Sorting algorithm

September 25, 2024

1 Bubble sort

[5]:
```
arr = [ 2, 1, 10, 23 ]
n = len(arr)

    # For loop to traverse through all
    # element in an array
for i in range(n):
      for j in range(0, n - i - 1):

            # Range of the array is from 0 to n-i-1
            # Swap the elements if the element found
            #is greater than the adjacent element
            if arr[j] > arr[j + 1]:
                arr[j], arr[j + 1] = arr[j + 1], arr[j]
                '''
                temp = arr[j]
                arr[j] = arr[j + 1]
                arr[j + 1] = temp
                '''
for i in range(len(arr)):
    print(arr[i])
```

```
1
2
10
23
```

[6]:
```
arr = [2, 1, 10, 23]
n = len(arr)

# Set a flag to indicate if a swap has been made
swapped = True

# Continue looping while a swap has been made
while swapped:
    swapped = False  # Reset the flag at the start of each iteration
```

```
    i = 0  # Initialize the index for comparison

    # Loop through the array to compare and swap adjacent elements
    while i < n - 1:
        if arr[i] > arr[i + 1]:  # If the current element is greater than the next one
            # Swap them
            arr[i], arr[i + 1] = arr[i + 1], arr[i]
            swapped = True  # Set the flag to True if a swap is made
        i += 1  # Move to the next element

# Print the sorted array
print("Sorted array in ascending order:", arr)
```

```
Sorted array in ascending order: [1, 2, 10, 23]
```

[ ]:
```
max_element = float('-inf')
```

[ ]:
```

```