

why I decided to include the statements used in each function:

In the `read_file()` function I've included the input statement, because this way the user can check the Gene Expression levels from multiple files, by specifying each time which file to look through, shortly it improves accessibility.

I've used the `read_csv` file because this is the easiest way to read the files including additional specifications, like setting the dataframe index and specifying which are the separators when reading the file.

And I returned the dataframe, because we need to work with it for the following tasks and, also, one of the requirements is to have a function that returns a variable and I thought this is the perfect function to do so as the next functions only display data on the screen, without storing it.

In the `plot_boxplots` function, all the methods from the `matplotlib.pyplot` package were used to create and show the plot, as well as improving it's readability by adding the title and labels. And the `boxplot()` method was used in order to specify which dataframe are we working with.

In the `plot_users_gene()` function I've added the input statement so the user can check any Gene that he wants.

Afterwards I checked if the inputted Gene Name is valid or not so we won't have any unexpected behaviour.

Lastly, I've used the methods from the `matplotlib.pyplot` package to create and show the plot on user's screen, as well as improving clarity by adding the title and the labels again.

why I divided the program into these functions:

I tried to divide the program in a way that each function fulfills a requirement, except for the second task, because the `describe()` method it's a function itself and I didn't see the point in implementing a function that contains only other function. In conclusion, the `plot_boxplots()` function does the job for the first task, `plot_user_gene()` does the job for the third task and `read_file()` does the job for the main request. All of them completing the following requirements as well, by having 2+ functions developed by myself, one of them returning a variable.

why I think these functions are good for solving the problem:

I think these functions are very simple and efficient, each one does it's functionality and nothing more, the functions don't require a lot of resources and are easy to understand in case other developers want to work on them. The functions contain everything needed and are very flexible, giving users the opportunity to check for desired Genes in desired files.