For this shell sort algorithm, the software reads the user's input, stores it in the variable n, and then prompts the user to enter the sequence's element count in the main function. Then the elements of the sequence are then created as a vector of integers called arr by the software.The user is then prompted by the application to enter each component of the sequence one at a time. Number of integers the user must enter is n, where n is the length of the sequence. These integers are read by the program, which stores them in the vector arr.

The application starts sorting the series when the user enters all the elements using the Shell sort algorithm.This process begins by figuring out how big the input sequence n is inside the shellSort function by using a gap sequence. It starts with a big gap equal to n/2 and gradually closes it down until it's 0. As long as the gap is bigger than 0, the first loop of the shellSort function is active. The insertion sort algorithm is used iteratively while using the current gap value on each element of the sequence then, insertion sort is carried out in the second loop of the first loop on the elements separated by the current gap. Elements at positions i, i+gap, i+2*gap, and so forth are taken into account.

This method chooses the element at position i and stores it in a temporary variable called temp during the insertion sort stage. The element at location i-gap is then put up for comparison with temp. Until the algorithm determines the proper place for temp, it repeats this shifting operation for earlier items in increments of gap. After that, temp is positioned correctly in the array. The procedure reduces the value of the gap by half (i.e., gap = gap / 2) after finishing the insertion sort for the current gap, and the process is repeated until the gap is equal to 0.

When the shellSort function has finished running, it returns the sorted elements of the vector arr to the main function.After sorting, the software prints both the original sequence of elements and the sorted series of elements to the console.The user can view the sorted sequence of elements presented on the screen when the program ends.