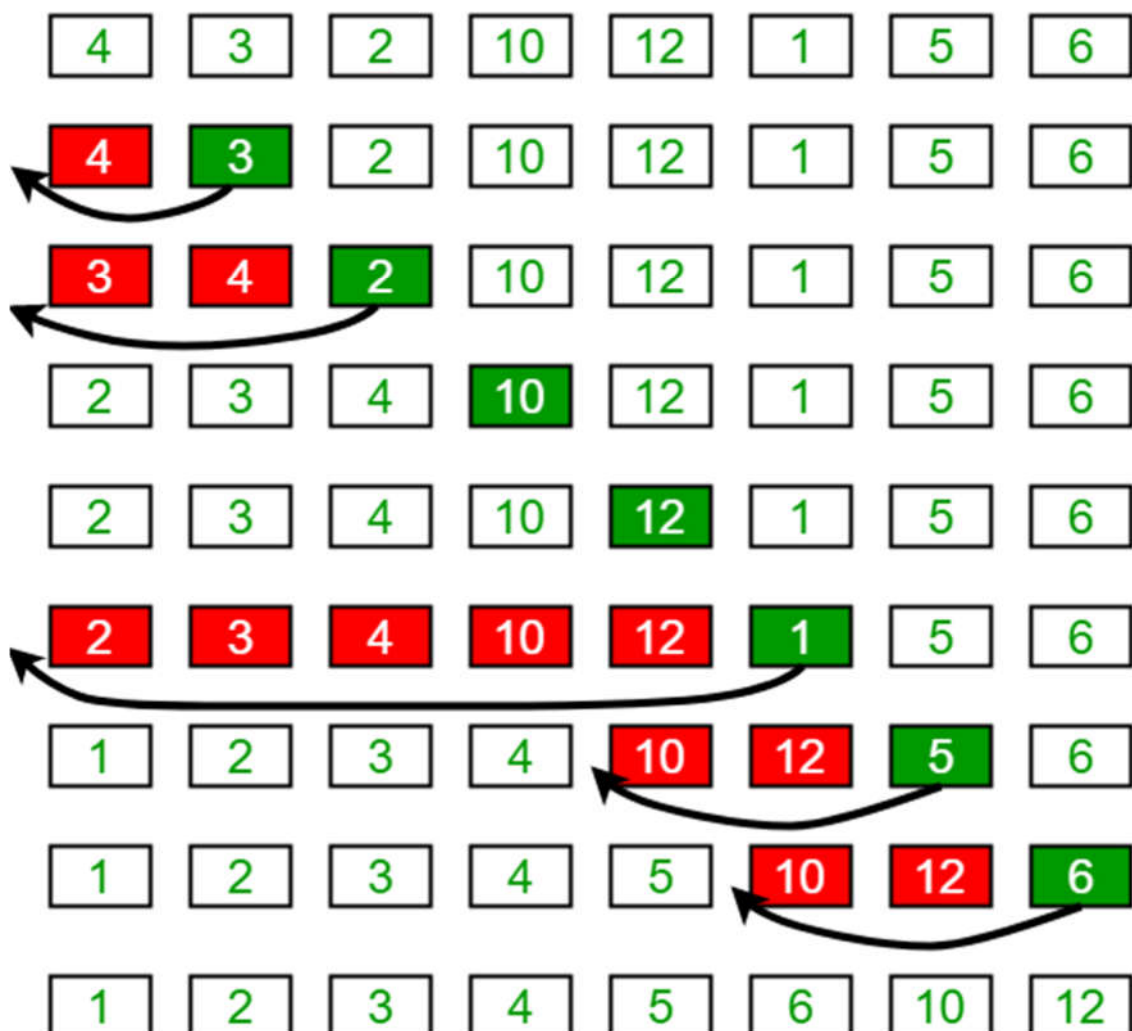


Sorting of list items – Insertion Sorting

- Insertion sort is a simple sorting algorithm that works similar to the way we sort playing cards.
- The array is virtually split into a sorted and an unsorted part.
- Values from the unsorted part are picked and placed at the correct position in the sorted part.

Logic

Insertion Sort Execution Example



Activity

1) Write a python program to sort a list of 'n' integers using **insertion sorting**.

Print the list of numbers before and after sorting.

2) Write a python program for the following requirements.

- a) Read **your name** using input () and store it in a string variable (say **my_name**).
- b) Print **my_name** on the screen.
- c) Using **insertion sorting technique**, sort the characters in **my_name** and print them in ascending order.
- d) Select only the vowel characters from **my_name** and store them into a file (say '**vowel_characters.txt**'). If your name does not contain any vowel character, then store '**NO VOWELS IN MY NAME**' into '**vowel_characters.txt**'.
- e) Trace the program manually (handwritten material) in neat format to show the status of all variables and condition checking for **"first five characters of your name"**. Add the scanned soft copy into the answer sheet (PDF file).

Attention:

- Prepare a single PDF file for the above activity with following contents.
 - Activity (i.e. the Question - just copy + paste)
 - Code (**complete screen shot including your face captured by camera, otherwise, your programs will not be evaluated**)
 - Code (**only the program, which I can directly copy and execute**)
 - Output screen shots (**complete screen including your face captured by camera; don't crop only the output, take a screenshot, which shows everything; otherwise, your programs will not be evaluated**)
 - Traced programs (handwritten paper's scanned copy)
 - Arrange the above contents in order under each question.
 - Use Landscape orientation, when you create the file.