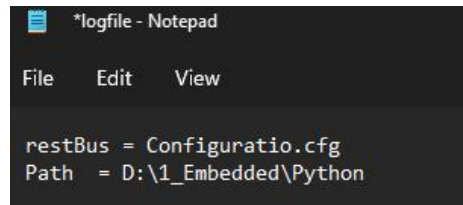❖ When reusing Python scripts, it's common practice to manually modify the paths and configurations within the script itself. However, if you're dealing with multiple scripts this process becomes time consuming as you would need to open and edit each script individually.

❖ it's advisable to create a configuration file externally, typically as a text file, and read the necessary data from it within your scripts.

# Custom Way :

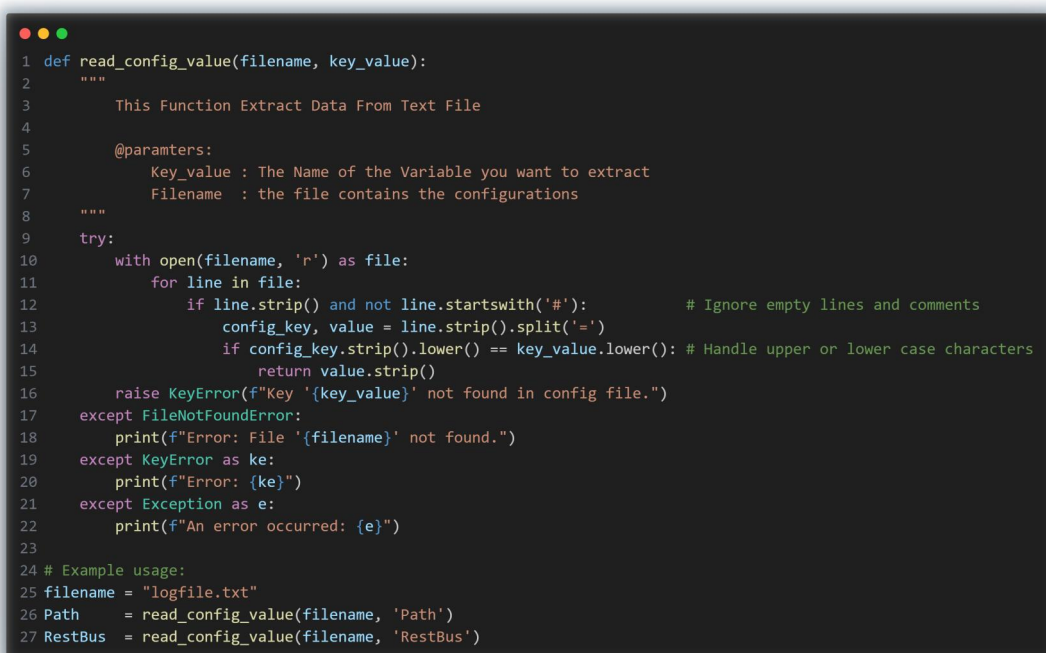You can Create Text File and Put Your Data in it like this:



And Make a custom Function to Read This Data from the text file :

```python
def read_config_value(filename, key_value):
    """
        This Function Extract Data From Text File

        @paramters:
            Key_value : The Name of the Variable you want to extract
            Filename  : the file contains the configurations
    """
    try:
        with open(filename, 'r') as file:
            for line in file:
                if line.strip() and not line.startswith('#'):          # Ignore empty lines and comments
                    config_key, value = line.strip().split('=')
                    if config_key.strip().lower() == key_value.lower(): # Handle upper or lower case characters
                        return value.strip()
        raise KeyError(f"Key '{key_value}' not found in config file.")
    except FileNotFoundError:
        print(f"Error: File '{filename}' not found.")
    except KeyError as ke:
        print(f"Error: {ke}")
    except Exception as e:
        print(f"An error occurred: {e}")

# Example usage:
filename = "logfile.txt"
Path     = read_config_value(filename, 'Path')
RestBus  = read_config_value(filename, 'RestBus')
```

# Using configparser module:

Create Configuration file (.cfg) and Write Your Section Name and then your variables

You can create .cfg file manually and write data in this format:

```
# This is a comment for the configuration file
# You can add comments like this to document your configuration

[DEFAULT]
restbus = value1
path = value2
```

Or you can use python to create one

```python
1  import configparser
2
3  # Create a ConfigParser object
4  config = configparser.ConfigParser()
5
6  # Add sections and options with values
7  config['DEFAULT'] = {
8      'restBus': 'value1',
9      'Path': 'value2'
10 }
11
12 # Specify the path for the output .cfg file
13 config_file_path = 'Configuratio.cfg'
14
15 # Write the configuration data to the file
16 with open(config_file_path, 'w') as configfile:
17     config.write(configfile)
```

Now if you want to Extract your Configuration data :

```python
1  import configparser
2
3
4  config = configparser.ConfigParser()
5
6  config.read('Configuratio.cfg')
7
8  # Access the values using the appropriate keys
9  rest_bus = config['DEFAULT']['restBus']
10 path     = config['DEFAULT']['Path']
11
12 print("restBus:", rest_bus) # Path: D:\1_Embedded\Python
13 print("Path:", path)        # RestBus: Configuratio.cfg
```