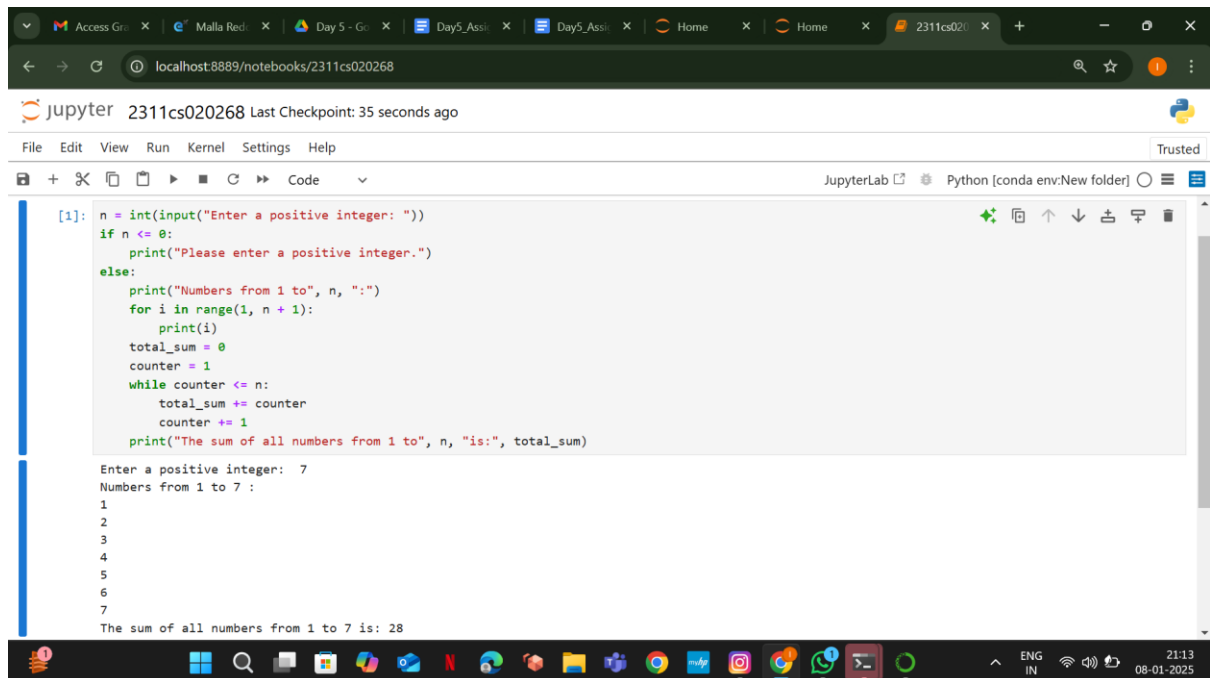


1) Write a Python program that performs the following tasks:

1. Ask the user to enter a positive integer `n`.
2. Use a `for` loop to print all numbers from `1` to `n` on separate lines.
3. Use a `while` loop to calculate the sum of all numbers from `1` to `n` and print the result.

,



The screenshot shows a JupyterLab window with a Python kernel. The code in the cell is as follows:

```
[1]: n = int(input("Enter a positive integer: "))
if n <= 0:
    print("Please enter a positive integer.")
else:
    print("Numbers from 1 to", n, ":")
    for i in range(1, n + 1):
        print(i)
    total_sum = 0
    counter = 1
    while counter <= n:
        total_sum += counter
        counter += 1
    print("The sum of all numbers from 1 to", n, "is:", total_sum)
```

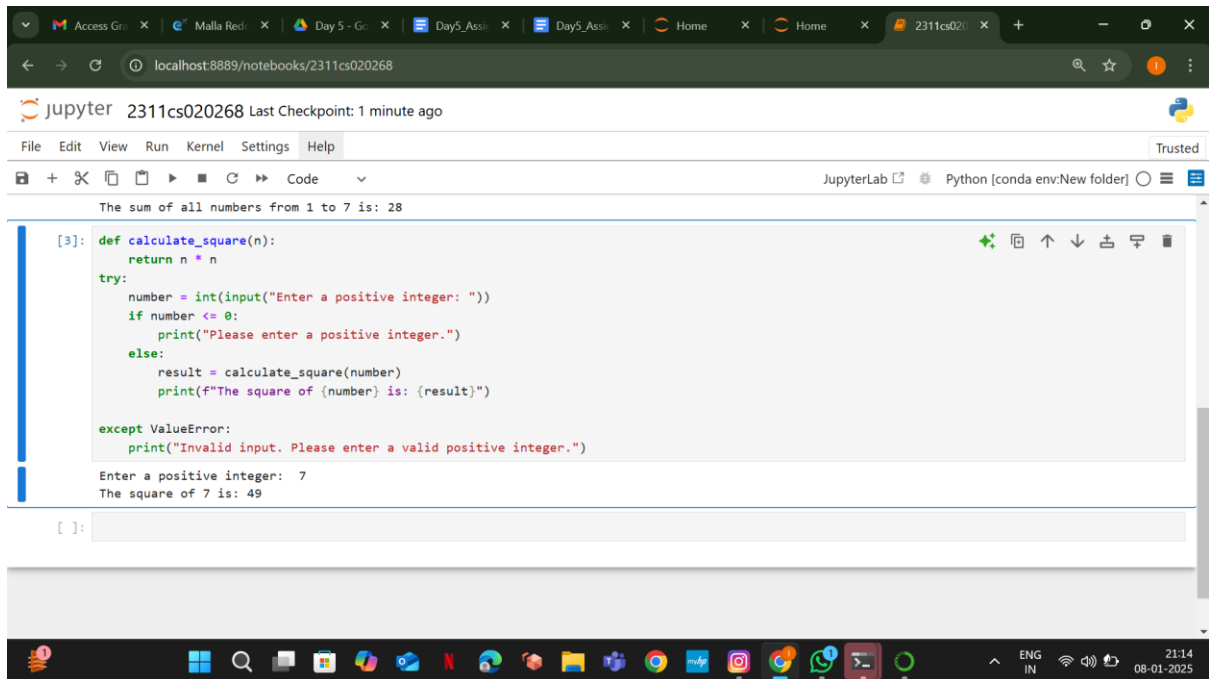
The output of the code is:

```
Enter a positive integer: 7
Numbers from 1 to 7 :
1
2
3
4
5
6
7
The sum of all numbers from 1 to 7 is: 28
```

The JupyterLab interface includes a menu bar (File, Edit, View, Run, Kernel, Settings, Help), a toolbar with icons for file operations and execution, and a status bar at the bottom showing the current environment (Python [conda env: New folder]) and system information (21:13, 08-01-2025).

2) Write a Python program that includes a user-defined function to perform the following tasks:

1. Define a function named `calculate_square` that takes a single argument `n` and returns the square of `n`.
2. In the main program, ask the user to input a positive integer.
3. Call the `calculate_square` function with the user-provided number and display the result.



The screenshot shows a JupyterLab interface in a web browser. The browser's address bar shows the URL `localhost:8889/notebooks/2311cs020268`. The JupyterLab header indicates the notebook name is `2311cs020268` and the last checkpoint was 1 minute ago. The interface includes a menu bar (File, Edit, View, Run, Kernel, Settings, Help) and a toolbar with various icons. The main area displays a code cell with the following Python code:

```
[3]: def calculate_square(n):  
    return n * n  
  
    try:  
        number = int(input("Enter a positive integer: "))  
        if number <= 0:  
            print("Please enter a positive integer.")  
        else:  
            result = calculate_square(number)  
            print(f"The square of {number} is: {result}")  
  
    except ValueError:  
        print("Invalid input. Please enter a valid positive integer.")
```

Below the code cell, the output is shown:

```
Enter a positive integer: 7  
The square of 7 is: 49
```

The bottom of the image shows the Windows taskbar with various application icons and the system clock displaying 21:14 on 08-01-2025.