# AI Assisted Coding

## Assignment 9.5


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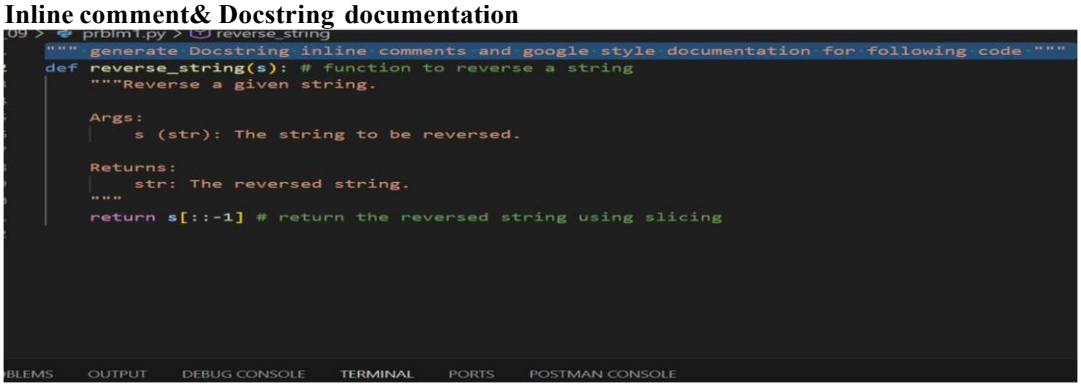
## Task_01 :

Consider the following Python function:
def reverse_string(text):
return text[::-1]
Task:
1. Write documentation in:
o (a) Docstring
o (b) Inline comments
o (c) Google-style documentation
2. Compare the three documentation styles.
3. Recommend the most suitable style for a utility-based string library.

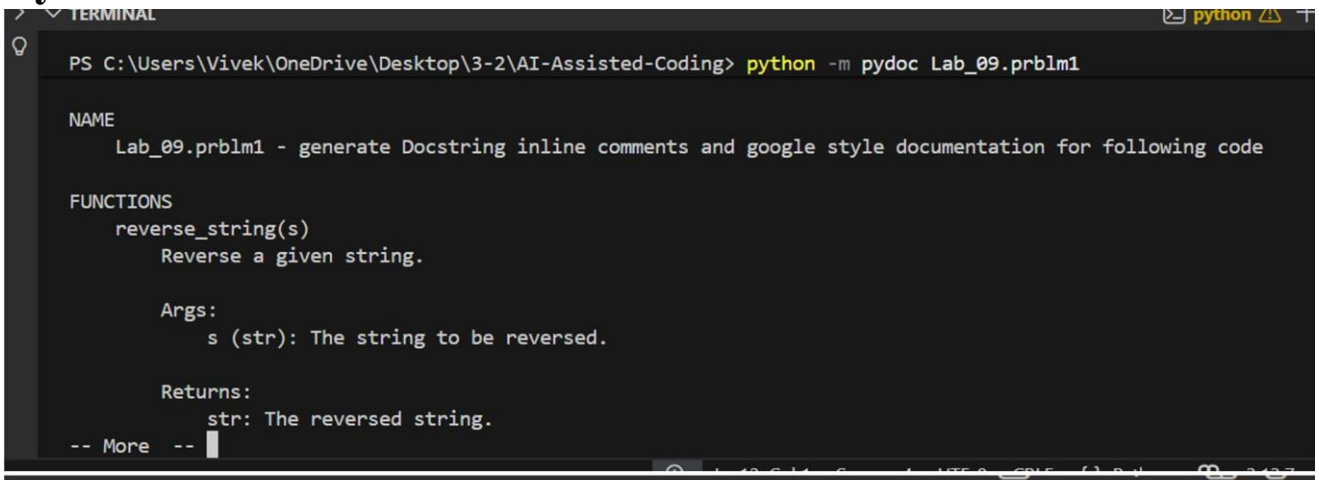
Prompt:
""" generate Docstring inline comments and google style documentation for following code """

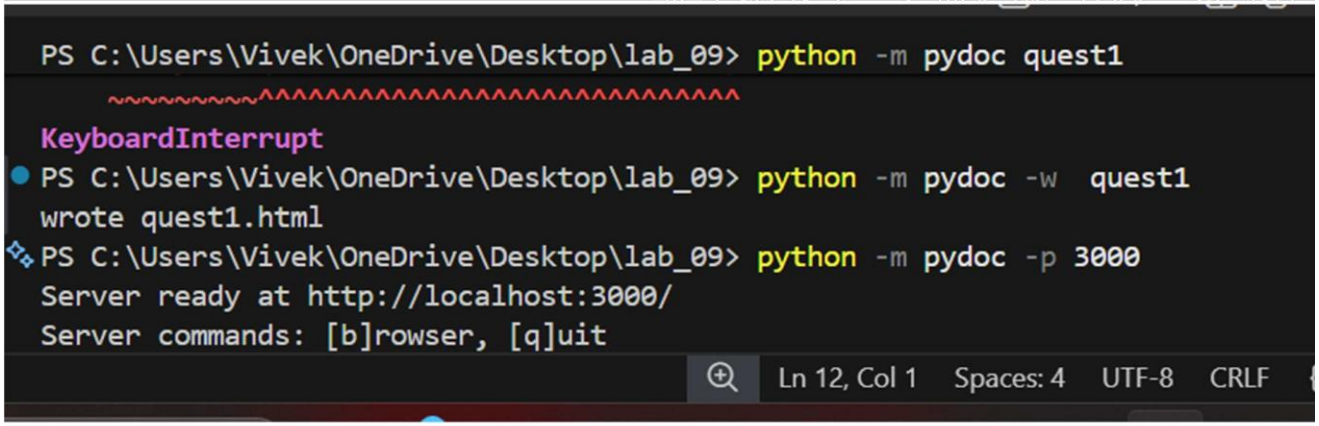
## Outputs:

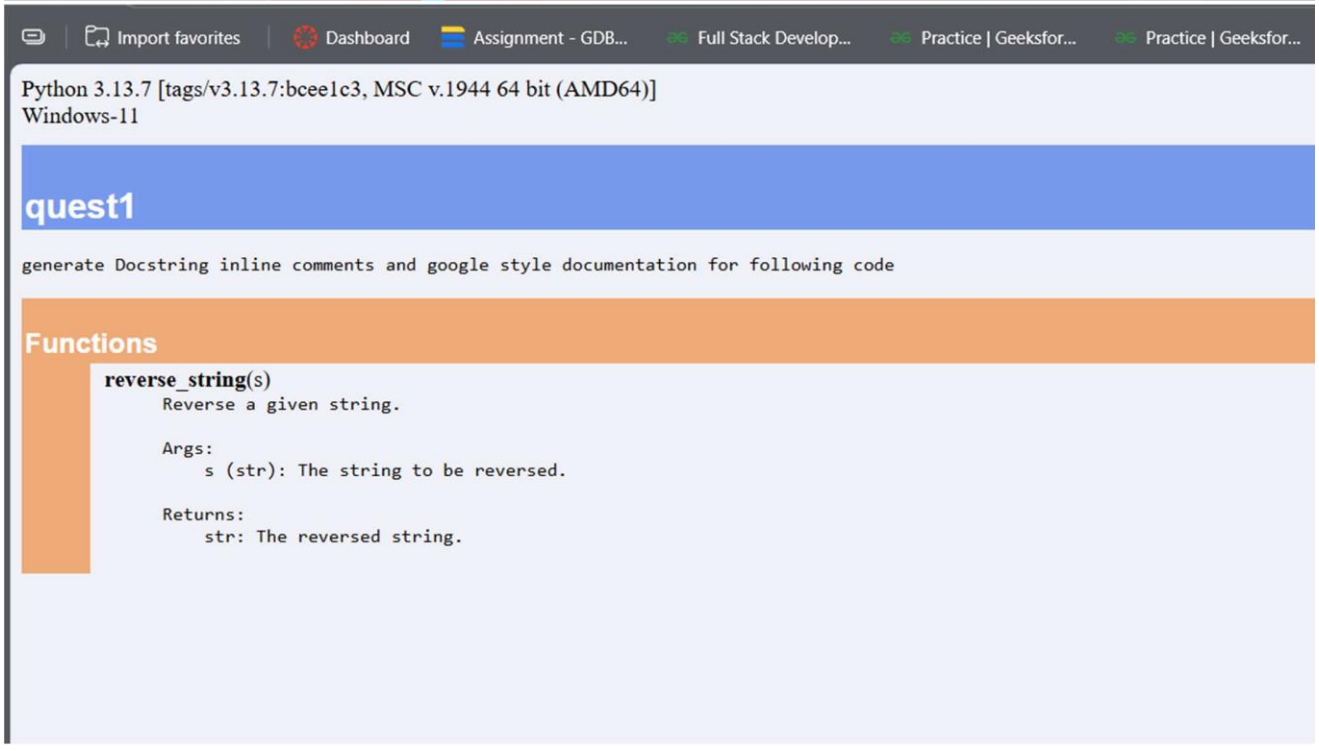
**Inline comment& Docstring documentation**



# PyDoc Documentation



Task_02

Problem 2: Password Strength Checker

Consider the function:

def check_strength(password):

return len(password) >= 8

Task:

1. Document the function using docstring, inline comments, and Google style.
2. Compare documentation styles for security-related code.
3. Recommend the most appropriate style.

Output:

Inline and Docstring Documentation:

```python
""" generate Docstring inline comments and google style documentation for following code """
def check_strength(password):# function to check the strength of a password
    """Check if the given password is strong.

    A strong password is defined as having at least 8 characters.

    Args:
        password (str): The password to be checked."""

    return len(password) >= 8 # return True if the password is strong, otherwise return False
# Example usage:
password = "my_secure_password"
if check_strength(password):
    print("The password is strong.")
else:
    print("The password is weak.")
```

pyDoc Documentation:

```
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc quest2
The password is strong.
Help on module quest2:

NAME
    quest2 - generate Docstring inline comments and google style documentation for following code

FUNCTIONS
    check_strength(password)
        Check if the given password is strong.

        A strong password is defined as having at least 8 characters.
```

0 ⓘ 2 Ln 16, Col 35 Spaces: 4

```
~~~~~~~~~~^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
KeyboardInterrupt
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc -w  quest2
The password is strong.
wrote quest2.html
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc -p 3000
Server ready at http://localhost:3000/
Server commands: [b]rowser, [q]uit
server>
```

0 ⓘ 2 Ln

Pydoc: Index of Modules | Pydoc: Index of Modules | Pydoc: Error - get?key=prblm1 | Pydoc: module quest1 | Pydoc: module quest2

localhost:3000/quest2.html

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Python 3.13.7 [tags/v3.13.7:bcee1c3, MSC v.1944 64 bit (AMD64)]
Windows-11

Module Index : Topics : Keywords

Get

## quest2

c:\users\vivek\onedrive\desktop\lab_09\qu

generate Docstring inline comments and google style documentation for following code

### Functions

**check_strength**(password)
Check if the given password is strong.

A strong password is defined as having at least 8 characters.

Args:
password (str): The password to be checked.

### Data

**password** = 'my_secure_password'

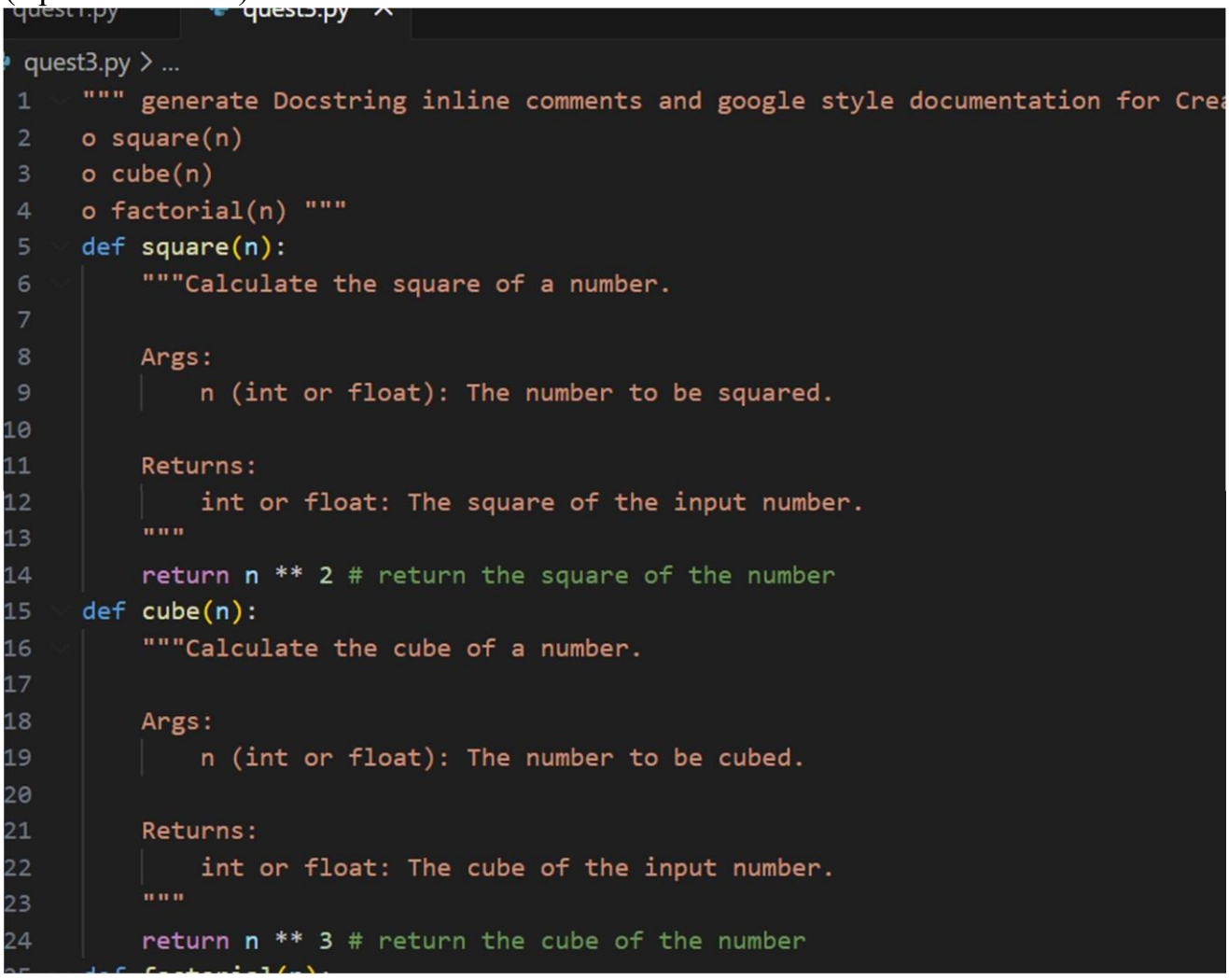
# Task-03:

Problem 3: Math Utilities Module
Task:
1. Create a module math_utils.py with functions:
o square(n)
o cube(n)
o factorial(n)
2. Generate docstrings automatically using AI tools.
3. Export documentation as an HTML file.

Code:

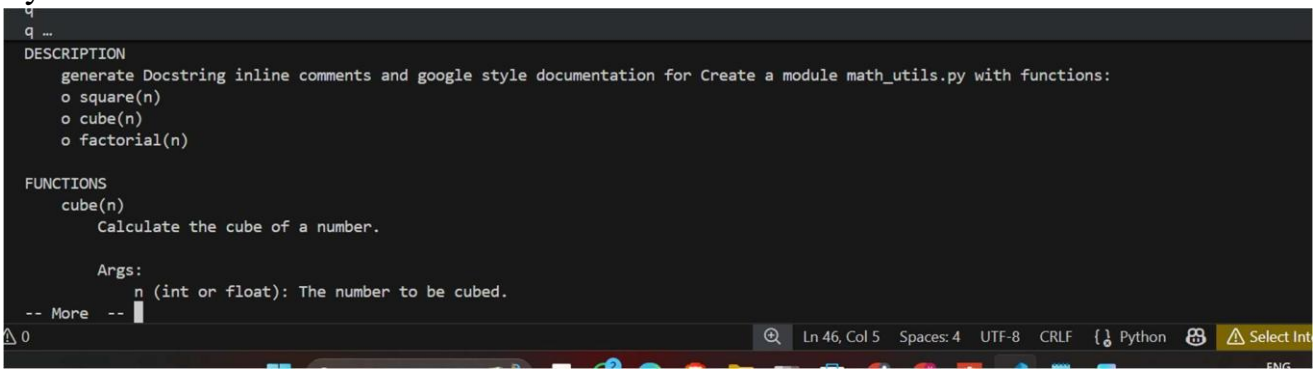
## (Inline and docstring documentation )

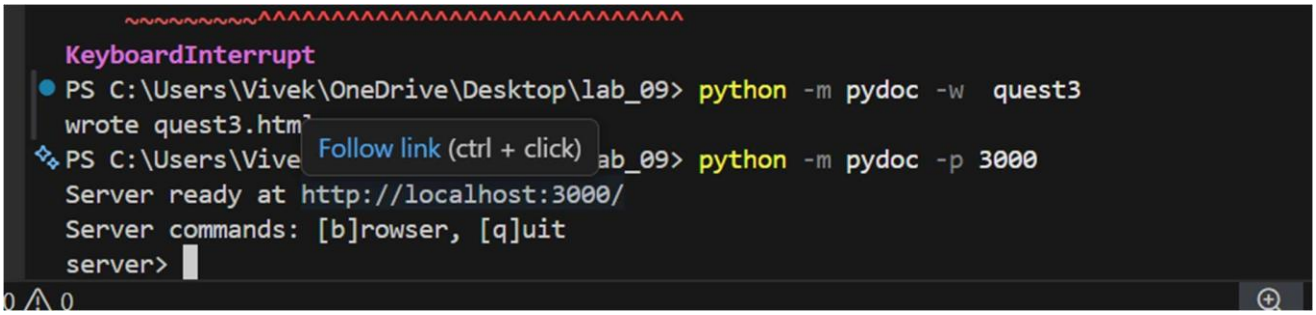
(square and cube)

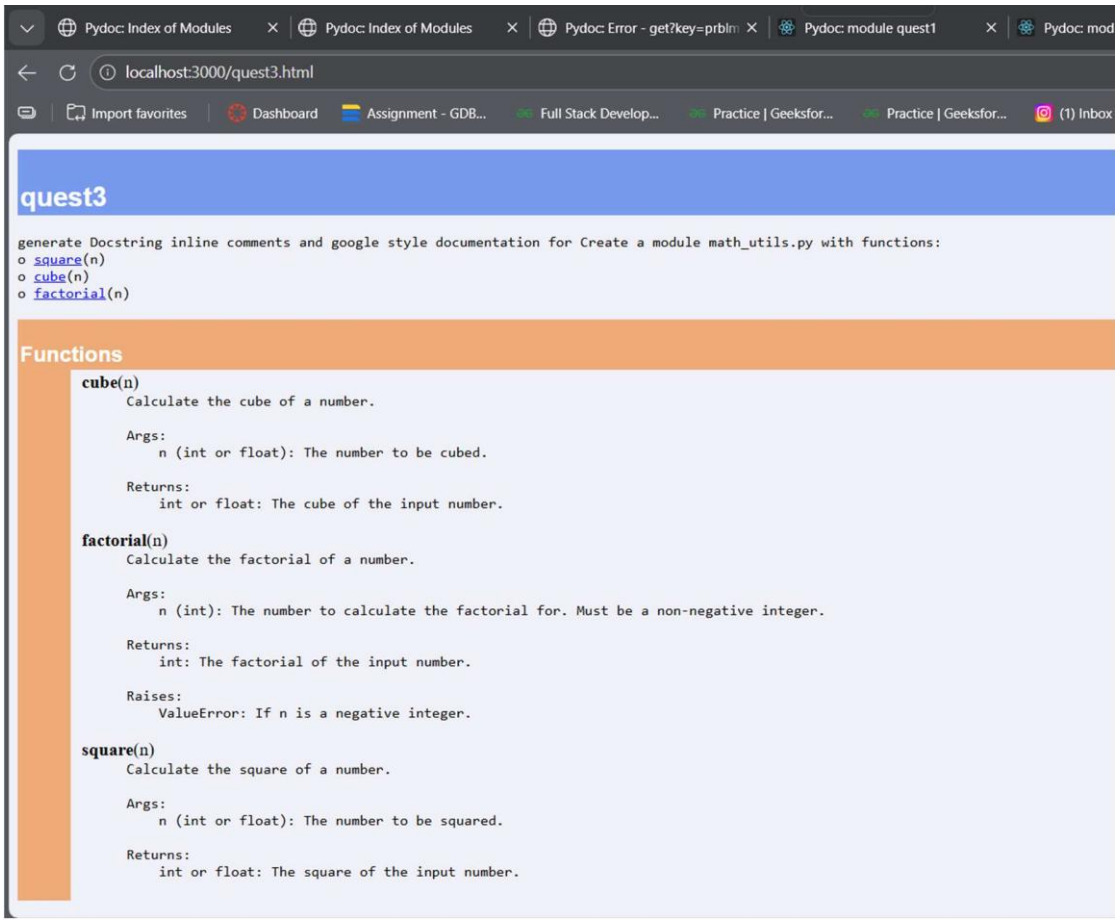


```python
    return n ** 3 # return the cube of the number
def factorial(n):
    """Calculate the factorial of a number.

    Args:
        n (int): The number to calculate the factorial for. Must be a non-negative integer.

    Returns:
        int: The factorial of the input number.

    Raises:
        ValueError: If n is a negative integer.
    """
    if n < 0:
        raise ValueError("Factorial is not defined for negative integers.")
    elif n == 0 or n == 1:
        return 1 # return 1 for factorial of 0 and 1
    else:
        result = 1
        for i in range(2, n + 1):
            result *= i # multiply result by each integer from 2 to n
        return result # return the factorial of the number
```

PyDoc






Task_4:
Problem 4: Attendance Management Module
Task:
1. Create a module attendance.py with functions:
o mark_present(student)
o mark_absent(student)
o get_attendance(student)
2. Add proper docstrings.
3. Generate and view documentation in terminal and browse

Code:

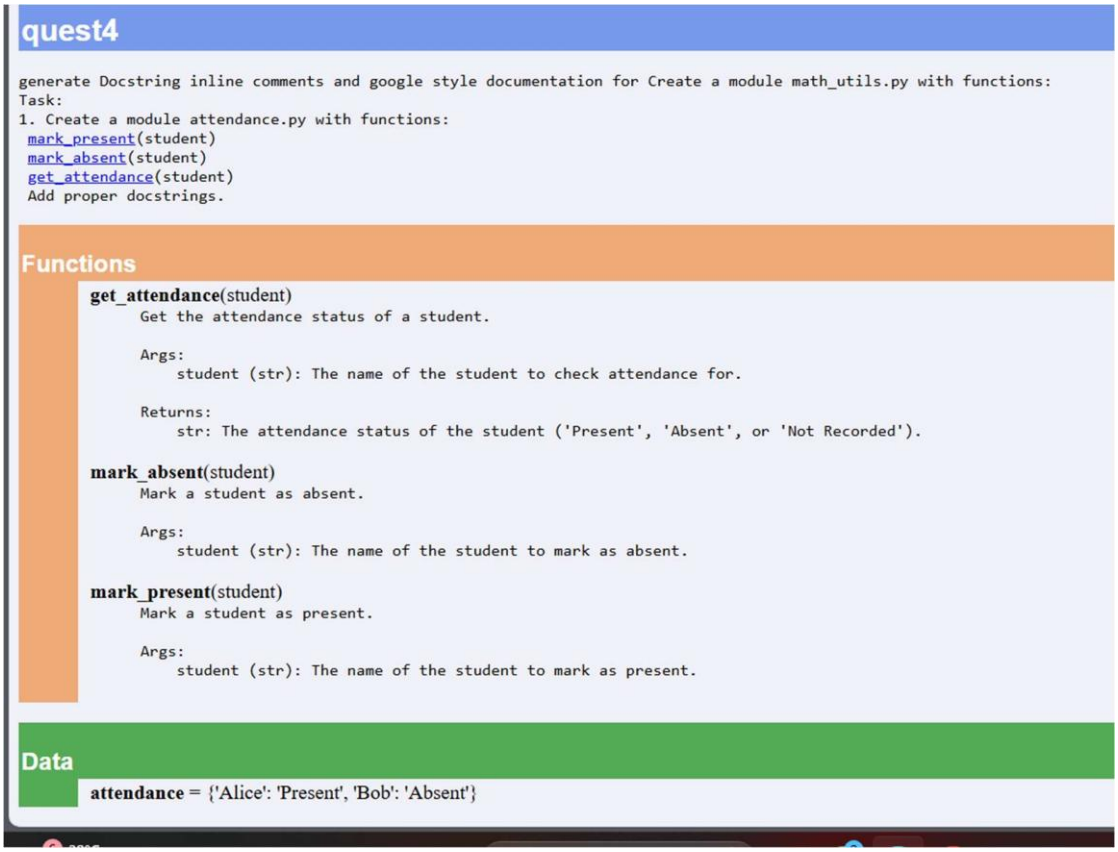
**Inline and DocString Documentation:**

```python
attendance = {} # dictionary to store attendance records
def mark_present(student):
    """Mark a student as present.

    Args:
        student (str): The name of the student to mark as present.
    """
    attendance[student] = 'Present' # mark the student as present in the attendance dictionary
def mark_absent(student):
    """Mark a student as absent.

    Args:
        student (str): The name of the student to mark as absent.
    """
    attendance[student] = 'Absent' # mark the student as absent in the attendance dictionary
def get_attendance(student):
    """Get the attendance status of a student.

    Args:
        student (str): The name of the student to check attendance for.

    Returns:
        str: The attendance status of the student ('Present', 'Absent', or 'Not Recorded').
    """
    return attendance.get(student, 'Not Recorded') # return the attendance status of the student, or
```

PyDoc Documentation:

```
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc quest4
Present
Absent
Not Recorded
Help on module quest4:

NAME
    quest4

DESCRIPTION
    generate Docstring inline comments and google style documentation for Create a modu
tions:
    Task:
    1. Create a module attendance.py with functions:
     mark_present(student)
     mark_absent(student)
     get_attendance(student)
     Add proper docstrings.

FUNCTIONS
    get_attendance(student)
^CTraceback (most recent call last):
```

```
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc -w  quest4
Present
Absent
Not Recorded
wrote quest4.html
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc -p 3000
Server ready at http://localhost:3000/
Server commands: [b]rowser, [q]uit
```




Task_05:
Problem 5: File Handling Function
Consider the function:
def read_file(filename):
with open(filename, 'r') as f:
return f.read()
Task:
1. Write documentation using all three formats.
2. Identify which style best explains exception handling.
3. Justify your recommendation

## Inline and DocString Documentation

```
""" Consider the function:
def read_file(filename):
with open(filename, 'r') as f:
return f.read()
Task:
1. Write documentation using Docstring inline comments and google style documentation for the above function.
"""
def read_file(filename):
    """Read the contents of a file.

    Args:
        filename (str): The name of the file to be read.

    Returns:
        str: The contents of the file as a string.

    Raises:
        FileNotFoundError: If the specified file does not exist.
        IOError: If there is an error reading the file.
    """
    with open(filename, 'r') as f: # open the file in read mode
        return f.read() # return the contents of the file as a string
# Example usage:
try:
    content = read_file('example.txt')
    print(content)
except FileNotFoundError:
    print("The specified file was not found.")
except IOError:
    print("An error occurred while reading the file.")
```

PyDoc:

```
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc quest5
Vivek Lakum

Help on module quest5:

NAME
    quest5

DESCRIPTION
    Consider the function:
-- More  --
```

```
KeyboardInterrupt
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc -w  quest5
Vivek Lakum

wrote quest5.html
PS C:\Users\Vivek\OneDrive\Desktop\lab_09> python -m pydoc -p 3000
Server ready at http://localhost:3000/
Server commands: [b]rowser, [q]uit
server>
```

Python 3.13.7 [tags/v3.13.7:bcee1c3, MSC v.1944 64 bit (AMD64)]
Windows-11

# quest5

```
Consider the function:
def read_file(filename):
with open(filename, 'r') as f:
return f.read()
Task:
1. Write documentation using Docstring inline comments and google style documentation for the above function.
```

## Functions

**read_file**(filename)

```
Read the contents of a file.

Args:
    filename (str): The name of the file to be read.

Returns:
    str: The contents of the file as a string.

Raises:
    FileNotFoundError: If the specified file does not exist.
    IOError: If there is an error reading the file.
```

## Data

**content** = 'Vivek Lakum \n'