Day 16

Lab Assignments

1. WAP to design a user defined function to calculate the sum of the elements of an integer array.
   Input: Enter the size of the array: 5
   Enter the array elements: 33 21 45 23 49
   Output: Sum of the elements of the array = 171
2. WAP to sort the elements of an array in ascending order by using a suitable user defined function for sort operation. The program should use two functions one to sort the array and one to display the array.
   Input: Enter the size of the array: 5
   Enter the array elements: 33 21 45 23 49
   Output: Before sorting the elements of the array are: 33 21 45 23 49
   After sorting the elements of the array are: 21 23 33 45 49
3. Write a C program to determine the largest and smallest element of a 1-D array. Use functions findLargest and findSmallest for the given purpose.
   Input: Enter the size of the array: 5
   Enter the array elements: 33 21 45 23 40
   Output: Largest element of the given array: 45
   Smallest element of the given array: 21
4. WAP to reverse the elements of a single dimensional array using a function. Use function revArr to reverse the array elements.
   Input: Enter the size of the array: 5
   Enter the array elements: 33 21 45 23 40
   Output: Original array: 33 21 45 23 40
   Reverse of the array: 40 23 45 21 33
5. Write a C program to read two single dimensional arrays, multiply them element-wise and print the result. The program should use the following three functions:
   - readArr: read the elements of an array
   - dispArr: display the elements of an array
   - mulArr: receives three one dimensional arrays as arguments, multiply the first with the second and store it in the third array.

   Input: Enter the size of the arrays: 5
   Enter the elements of the first array: 3 2 1 4 5
   Enter the elements of the second array: 4 2 0 3 5
   Output: First array: 3 2 1 4 5
   Second array: 4 2 0 3 5
   Product of first and second array: 12 4 0 12 25
6. Write a C program to find the sum of only prime values present in a 1-D array using a function primeSum. The function primeSum should use another function isPrime to check a number is prime or not.
   Input: Enter the size of the array: 5
   Enter the array elements: 41 21 45 23 40
   Output: Sum of the prime numbers present in the given array: 64

Home Assignments

1. Write a C program to find the sum of only odd values in a 1-D array using a function oddSum.
   Input: Enter the size of the array: 5

Enter the array elements: 4 21 15 23 40

Output: Sum of the odd numbers present in the given array: 59

2. Write a C program to swap the largest and smallest element of a 1-D array using a function swap.

   Input: Enter the size of the array: 5
   Enter the array elements: 24 21 15 23 40

   Output: Original array: 24 21 15 23 40
   Array after swapping: 24 21 40 23 15

3. Write a C program to determine the second largest element of a 1-D array of using a function secondLargest.

   Input: Enter the size of the array: 5
   Enter the array elements: 21 24 15 23 40

   Output: Second largest element of the given array is 24

4. Write a C program to search a particular element in a given array using a function linearSearch. The function should return 1 or 0 depending on the element found or not.

   Input 1: Enter the size of the array: 5
   Enter the array elements: 21 24 15 23 40
   Enter the element to search: 23

   Output 1: Element found at position 4.

   Input 2: Enter the size of the array: 5
   Enter the array elements: 21 24 15 23 40
   Enter the element to search: 20

   Output 2: Search element not found in the array.

5. Write a program in C to move all zeroes to the end of a given array using a function moveZeros.

   Input: Enter the size of the array: 10
   Enter the array elements: 2 5 7 0 4 0 7 -5 8 0

   Output: Original array: 2 5 7 0 4 0 7 -5 8 0
   After moving zeros to the end the new array is: 2 5 7 8 4 -5 7 0 0 0

6. Write a C program to find the median of an array using a function findMedian.

   Input 1: Enter the size of the array: 5
   Enter the array elements: 21 24 15 23 40

   Output 1: Median of the array: 23

   Input 2: Enter the size of the array: 6
   Enter the array elements: 21 24 15 23 40 50

   Output 2: Median of the array: 23.5