INSERTION SORT:

# Code:

Number = np.array([12,11,13,5,6])  
  
**for** i **in** range(1, len(Number)):  
   
 Key = Number[i]  
 j = i - 1  
   
 **while** j >=0 **and** Key < Number[j]:  
   
 Number[j + 1] = Number[j]  
 j -=1  
 Number[j +1] = Key  
   
**for** i **in** range(len(Number)):  
 print(Number[i],end=**" "**)

# Algorithms:

1. Initialize Array = [A1,A2,A3,…,An]
2. Set i= 1
3. Repeat step 3.1 to 3.5 until I less than equal to A length(n )
4. set key = Array[i]
5. j = i – 1
6. Repeat steps 3.3.1 and 3.3.2 j greater than equal to AND key is less than Array[j]

1. Set Array[j +1] = Array[j]

1. Decrement j

4.set Array[j +1] = key

5. Increment i

4.End

SELECTION SORT:

# Algorithms:

1. Initialize Array = [A1,A2,A3,…,An]
2. Set i = 0
3. Repeat steps 3.1 to 3.5 until I less than equal to Array length(n)

1.Set Min\_index = i

2. j = j+ 1

3. Repeat steps 3.3.1 and 3.3.2 j less than equal to Array[n]

1. IF Array[MIN\_index] is greater than Array[j] : Set Min\_index = j

2. Increment j

4.Set temp = Array[i]

Array[i] = Array[Min\_index]

Array[Min\_index] = temp

OR

Set A[i] , A[Min\_Index] = A[Min\_Index] , A[i]

5. Increment i

4.End

BuBBLE SORT:

# Algorithms:

1. Initialize Array = [A1,A2,A3,…,An]
2. Set i = 0
3. Repeat steps 3.1 to 3.5 until i less than 1 Array length

1. Set j = 0

2. Repeat steps 3.3.1 and 3.3.2 j less than (i -1) to Array[n]

1. IF Array[j] is greater than Array[j + 1]

2. Increment j

3.Set temp = Array[j]

Array[j] = Array[j + 1 ]

Array[j + 1] = temp

OR

Set A[j] , A[ j + 1] = A[j + 1] , A[ j]

4. Increment i

4.End