Array assignments

1. Program 1:

Write a program to create an array of 5 integer elements.
And print all 5 elements from an array (take hardcoded values in the array)

Output :
1
2
3
4
5

2. Program 2:

Write a program to create an array of 5 integer elements.
Insert from the user and print 5 elements from an array

Input:
1
2
3
4
5
Output :
1
2
3
4
5

3. Program 3:

Write a program to create an array of ‘n’ integer elements.
Where ‘n’ value should be taken from the user.
Insert the values from users and print accordingly

Input:
n=5
Enter elements in the array :
1
2
3
4
5
Output:
1
2
3
4
5

4. Program 4:

Write a program to create an array of ‘n’ integer elements.
Where ‘n’ value should be taken from the user.
Insert the values from users and print even numbers from the array.

Input:
n=5
Enter elements in the array:
1
2
3
4
5
Output:
2
4

5. Program 5:

Write a program to create an array of ‘n’ integer elements.
Where ‘n’ value should be taken from the user.
Insert the values from users and find the max number from the array

Input:
n=5
Enter elements in the array:
2
3
6
9
5

Output:
9

6. Program 6:

Write a program to create an array of ‘n’ integer elements.
Where ‘n’ value should be taken from the user.
Insert the values from users and find the min number from the array

Input:
n=6
Enter elements in the array:
2
3
6
9
5
1
Output:
1

7. Program 7:

Write a program to create an array of ‘n’ integer elements.
Where ‘n’ value should be taken from the user.
Insert the values from users and find the sum of all elements in the array.

Input:
n=6
Enter elements in the array:
2
3
6
9
5
1

Output:
26

8. Program 8:

Write a program to create an array of ‘n’ integer elements.
Where ‘n’ value should be taken from the user.
Insert the values from the user and find the frequency of digit

Input:
n=5
Enter elements in the array:
2
3
6
3
5
2

Output:
frequency of 2 is 2
frequency of 3 is 2
frequency of 6 is 1
frequency of 5 is 1

9. Program 9:

Write a program to create an array of ‘n’ integer elements.
Where ‘n’ value should be taken from the user.
Insert the values from the user and find the strong number from them

Input:
n=5
Enter elements in the array:
2
145
6
3
123
2
Output:
145

10. Program 10:

Write a program to sort the array in ascending order

Input:
Enter the length of the array
n=3
Enter elements in the array
6
8
3
Output:
3
6
8

Program 1:

WAP to take a character array as input, but only print characters do not print special characters

Input: a b $ % c & d 1 e
Output : a b c d e
Hint: you can take two arrays

Program 2:

WAP to find the common elements between two arrays.
Input :
Enter first array :
1
2
3
5
Enter Second array
2
1
9
8
Output:
1
2

Program 3:

WAP to find the number of even and odd integers in a given array of integers
Input:
1
2
5
4
6
7

8
Output:
Number of Even Elements : 4
Number of Odd Elements : 3

Program 4:

Write a Java program to find the sum of even and odd numbers in an array. Display the sum value. Example:-Array = {11, 12, 13, 14, 15}
Odd numbers sum = 39
Even numbers sum = 26

Program 5:

Write a Java program to merge two given arrays.

Array1 = [10, 20, 30, 40, 50]
Array2 = [9, 18, 27, 36, 45]

Output :

Merged Array = [10, 20, 30, 40, 50, 9, 18, 27, 36, 45]

Program 6:

WAP to remove a specific element from an array.
Input:
1
2
4
5
6
Enter element to remove : 4

Output:
1

2
5
6

Program 7:

WAP to take input from the user into an array and remove duplicate numbers.

Input: 1 2 2 3 3 3 4 4 5

Output: 1 2 3 4 5

Program 8 :

WAP to Take input from the user and find an Armstrong number in the array.

Input:
1
5
22
65
153
371
Output:
1
5
153

Program 9:

Take any number from the user and find a pair in an array which sums match to that number.
E.g int arr[6]={2,4,1,6,8,5}

input : 10

output : index 0 , index 4

Program 10:

WAP to Take a number as input, put that number into an array i.e one digit per array block, and print the number of trailing zeros in that array.

Input from user: 10900

Output: Number of trailing zeros: 2

2D Array

Program 1:

Write a program to create a 2x2 2d array of integer elements.
And print all elements from a 2d array (take hardcoded values in array)

Output :
1 2
3 4

Program 2:

Write a program to create a 2x2 2d array of integer elements.
Insert values from user And print all elements from a 2d array

Input:
1
2
3
4
Output :
1 2
3 4

Program 3:

Write a program to create a (row x column) 2d array of integer elements.

Take the number of rows and columns values from the user.
Insert the values from user and print accordingly

Input:
Enter number of Rows = 2
Enter number of Column = 2
Enter elements in the array :
1
2
3
4

Output:
1 2
3 4

Program 4:

Write a program to create a (row x column) 2d array of integer elements.
Take the number of rows and columns values from the user.
And print a 2d array of odd numbers starting from 1

Input:
Enter number of Rows = 2
Enter number of Column = 2
Output:
1 3
5 7

Input:
Enter number of Rows = 3
Enter number of Column = 2
Output:
1 3
5 7
9 11

Program 5:

Write a program to create a row x column 2d array of integer elements.
Take the number of rows and columns values from the user.
And print a 2d array of numbers which are multiples of 10.

Input:
Enter number of Rows = 2
Enter number of Column = 2
Output:
10 20
30 40

Input:
Enter number of Rows = 3
Enter number of Column = 2
Output:
10 20
30 40
50 60

Program 6:

Write a program to create a row x column 2d array of integer elements.
Take the number of rows and columns values from the user.
And print a 2d array of palindrome numbers (exclude single digit)

Input:
Enter number of Rows = 2
Enter number of Column = 2

Output:
11 22
33 44

Input:
Enter number of Rows = 3
Enter number of Column = 2
Output:
11 22
33 44
55 66

Program 7:

Write a program to create a 2d array of integer elements.
Take the number of rows and columns values from the user.
And print a 2d array of numbers whose first digit is N,
take the N value from the user.

Input:

Enter number of Rows = 2
Enter number of Column = 2
Enter value of N = 3

Output:
3 30
31 32

Input:
Enter number of Rows = 3
Enter number of Column = 2
Enter value of N = 4

Output:
4 41
42 43
44 45

Program 8:

Write a program to create a 2d array of integer elements.
Take the number of rows and columns values from the user.
And print a 2d array of numbers whose last digit ends with N,
take the N value from the user.

Input:
Enter number of Rows = 2
Enter number of Column = 2
Enter value of N = 3

Output:
3 13
23 33

Input:
Enter number of Rows = 3
Enter number of Column = 2
Enter value of N = 4

Output:
4 14
24 34
44 54

Program 9:

Print this pattern using an array.
Take row value from the user (note: you can use jagged array)

```
*
*       *
*       *       *
*       *       *       *
```

Program 10:

Write a program to print prime numbers in such a manner that,
If the prime number is a single digit it should be in the first row,
If the prime number is a double-digit below 50, should be in the second row,
If the prime number is a double-digit above 50, should be in the third row,
If the prime number is a three-digit below 120, should be in the fourth-row

Output:

```
2       3       5       7
11      13      17      19      23      31      41      43      47
53      59      61      67      71      73      79      83      89      97
101     103     107     109     113
```

Take the number of rows input by the user

1. **Program 1:**
   Write a program to find even numbers from the array

   Input : [1,2,3,4,6,8,10]
   Output: 2 4 6 8 10

2. **Program 2:**
   Write a program to find odd numbers from the array
   Input : [1,2,3,5,7,9,12]
   Output: 1 3 5 7 9

3. **Program 3:**

   Write a program to find the prime number from the given array
   Input : [1,3,2,7,9,10,12]
   Output: 2 3 7

4. **Program 4:**

   Write a program to sum alternate numbers from the given array
   Input : [1,2,3,4,5,6,7]
   Output : 16 /// 1 + 3 + 5 + 7

5. **Program 5:**

   Write a program to find the occurrence of a given number from the array
   Input : [1,2,3,4,4,5,6,7]
   Occurrence count of number = 4
   Output: 2

6. **Program 6:**

   Write a program to find min and max from the given array
   Input : [1,43,65,71,89,55]
   Output : min = 1
   max = 89

7. **Program 7:**

   Write a program to search a given element and prints its index
   Input : [1,2,43,5,66,87,9]
   Search = 43
   Output : index = 2

8. **Program 8:**

   Write a program to reverse an array
   Input : [1,2,3,4,5]

Output : [5,4,3,2,1]

9. **Program 9:**

   Write a program to find duplicates from the array
   Input : [1,1,3,4,5,6,6]
   Output: 1 6

10. **Program 10**

    Write a program to swap two consecutive numbers in the array
    Input : [1,2,3,4,5,6,7,8]
    Output:[2,1,4,3,6,5,8,7]

Take the number of rows input by the user

1. **Program 1:**

Write a program that takes a character array as input, but only print characters do not print special characters

Input: a b $ % c & d 1 e
Output: a b c d e

2. **Write a program to sort the array in ascending order**

   Input:
   Enter the length of the array
   n=3
   Enter elements in the array
   6
   8
   3
   2
   Output:
   2 3 6 8

3. **Program 3:**

WAP to find the number of even and odd integers in a given array of integers

Input:
1
2
5
4
6
7
8
Output:
Number of Even Elements : 4
Number of Odd Elements : 3

4. **Program 4:**
   Write a program to take a 1-D array from the user and calculate cube of elements at even indexes and square of elements at odd indexes and reflect those calculations into an array.

   Input: 1 2 3 4 5
   Output: 1 4 27 16 125

5. **Program 5:**

Write a program to merge two given arrays.
Input :
Array1 = [10, 20, 30, 40, 50]
Array2 = [9, 18, 27, 36, 45]

Output :
Merged Array = [10, 20, 30, 40, 50, 9, 18, 27, 36, 45]

6. **Program 6:**
   Write a program to create an array of ‘n’ integer elements. Where the ‘n’ value should be taken from the user.

Insert the values from users and
find the prime numbers from the array

Input:
n=5
Enter elements in the array:
2
3
6
9
5
7

7. **Program 7:**

Write a program to create an array of ‘n’ integer elements.
Where the ‘n’ value should be taken from the user.
Insert the values from the user and find the strong number from them

Input:
n=5
Enter elements in the array:
2
145
6
3
123
2
Output:
145

8. **Program 8:**

WAP to Take input from the user and find an Armstrong number in the array.

Input:

1
5
22
65
153
371
Output:
1
5
153

9. **Program 9:**
   Write a program to take two 1-D arrays from the user and calculate addition of elements at the same indexes from both arrays and store that sum in the third array and print all three arrays.

   Input:
   arr1: 1 2 3 4 5
   arr2: 5 4 3 2 1

   Output:
   arr1: 1 2 3 4 5
   arr2: 5 4 3 2 1
   arr3: 6 6 6 6 6

10. **Program 10**

Write a program to take two 1-D character arrays from the user and compare elements at the same indexes and print positive differences between them.

Input:
C O R E
T E C H

Output:
T – C = 17
O – E = 10
R - C =
E - H =

Take the number of rows input by the user

1. **WAP to convert a 1D array into a 2D array**

2. **WAP to convert a 2D array into a 1D array**

3. **WAP to take input from the user into an array and remove duplicate numbers.**
   Input: [1 2 2 3 3 3 4 4 5

   Output: 1 2 3 4 5

4. **Write a program to take a 2-D array of order 3 X 3 and check whether that matrix is an identity matrix or not.**
   Input:
   1 0 0
   0 1 0
   0 0 1

   Output: Entered matrices is identity one.

5.

Write a program to take a 2-D array of order 3 X 3 and swap 1st row with the 3rd row and print it as before and after the operation.

6.

WAP to find the third largest element from an array

Ip: [[1,2,4]
[5,3,9]
[8,6,11]]

Op: third largest element is 8

7.

Write a program to take a 2-D array of order 3 X 3 and Sort that array in ascending order and print it as before and after an operation.

8.

Write a program to create a 2d array of integer elements.
Take the number of rows and columns values from the user.
And print a 2d array of numbers whose first digit is N,
take the N value from the user.

Input:
Enter the number of Rows = 2
Enter the number of Column = 2
Enter the value of N = 3

Output:
3 30
31 32

9.

WAP to move all the 0's at end of the array

10.

WAP to convert all the zeros to ones and news to zeros in the given array

IP: [[1,0,1]
[0,1,1]

[1,0,0]]

Op: [[0,1,0]
[1,0,0]
[0,1,1]]

- Take necessary inputs from user!

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Program 1: Write a program that has an array of integers take size of array from user and elements too, print that array.

Input: Size of Array: 10

Random input from user

Output: Print Entered Array.

Program 2: Write a program that has an array of integers take size of array from user and elements too, print the Sum of elements in array.

Input: size of array = 9

1 2 3 4 5 6 7 8 9

Output: sum of array element = 45

Program 3: Write a program that has an array of integers take size of array from user and elements too, Calculate Sum of squares of all even elements in array and print it.

Input: Size of Array 10

1 2 3 4 5 6 7 8 9 10

Output: Sum of Squares of Even elements in array: 220

Program 4: Write a program that has an array of floats take size of array from user and elements too, Calculate Multiplication of all odd index based elements in array and print it.

Input: Size of Array 8

10.34 2.3 0.24 1.23 16.00 7.2 8.8 9.2

Output: Sum of Even elements in array: 65476.839

Program 5: Write a program that has an array of integers take size of array from user and elements too, Find Smallest Element & Largest element from array and print it.

Input: Size of Array 10

9 2 1 3 0 22 44 5 9 2

Output: Smallest element in array is 0 && Largest element in array is 44

Program 6: Write a program that has an array of integers take size of array from user and elements too, find occurrence of 1's (Ones as in digits) in array.

Input: Size of array: 9

121 3 45 21 61 11 12 22 4

Output: Occurrence of 1's in array: 7

Program 7: Write a program that has an array of Characters take size of array from user and elements too, Toggle case of all vowels in array and print it

Input: Size of array: 8

C o r e 2 W E b

Output: C O r E 2 W e b

{Note: Word toggle case says that UPPERCASE to lowercase and converse }

Program 8: Write a program that has an array of Characters take size of array from user and elements too, Print Occurrence of Vowels & Consonants in array.

Input: Size of array : 11

H e l l o W o r l d

Output:

Occurrence of vowels are : 3

Occurrence of consonants are : 7

Program 9: Write a program that has an array of integers take size of array from user and elements too, reverse the element in array.

Input: Size of array : 9

1 2 3 4 5 6 7 8 9

Output: Reversed Array: 9 8 7 6 5 4 3 2 1

Program 10: Write a program that has an array of character precision numbers take size of array from user and elements too, Sort each element in array in ascending order of alphabets and print it.

Input: Size of array: e

S o r t M e

Output : e m o r s t

Test Case : 0. all UPPERCASE letters must be converted into lowercase.

1. size of array should be checked for positive integer.

Program 11: Write a program that has an array of integers take size of array from user and elements too, Check whether each element in array is either palindrome number or strong number if fails to fit in these two then it should check that whether that number is odd or even. print the result accordingly.

{ Note : Separate Parametrized function should be used for executions && can also use return statements to validate function work }

Input : Size of Array : 7

121 145 2 153 12321 44 1

Output :

Element 121 is a Palindrome Number.

Element 145 is a Strong Number.

Element 2 is a Strong Number.

Element 153 is a Odd Number.

Element 12321 is a Palindrome Number.

Element 44 is a Even Number.

Element 1 is a Strong Number.

Test Cases : 0. Size of array should be positive odd number ranging between 1 to 10 only if not then program should ask to re-enter size.

1. If one function returns true for particular element then it should not go for next function to check for.