

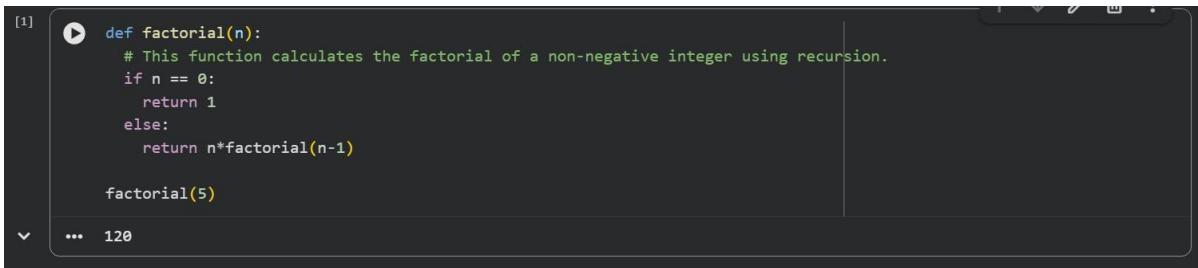
School of Computer Science and Artificial Intelligence**Lab Assignment # 9.2**

Program	: B. Tech (CSE)
Specialization	:
Course Title	: AI Assisted Coding
Course Code	: 23CS002PC304
Semester	II
Academic Session	: 2025-2026
Name of Student	: Kattherapaka Dhanush
Enrollment No.	: 2403A51L32
Batch No	: 52
Date	: 06/02/26

Task Description -1 (Documentation – Function Summary Generation)**Code used:**

```
def factorial(n):
    if n == 0:
        return 1
    else:
        return n*factorial(n-1)
factorial(5)
```

Prompt: Add a short summary describing the purpose of the function in the code

Output:

The screenshot shows a Jupyter Notebook cell with the following content:

```
[1] def factorial(n):
    # This function calculates the factorial of a non-negative integer using recursion.
    if n == 0:
        return 1
    else:
        return n*factorial(n-1)

    factorial(5)
    ... 120
```

The cell output shows the result of the function call `factorial(5)` which is `120`.

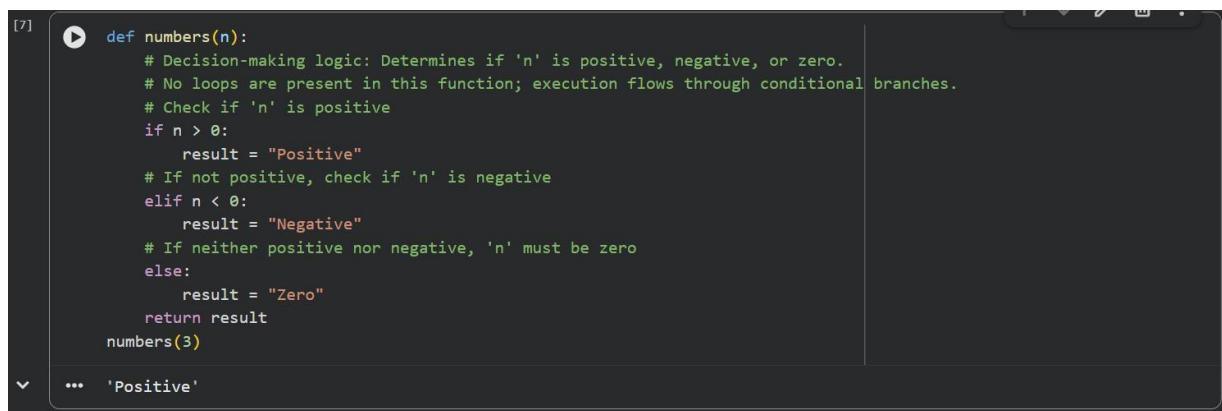
Task Description -2 (Documentation – Logical Explanation for Conditions and Loops)

Code Used:

```
def numbers(n):
    if n > 0:
        result = "Positive"
    elif n < 0:
        result = "Negative"
    else:
        result = "Zero"
    return result
numbers(3)
```

Prompt: explain only decision-making logic and loop behavior inside the code

Output:



The screenshot shows a Jupyter Notebook cell with the following content:

```
[7] def numbers(n):
    # Decision-making logic: Determines if 'n' is positive, negative, or zero.
    # No loops are present in this function; execution flows through conditional branches.
    # Check if 'n' is positive
    if n > 0:
        result = "Positive"
    # If not positive, check if 'n' is negative
    elif n < 0:
        result = "Negative"
    # If neither positive nor negative, 'n' must be zero
    else:
        result = "Zero"
    return result
numbers(3)
... 'Positive'
```

The output of the cell is shown as three dots followed by the string "'Positive'".

Task Description -3 (Documentation – File-Level Overview)

Code Used:

```
def factorial(n):
    result = 1
    for i in range(1, n + 1):
        result *= i
    return result

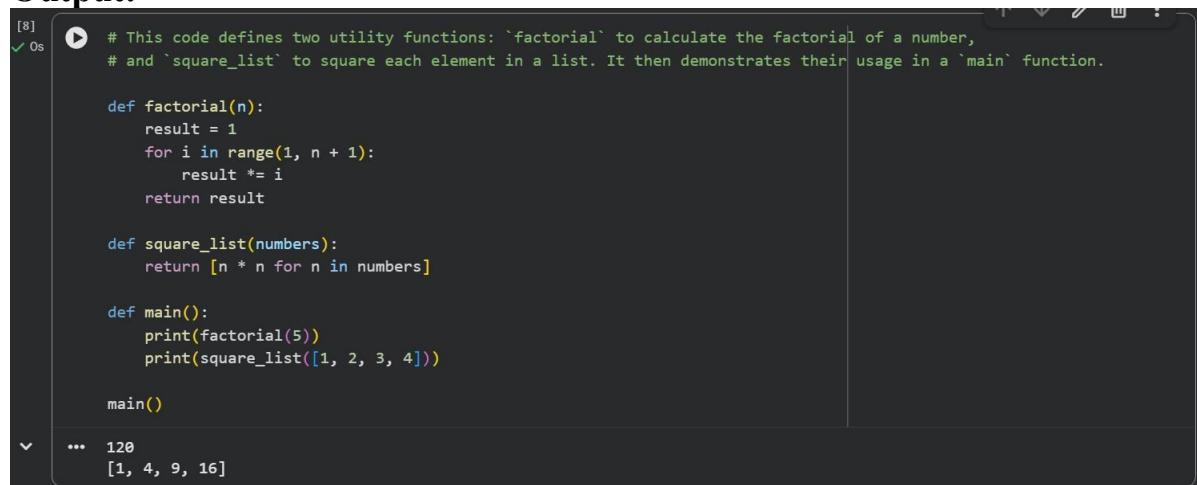
def square_list(numbers):
    return [n * n for n in numbers]

def main():
    print(factorial(5))
    print(square_list([1, 2, 3, 4]))

main()
```

Prompt: Generate a high-level overview summarizing the overall purpose and functionality of the Code. add the summary at the beginning

Output:



The screenshot shows a Jupyter Notebook cell with the following content:

```
[8] 0s # This code defines two utility functions: `factorial` to calculate the factorial of a number,
# and `square_list` to square each element in a list. It then demonstrates their usage in a `main` function.

def factorial(n):
    result = 1
    for i in range(1, n + 1):
        result *= i
    return result

def square_list(numbers):
    return [n * n for n in numbers]

def main():
    print(factorial(5))
    print(square_list([1, 2, 3, 4]))

main()
... 120
[1, 4, 9, 16]
```

The cell starts with a multi-line comment explaining the purpose of the code. It then defines three functions: `factorial`, `square_list`, and `main`. The `factorial` function calculates the factorial of a given number. The `square_list` function squares each element in a list. The `main` function prints the factorial of 5 and the squared list of [1, 2, 3, 4]. The output of the cell shows the results of these operations.

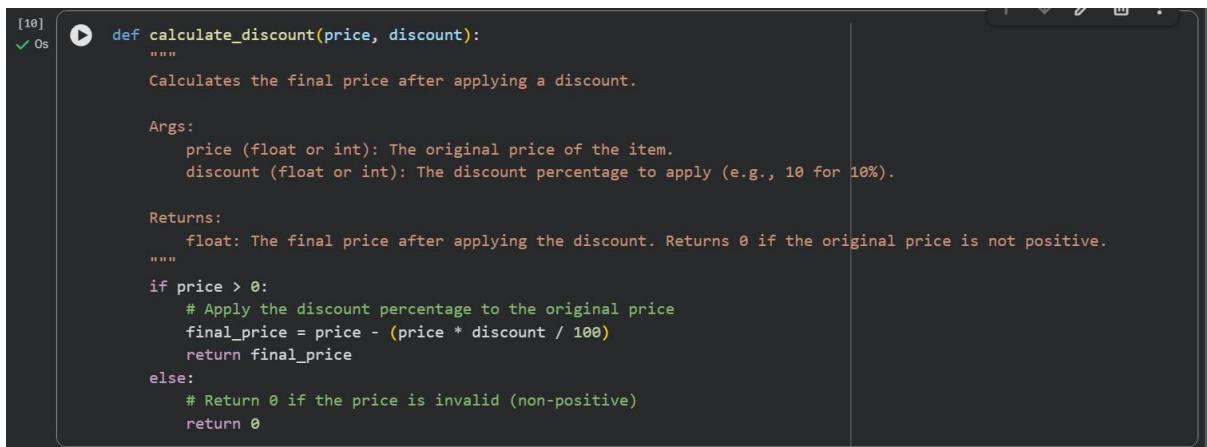
Task Description -4 (Documentation – Refine Existing Documentation)

Code Used:

```
def calculate_discount(price, discount):
    # calculate
    if price > 0:
        # apply discount
        final_price = price - (price * discount / 100)
        return final_price
    else:
        # wrong price
        return 0
```

Prompt: Rewrite the documentation to improve clarity and consistency.

Output:



The screenshot shows a code editor window with Python code. The code defines a function `calculate_discount` that calculates the final price after applying a discount. The documentation has been refined to be more clear and consistent. It includes a docstring with a summary, arguments, and returns section, and detailed comments explaining the logic. The code editor interface shows syntax highlighting and a status bar indicating 10 lines of code and 0 errors.

```
[10] ✓ 0s
def calculate_discount(price, discount):
    """
    Calculates the final price after applying a discount.

    Args:
        price (float or int): The original price of the item.
        discount (float or int): The discount percentage to apply (e.g., 10 for 10%).

    Returns:
        float: The final price after applying the discount. Returns 0 if the original price is not positive.
    """
    if price > 0:
        # Apply the discount percentage to the original price
        final_price = price - (price * discount / 100)
        return final_price
    else:
        # Return 0 if the price is invalid (non-positive)
        return 0
```

Task Description -5 (Documentation – Prompt Detail Impact Study)

Code Used:

```
def reverse_string(text):
    return text[::-1]
```

Prompt - 1: Write a short documentation comment explaining what this Python function does.

Output - 1:

```
[12]  def reverse_string(text):
        """
        Reverses a given string.

        Args:
            text (str): The input string to be reversed.

        Returns:
            str: The reversed string.
        """
        return text[::-1]
```

Prompt - 2: Write a clear and detailed documentation comment for the given Python function.

Output - 2:

```
[13]  def reverse_string(text):
        """
        Reverses the given input string.

        This function takes a string as input and returns a new string
        with the characters in reverse order. It utilizes Python's string slicing
        feature to achieve this efficiently.

        Args:
            text (str): The input string that needs to be reversed.

        Returns:
            str: A new string containing the reversed characters of the input string.

        Examples:
            >>> reverse_string("hello")
            'olleh'
            >>> reverse_string("Python")
            'nohtyP'
            >>> reverse_string("12345")
            '54321'
        """
        return text[::-1]
```