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# Assignment 01: Implement Stooge sort
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# Link: https://colab.research.google.com/drive/1DN3cJq61AATe1EyL2HfKzQyBZaNVelrc

# Following sort function implements Stooge sort
def sort(A, i, j):
  # Checks the first and last element of the array and if necessary swaps it
  if(A[i] > A[j]):
    A[i], A[j] = A[j], A[i]

  # If i crosses j then the algorithm stops since all the elements are sorted
  if(i+1 >= j):
    return

  # Find the index to divide the array in 2/3 arrays
  k = int((j-i+1)/3)

  # Recursive call to sort the array
  sort(A, i, j-k)
  sort(A, i+k, j)
  sort(A, i, j-k)


# Accept the user input
A = list(map(int, input("Enter multiple values with spaces: ").split()))

i = 0
j = len(A) - 1

print("\nOriginal array: ", A)
# Call the sort function
sort(A, i, j)
print("\nSorted array: ", A)
```

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Enter multiple values with spaces: 1 4 45 2 5 70 3 9 7 6 10

Original array:  [1, 4, 45, 2, 5, 70, 3, 9, 7, 6, 10]

Sorted array:  [1, 2, 3, 4, 5, 6, 7, 9, 10, 45, 70]
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