

1. a) C Program to calculate of mean and standard deviation of numbers. Store the elements entered by the user in a 1-D array and perform the operation on that array. [10]

Formula for standard deviation:

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{N}}$$

- $\sigma$  = Standard Deviation
- $x_i$  = Terms Given in the Data
- $\bar{x}$  = Mean
- $N$  = Total number of Terms

b) C program to replace all EVEN numbers by 0 and Odd by 1 in One Dimensional Array. [10]

Input : 2,4,1,3,6,7

Output : 0,0,1,1,0,1

2. C Program to reverse array elements . [20]

[Hints : swap first element with last,second element with second last and so on ]

Input : 5,6,7,1,3,4,9

Output: 9,4,3,1,7,6,5

3) C program which continuously accept numbers from user and store it in a 1-D array. It stops when the user enters 999. It then finds [20]

a) Total number of elements

b) The maximum,minimum element from the input array

c) Number of even and odd numbers.

d) Number of prime numbers.

4) Program to Print Alphabet Pattern in C . Characters to be printed should be taken as an input from user and stored in a 1-D character array . [20]

Input : I N D I A

Output :

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I
I N
I N D
I N D I
I N D I A
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5. C program to merge Two One Dimensional Arrays elements. [20]

Input:

Array 1: 3,4,5,2,1

Array 2: 9,8,7,6,11

Output : 3,4,5,2,1,9,8,7,6,11