



# ASTROINFORMATICS

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Practice Grade 4

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# 1 Objective

- 1) Create a Github Repository.
- 2) Create Documentation for the Github repository.

## 2 Introduction

In this Practice we are going to create a github repository in order to save the code script and astroinformatics works

## 3 Repository Github

### 3.1 Creation of repository

1) Create a GitHub repository where you will at the end submit your graded practices so far, as well as today's graded practice.

In the first task we have to create a repository in github but before that we must sign up to the hub repository, in order to create a repository whereby our practice grade will be upload

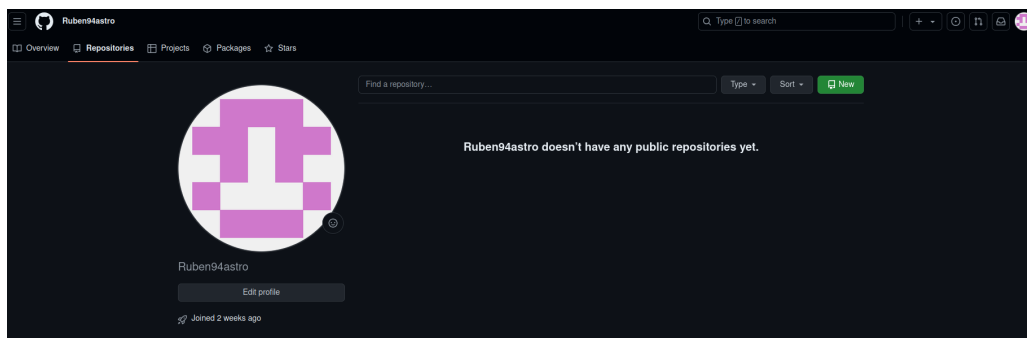


Figure 1: Github repository

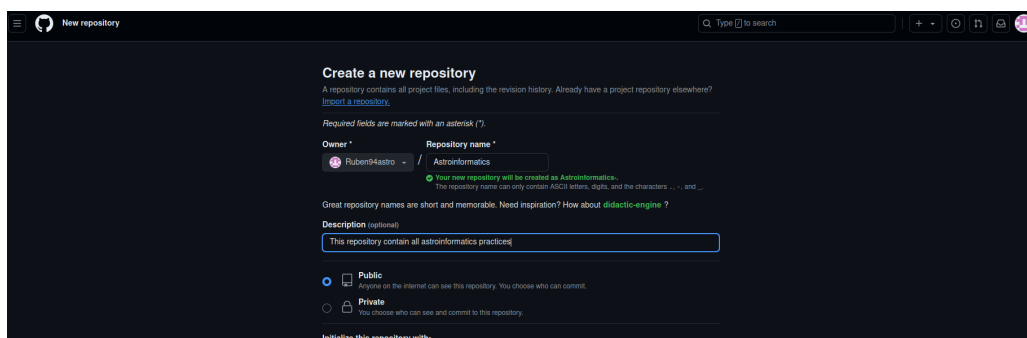


Figure 2: Github repository creation

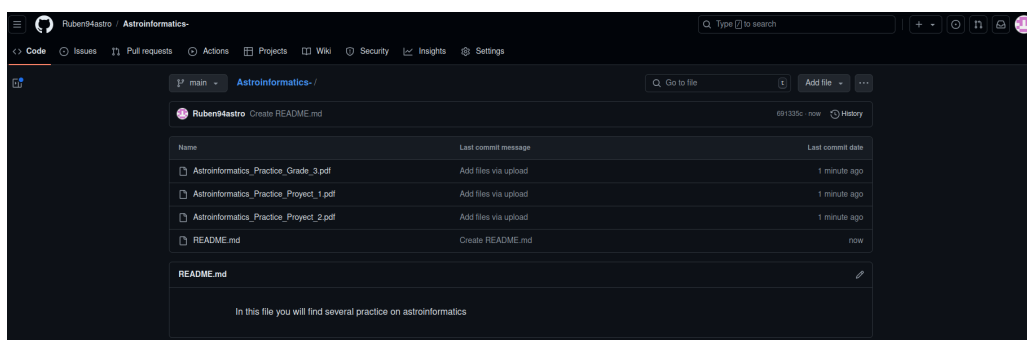


Figure 3: files in repository

## 4 Basic documentation of the TESS light curves.

1) Write some basic documentation for how you processed the TESS light curves. We are going to create a text document about a brief summary of documentation of the light curve that is a summary of all the practice grades.

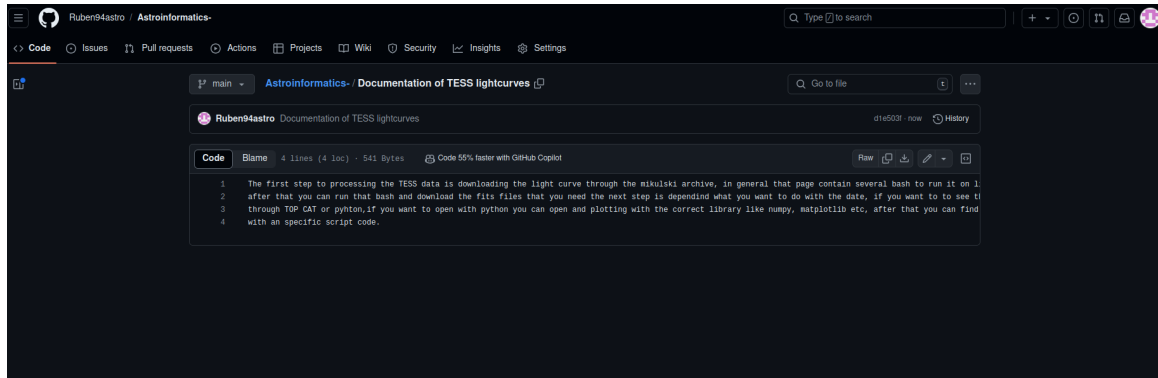


Figure 4: Caption

Obtain TESS light curve data files from a trusted repository or archive (e.g., MAST - Mikulski Archive for Space Telescopes), after that use tools such as astropy, numpy, matplotlib in Python to inspect the header and structure of the FITS files. Ensure correct data columns (time, flux, flux errors) are present, Remove any systematic trends or outliers from the light curve data. Common methods include like find the median in the data, cleaning data by removing known bad pixels or cosmic rays if is necessary, Generate plots to visualize the processed light curve data and analysis results. Include, Time-series plots of flux versus time, periodograms showing detected frequencies.

## 5 Test cases

Identify some test cases for the processing of the TESS light curves and write them down. For processing light curves some cases are: 1)Transit planets. 2)Stellar Variability Detection. 3)Periodicity Detection. 4)Photometric Precision.

## 6 Conclusion

In this practice we learned about Github repository and how to upload and write some basic documentation.

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