

1. Write a program to merge two arrays of integers by reading one number at a time from each array until one of the array is exhausted, and then concatenating the remaining numbers.

Input: [23,60,94,3,102] and [42,16,74]

Output: [23,42,60,16,94,74,3,102]

2. Write a program which takes an array of integers and prints the running average of 3 consecutive integers. In case the array has fewer than 3 integers, there should be no output.

Input: [5,14,35,89,140]

Output: [18, 46, 88]

(Explanation:  $18=(5+14+35)/3$ ,  $46=(14+35+89)/3$ , ...)

3. Write a program which generates the series 1,4,27,16,125,36

4. Given an array of integers, print whether the numbers are in ascending order or in descending order or in random order without sorting

Input: [5,14,35,90,139] Output: Ascending

Input: [88,67,35,14,-12] Output: Descending

Input: [65,14,129,34,7] Output: Random

5. Write a function which accepts a floating point number and counts the number of decimal places in the number without using a string.

Input: 45.286 Output: 3

Input: 3.14159 Output: 5

6. Print the third-largest number in an array without sorting it

Input: [ 24,54,31,16,82,45,67]

Output: 54 (82 and 67 are the largest and second-largest)