**Batch: A3 Experiment Number:8**

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**Aim of the Experiment: Mini Project**

**Output/Result:**

**Problem Statement:**

Fake news and misinformation in today's digital age has become a significant concern. False information, deliberately or inadvertently spread through various online platforms, can have far-reaching consequences, including political, social, and economic impact. Therefore, the development of effective tools to identify and combat fake news is essential. Machine learning models can play a crucial role in automating the process of fake news detection.

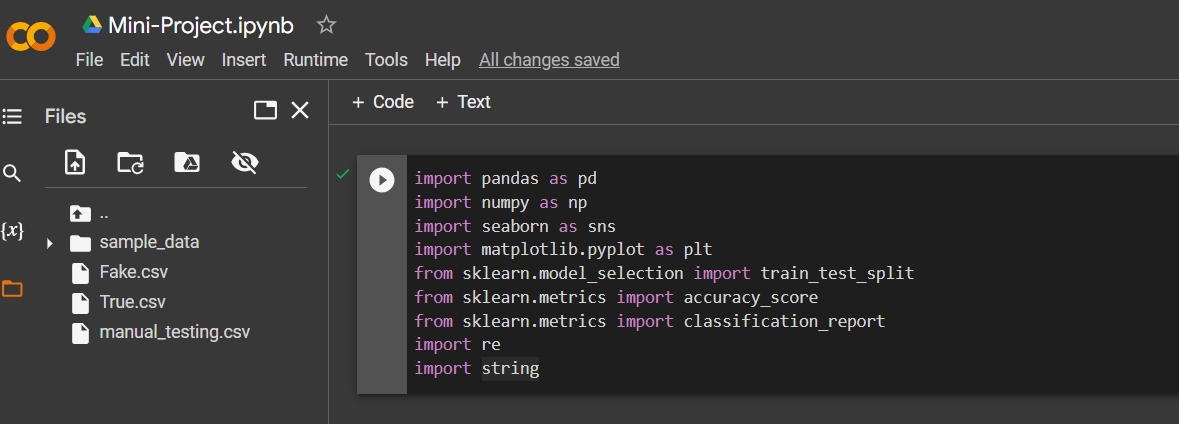
Develop a machine learning model that can accurately and efficiently identify fake news articles from genuine ones, based on the content and context of the text.

**Dataset Details(US News):**

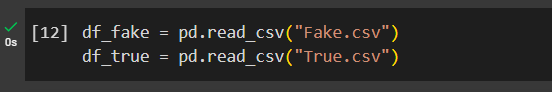
1. True News dataset
2. Fake News dataset
3. Manual Testing dataset(consisting of true and fake news)

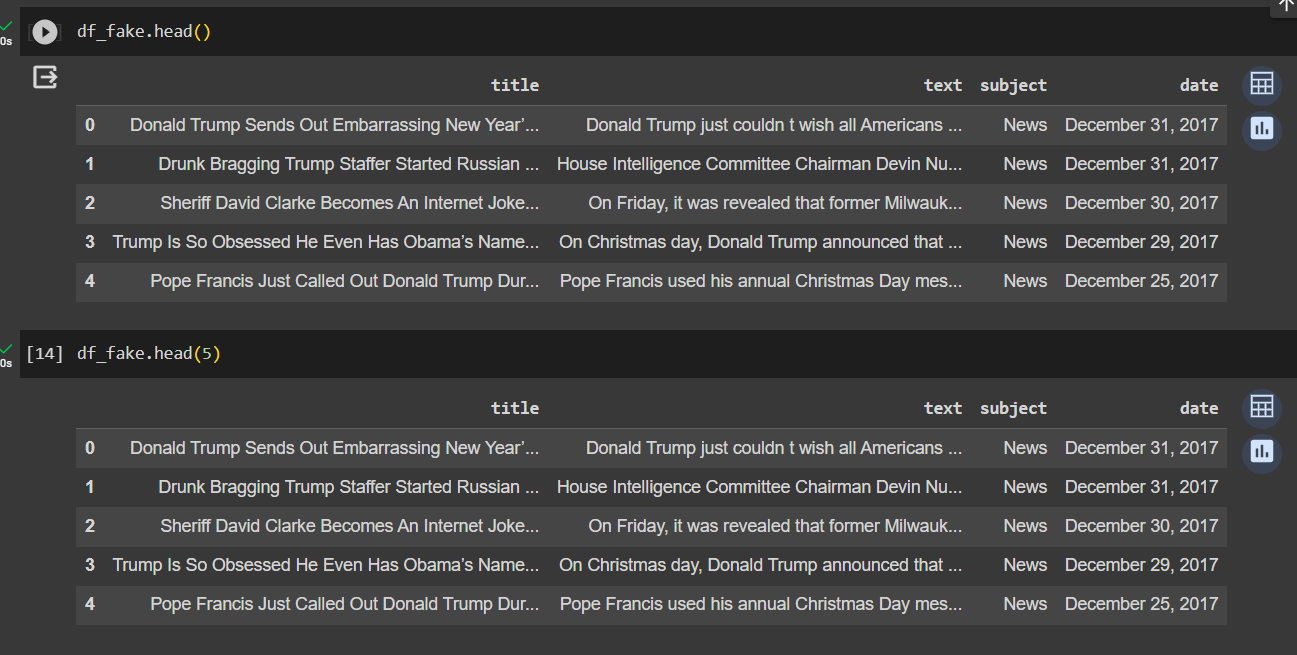
**CODE :**

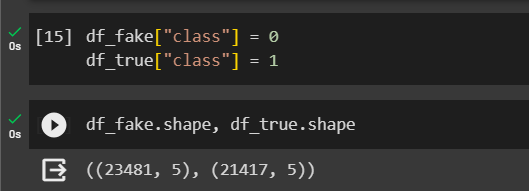
* **Importing Libraries**

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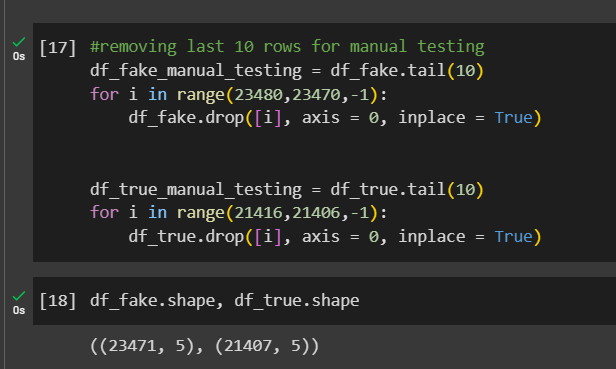
* **Importing Fake news and True news Dataset**

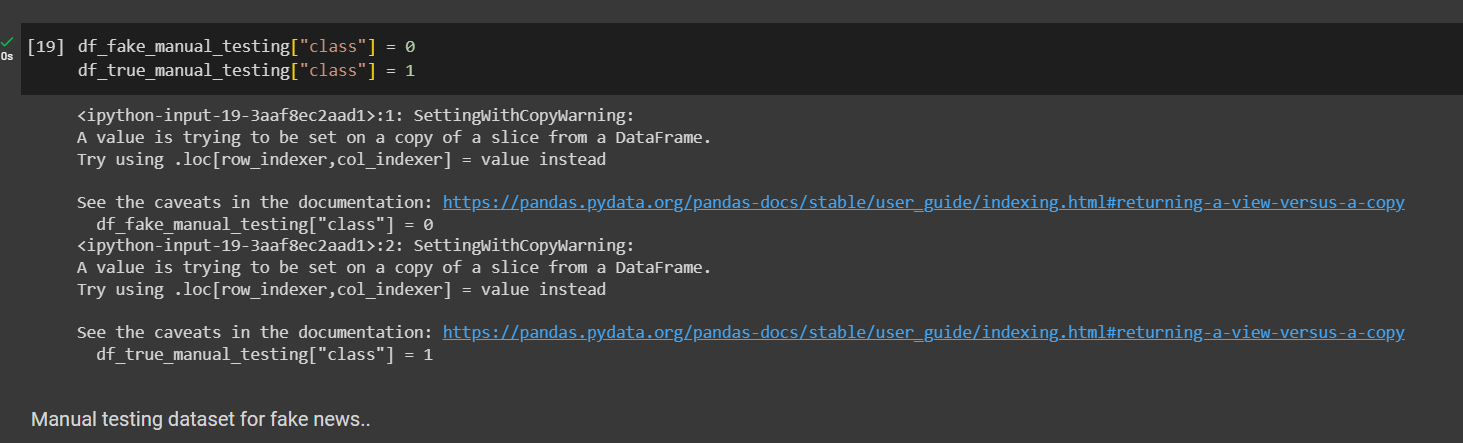
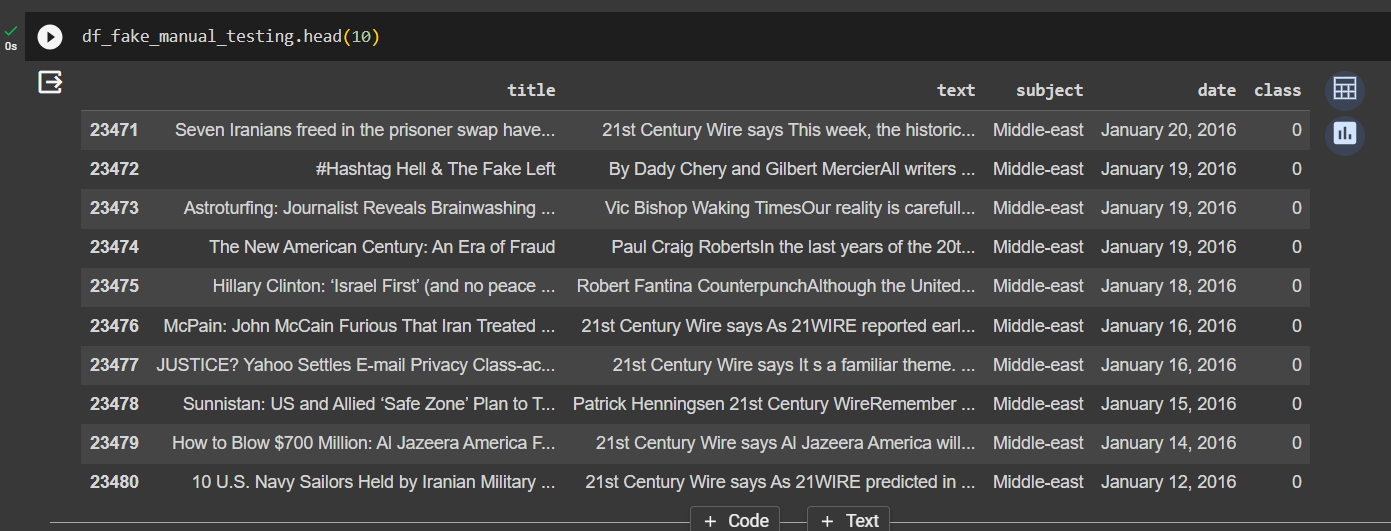
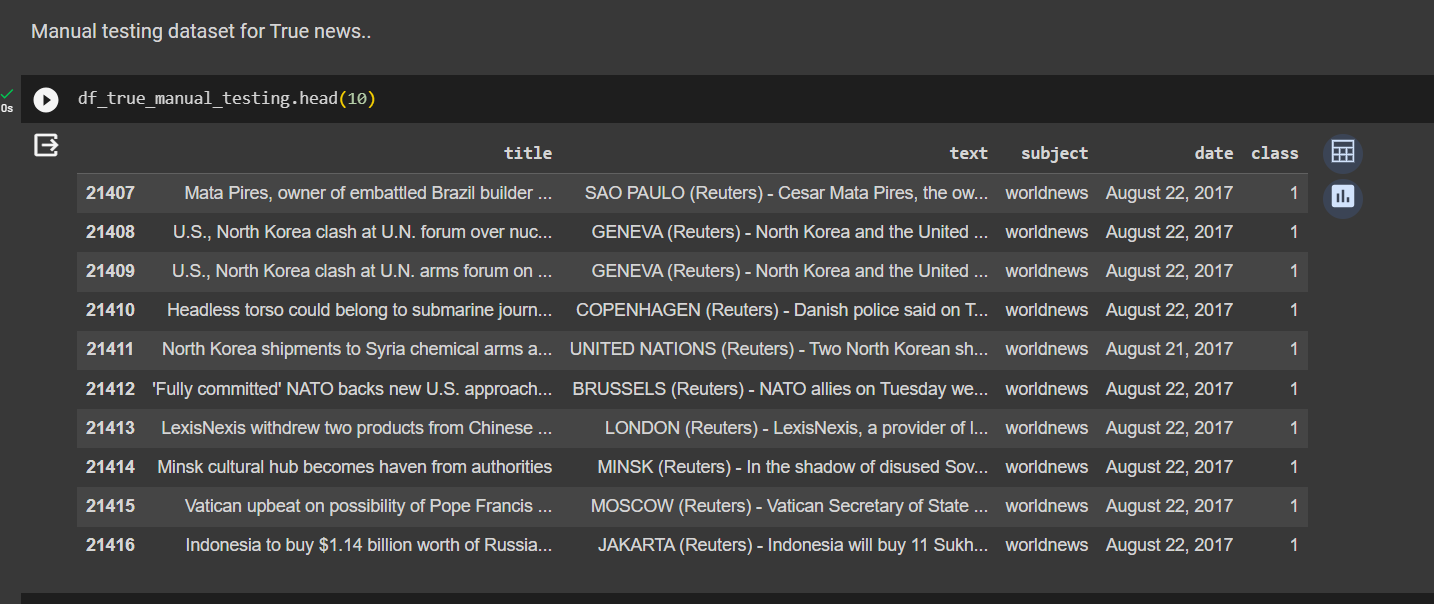
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* **Inserting a column "class" as target feature (0 & 1 representing fake and true news )**

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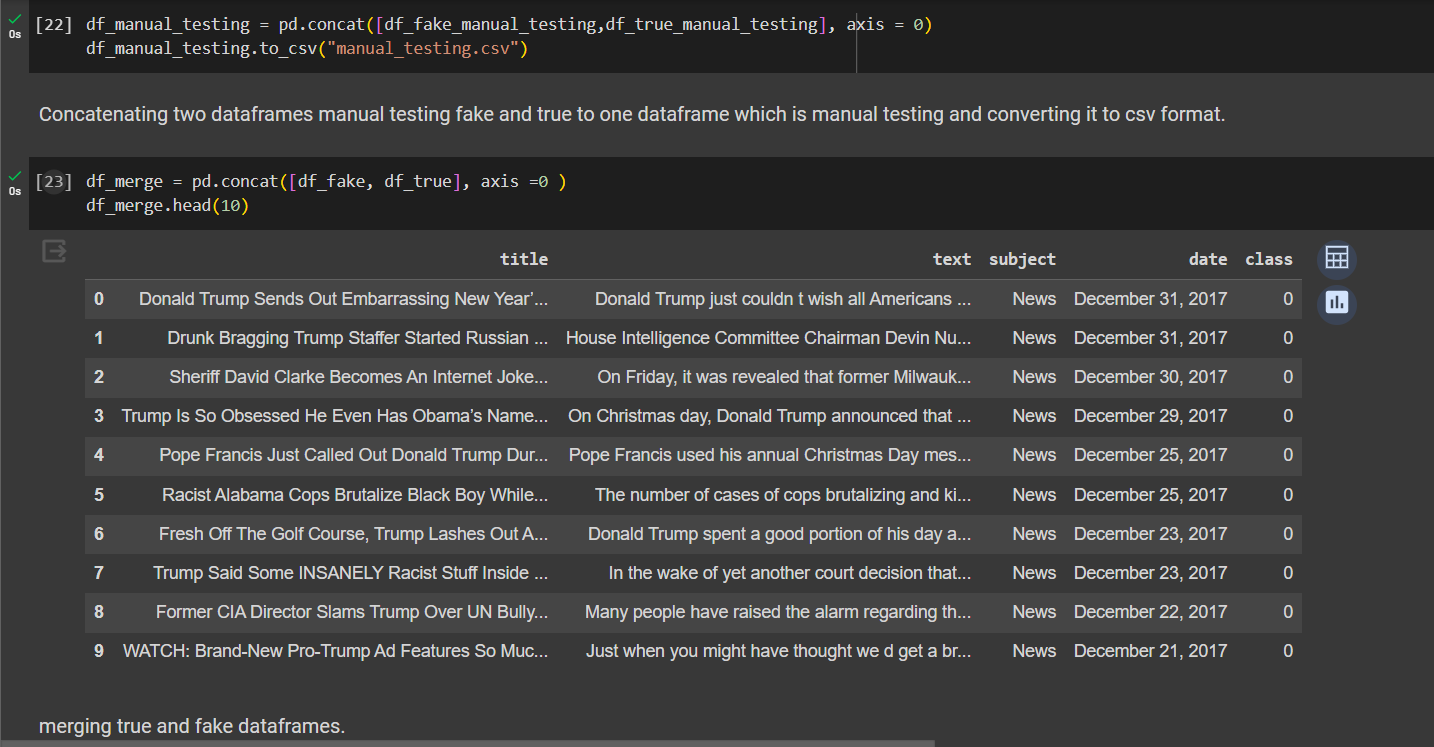
* **Removing last 10 rows from fake and true dataset for manual testing**

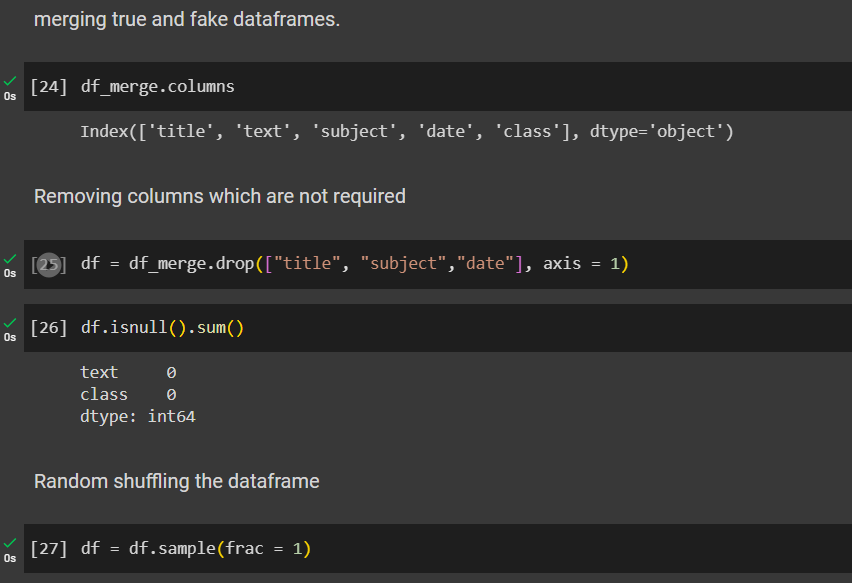
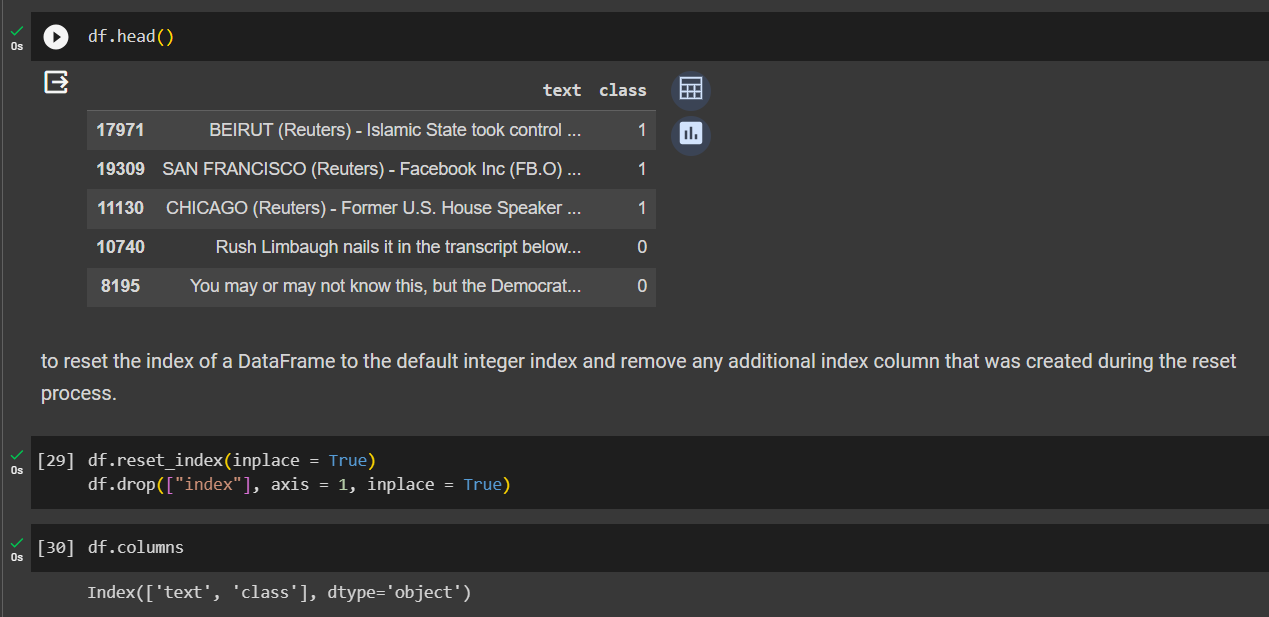


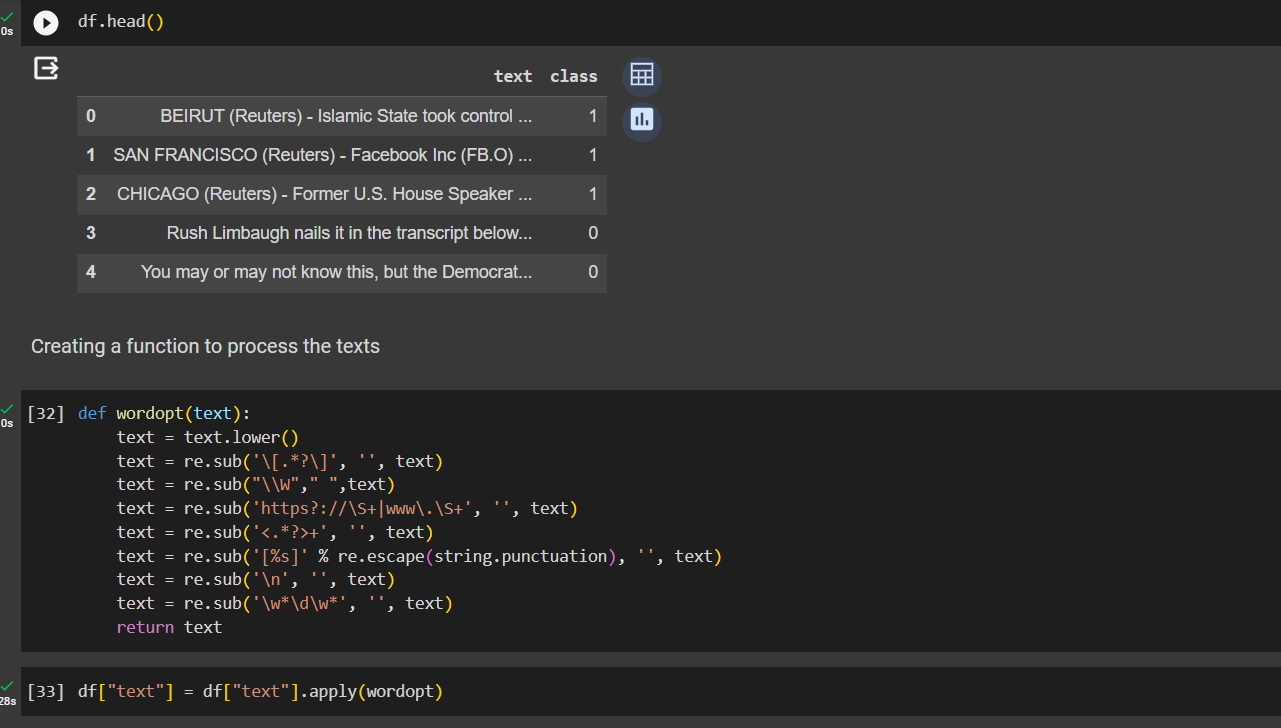
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**Manual testing dataset for true news**

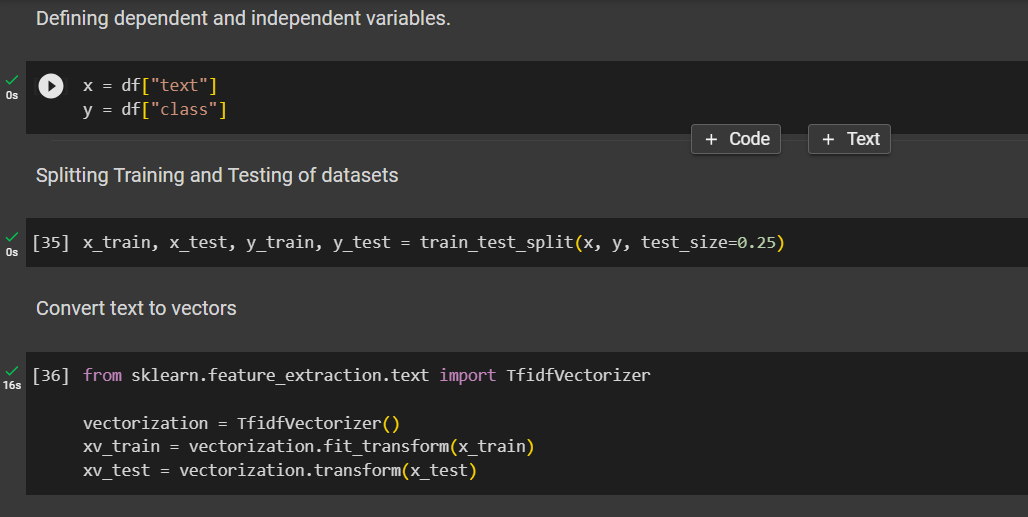
* **Concatenating two dataframes manual testing fake and true dataframes and merging true and fake dataframes creating a single manual\_testing.csv.**

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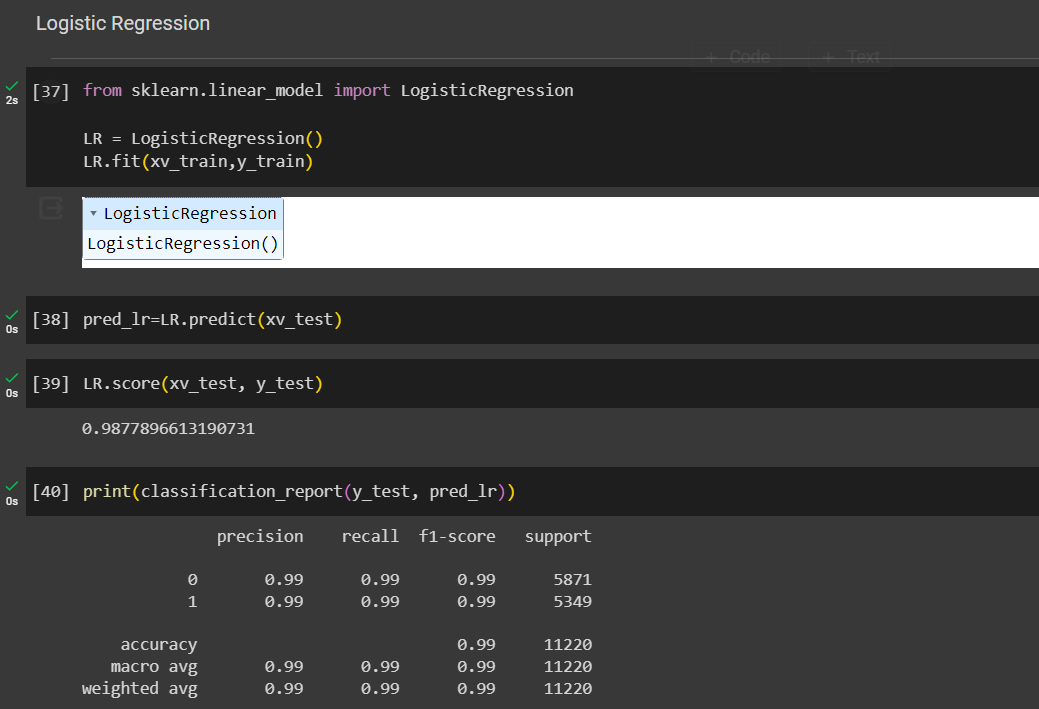
* **Removing columns which are not required. Then shuffling the dataframe manual\_testing.csv**
* ****
* **Creating a function to process the texts.(regular expressions)**

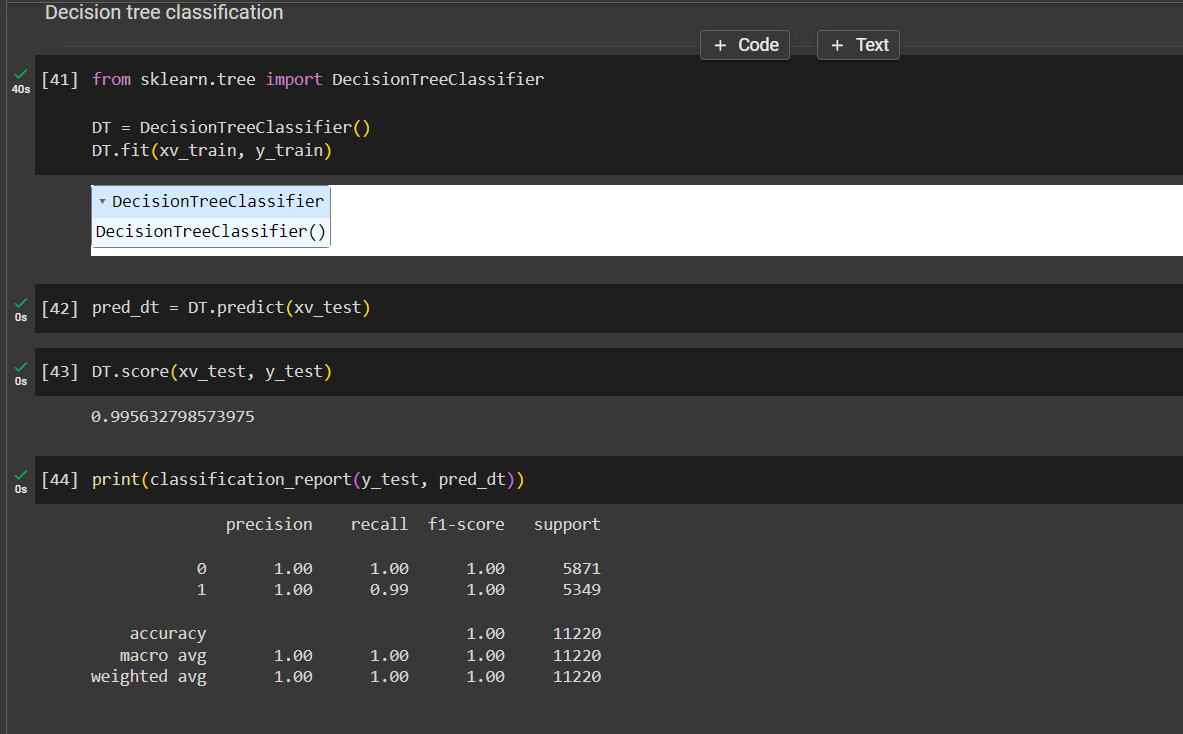
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* **Defining dependent and independent variables .Then splitting training and testing of datasets 25%(testing dataset)**

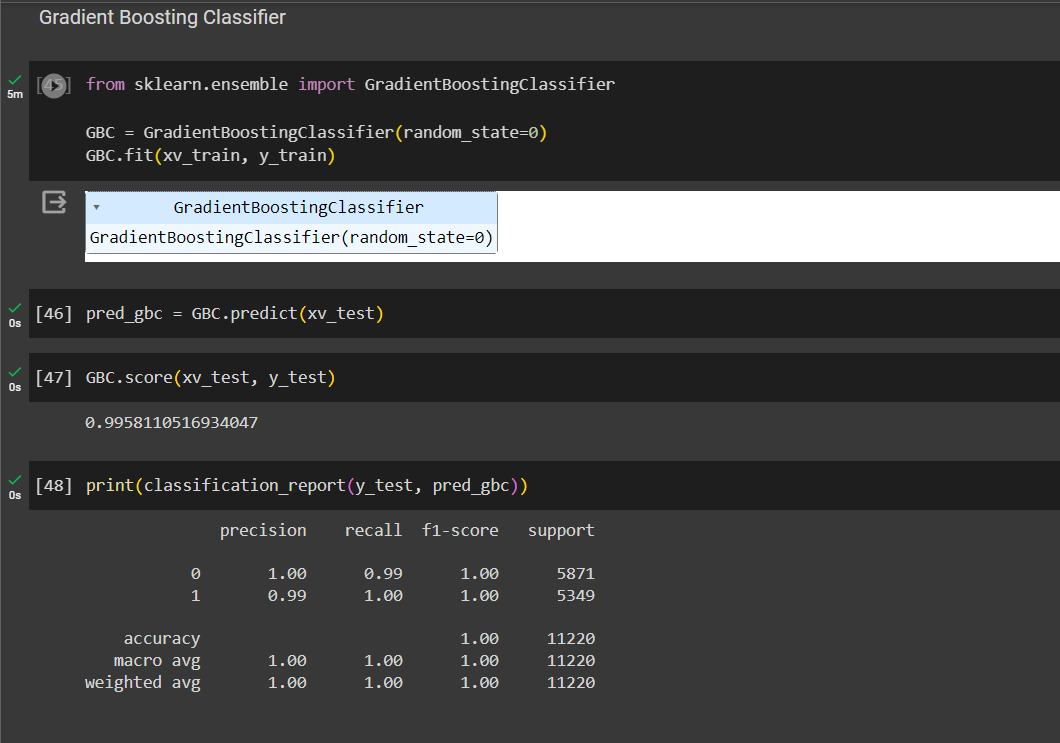
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**Implementing machine learning algorithms**

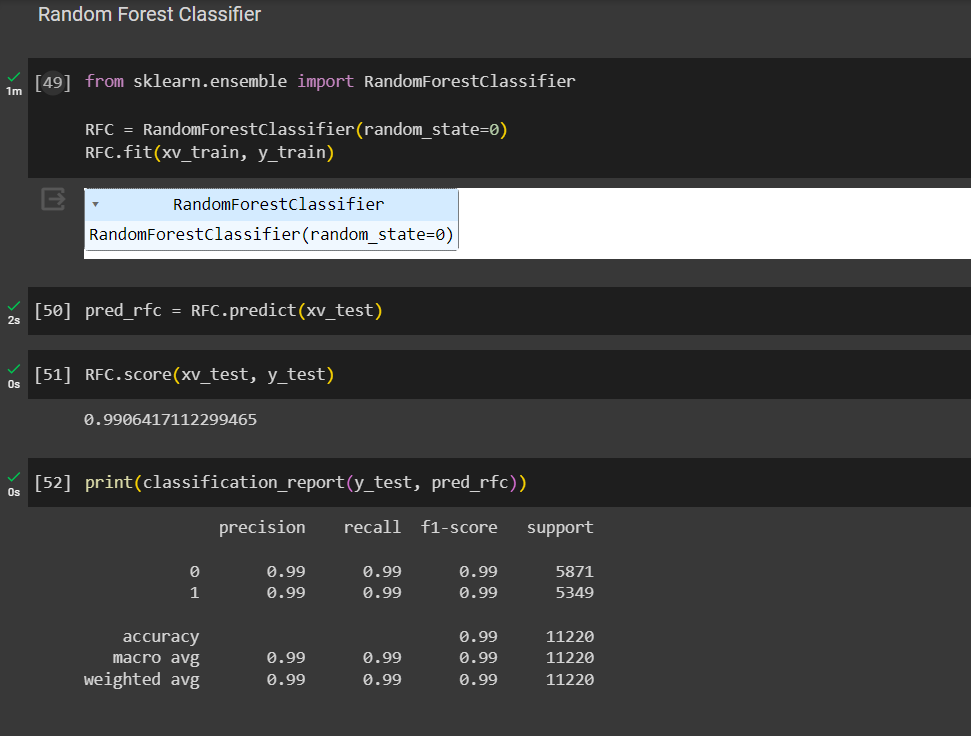
* **Logistic regression**
* **Decision Tree classification**

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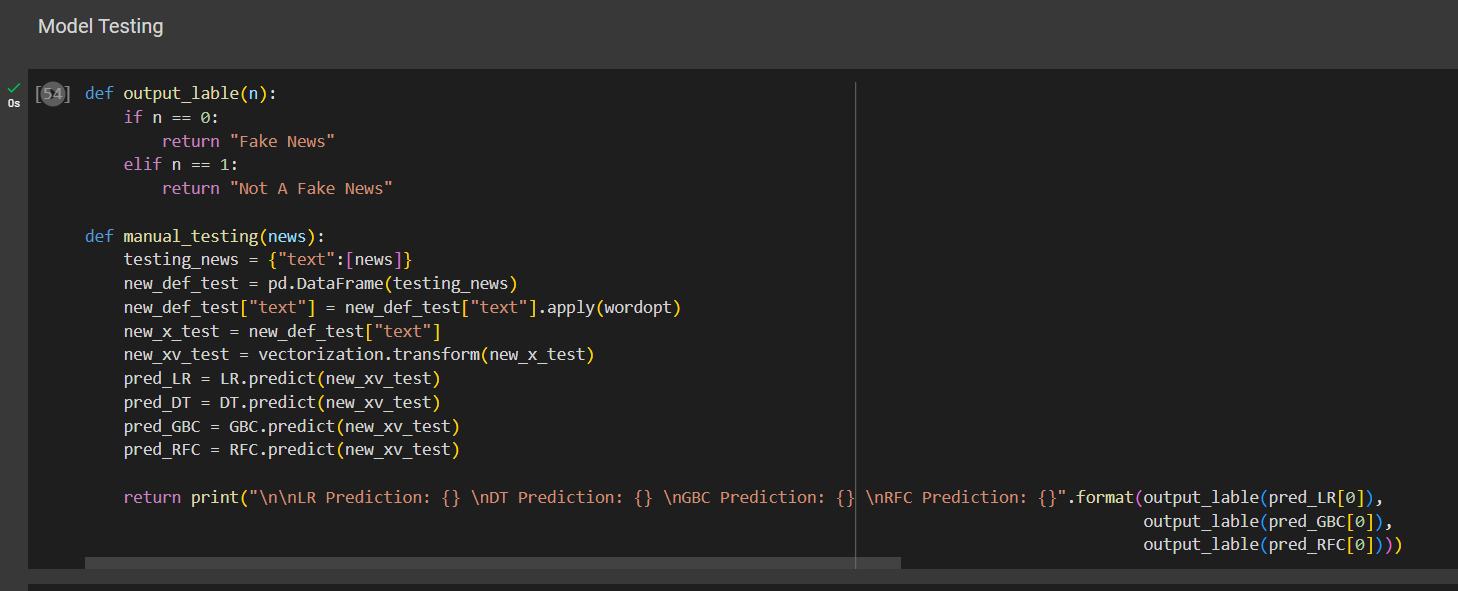
* **Gradient booster classfier**

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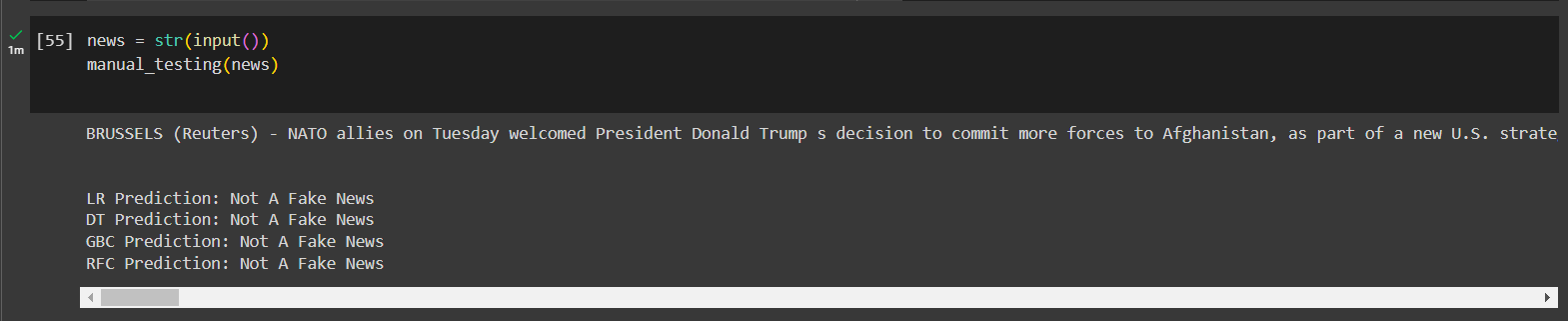
* **Random forest Classifier**

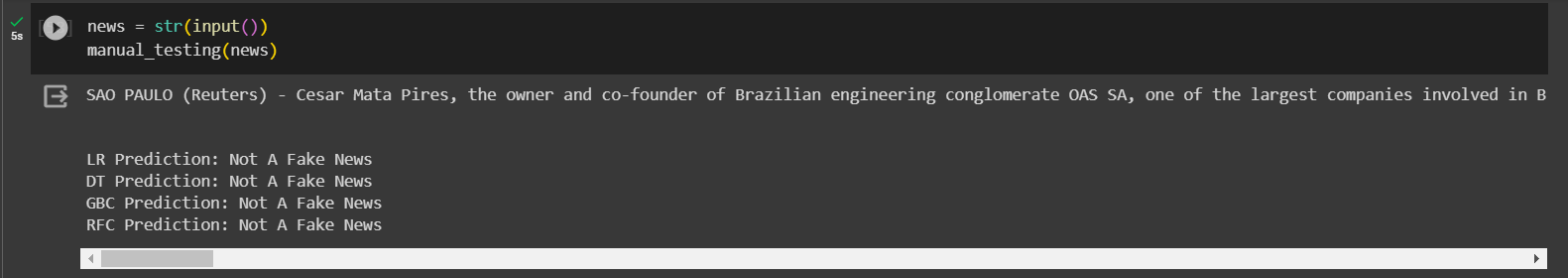
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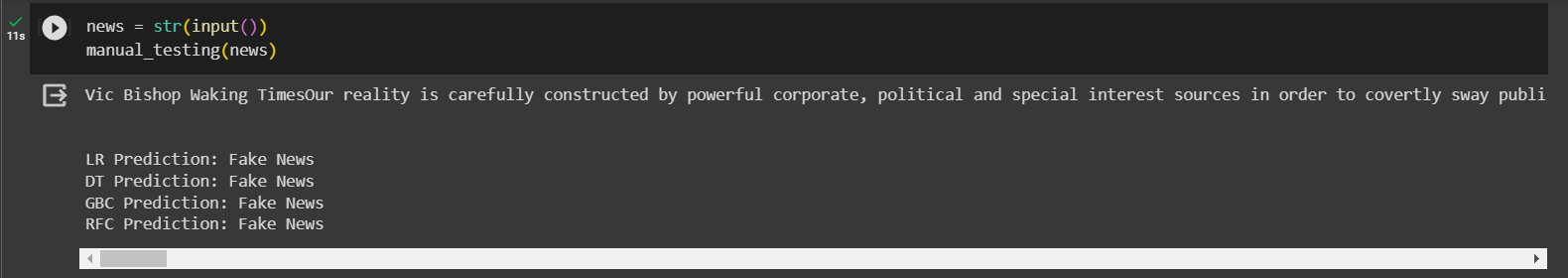
**Model Testing**

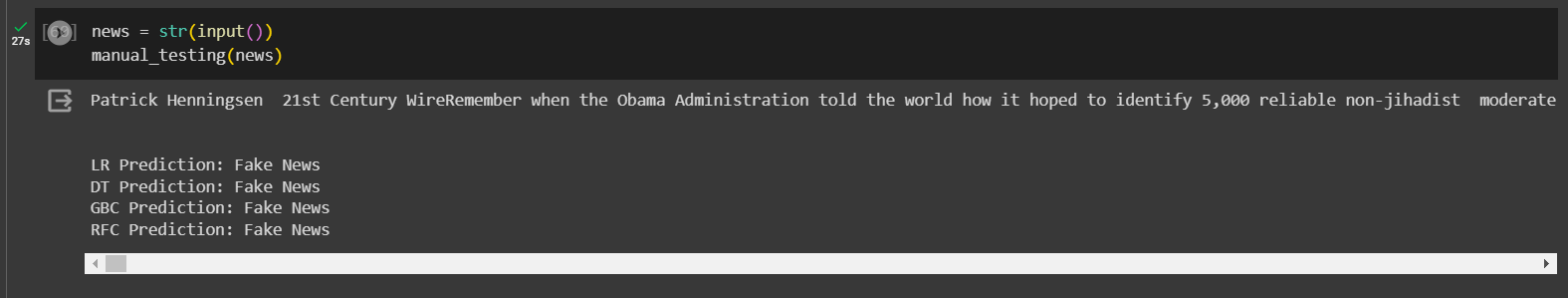
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**Results**

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**Outcomes:** **CO3: Comprehend radial-basis-function (RBF) networks and Kernel learning method**

**Conclusion (based on the Results and outcomes achieved):**

**Thus we successfully did a mini project for fake news detection consisting of**

**True and fake datasets and merged it into manual\_testing dataframe.**

**References:**

**Books,Journals etc.**