Project Description: Data Processing Project

Objective: The objective of this project is to develop a data processing application that reads data from an input file, processes the data, removes excess space and comments from the code, tokenizes the remaining code, and prints the output in a tabular form.

To-Dos:

1. Write code in the language of your choice to read data from an input file.
2. Process the data to remove excess space and comments from the code.
3. Tokenize the remaining code.
4. Print the code after removing excess space and comments.
5. Tokenize the remaining code and print output in tabular form.

Example Input:

```
# This is a sample code
# It adds two numbers

def add(a, b):
    # Add two numbers
```

```
    result = a +     b
    return result

# Test the function
print(add(5, 3))
```

Output1 - Code after removing excess space and comments:

```
def add(a, b):
result = a + b
return result
print(add(5, 3))
```

Output2 - Tokenized code in tabular form:

Category	Tokens
Keywords	def, return, print
Identifiers	add, a, b, result
Operators	=, +
Delimiters	(,), :, ,
Literals	5, 3

*The presented table is just a sample format. Feel free to choose any preferred format for displaying the information.

Project Submission Guidelines:

Group Collaboration:

- This project should be completed in a group of **three** members.
- Each group member is required to contribute actively to the project.

GitHub Repository Submission:

- One designated person from each group should upload the completed project to a GitHub repository.
- The GitHub repository should be publicly accessible.

Submission Requirements:

- Include the names of all team members in the README.md file of the GitHub repository.
- Provide a link to the GitHub repository in the Canvas submission.
- **Upload your demo video in zip and add your GitHub repo link in comments of your submission.**

Collaboration Expectations:

- Collaboration among all team members is essential for completing the project.
- All team members must actively participate in the development process, contributing code, documentation, and other necessary elements.
- Regular communication among team members is encouraged to discuss project progress, distribute tasks, and address any issues or challenges encountered during development.

Evaluation Criteria:

- Contributions from all team members are required and will be evaluated.
- Marks may be deducted for individuals who do not actively collaborate or contribute significantly to the project.
- Commit history on GitHub should reflect contributions from all team members.
- Code Readability and Structure: 20%
- Implementation of File Reading and Data Processing: 10%
- Removal of Excess Space and Comments: 20%
- Tokenization of Code: 20%
- Output Presentation: 10%
- **Demo Video of your project: 20%**

Submission Deadline:
The project submission deadline is on 31st March 2024. It is essential to adhere to the specified deadline to avoid any penalties.

Academic Dishonesty:
If plagiarism or cheating is detected, a grade of '0' will be assigned to all members of the team, and the incident will be reported to the department. Please ensure honesty in your work.

Note:
Effective collaboration and communication are critical to the success of the project. Please ensure all team members are actively engaged and contribute their fair share to the project.

Code for evaluating your project:
Python:

```
def calculate_sum(a, b):
    # This function calculates the sum of two numbers
    return a + b
```

```
# Main function
if __name__ == "__main__":
    num1 = 10
    num2 = 20

    # Calculate the sum
    result = calculate_sum(num1, num2)

    # Print the result
    print("Sum:", result)
```

C++:

```
#include <iostream>

using namespace std;


// Function to calculate the sum of two integers
int calculate_sum(int a, int b) {
    // This function calculates the sum of two numbers
    return a + b;
}
```

```
// Main function
int main() {
    int num1 = 10;
    int num2 = 20;

    // Calculate the sum
    int result = calculate_sum(num1, num2);

    // Print the result
    cout << "Sum: " << result << endl;

    return 0;
}
```