Task(9.2)

Lambda Callback

Steps:

1. Input Two Vectors:
   - Accept an integer n from the user, which represents the size of the two vectors.
   - Input n integers for the first vector (v1) and the second vector (v2).
2. Calculate Function:
   - Implement the function void Calculate(std::function<bool(void)> swap, std::function<void(void)> print) that:
     - Takes two lambda functions: one for swapping and sorting (swap) and one for printing (print).
     - Calls the swap function, which swaps the elements between v1 and v2 and sorts v2.
     - If the swapping is successful (i.e., swap returns true), the print function is called to display the result. Otherwise, print an error message.
3. Swap Lambda Function:
   - Define a lambda function swab that:
     - Sorts v2 using std::sort to arrange its elements in ascending order.
     - Swaps elements between v1 and v2:
       - Iterates through both vectors, swapping each corresponding element.
       - The elements in v1 are replaced by the sorted elements from v2, and the elements in v2 are replaced by the original values from v1.
     - Returns true to indicate a successful swap.
4. Print Lambda Function:
   - Define a lambda function print that:
     - Prints a message indicating that the elements have been swapped.
     - Displays the contents of both vectors (v1 and v2) after the swap.
     - v1 now holds the sorted elements from v2, and v2 holds the original elements from v1.
5. Main Function:
   - In the main() function, prompt the user to input the elements of the two vectors.
   - Call the Calculate() function, passing the swab lambda function for swapping and the print lambda function for displaying the results.

Thank You