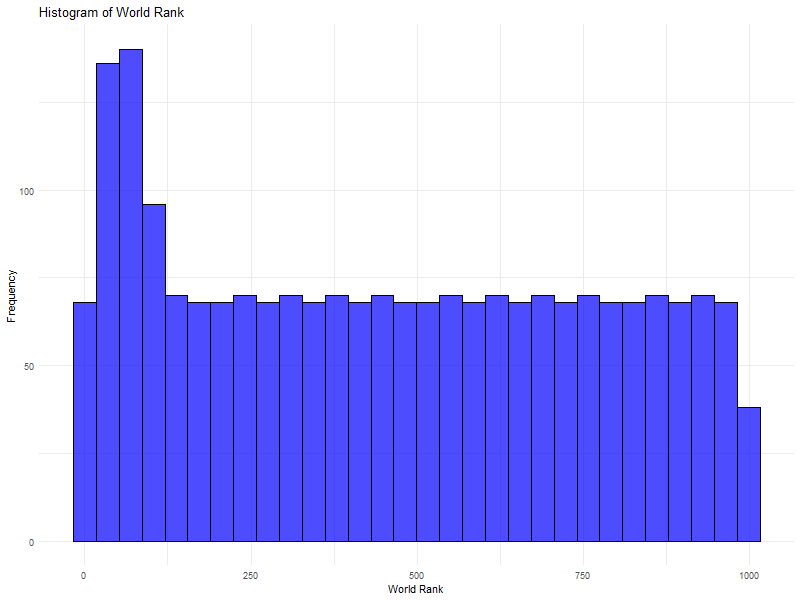
25: Correlation

26: Spearman's Correlation

27:



28:



29:

At the end of this project, I believe the data will provide valuable insights into the relationship between the quality of education and the world university rankings. Given that the dataset includes multiple variables related to university performance, including factors like alumni employment, quality of faculty, publications, citations, and more, I expect the analysis to highlight some interesting trends.

Firstly, I anticipate that universities with higher quality of education will tend to rank higher globally. This could suggest that universities that invest in strong educational programs, curriculum, and teaching staff may be able to elevate their overall standing in the global rankings. As quality of education is one of the key indicators in the dataset, I hypothesize that it will show a positive correlation with the world rank, even though this is not a direct causality.

I also predict that the relationship between the "quality of education" and the "world rank" may not be perfectly linear but rather might follow a more complex pattern. Factors like alumni employment and publications may act as mediators, influencing the world ranking indirectly. For instance, universities with strong research output, as indicated by publications and citations, might be ranked highly regardless of the specific quality of education.

However, there could also be anomalies in the data. For example, some universities with high rankings may not have the best scores in terms of quality of education, potentially due to their strong brand reputation or historical significance. On the other hand, universities with excellent education quality might be less well-known globally, which could impact their rankings despite having strong teaching and academic environments.

I also foresee that certain countries or regions might show clear trends, with universities from particular countries consistently scoring better in quality of education and world rankings. For instance, universities from the USA, UK, and Europe might dominate in terms of both quality and rank due to their long standing reputation in higher education.

To summarize, I believe the data will reveal a moderately strong positive correlation between the quality of education and the world rankings. However, other factors like alumni employment, faculty quality, and research output will likely play significant roles in shaping the final results. This project will give a clearer picture of how various factors interact to influence the global standing of universities.