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QUESTION BANK
SUB: COMPUTER SCIENCE(083)

CHAPTER 7 ARRAYS
2 Marks Questions

1 Write a function in C++, which accepts an integer array and its size as parameters and rearrange the array in reverse. Example if an array of five members initially contains the elements as 6,7,8,13,9,19

Then the function should rearrange the array as 19,9,13,8,7,6

2 Write a function in C++, which accept an integer array and its size as arguments and swap the elements of every even location with its following odd location. Example : if an array of nine elements initially contains the elements as 2,4,1,6,5,7,9,23,10

Then the function should rearrange the array as 4,2,6,1,7,5,23,9,10

3 Write a function in C++ which accepts an integer array and its size as arguments and replaces elements having odd values with thrice and elements having even values with twice its value. Example : If an array of five elements initially contains the elements

3,4,5,16,9

Then the function should rearrange the content of the array as 9,8,15,32,27

4 Write a function in C++ which accepts an integer array and its size as arguments and replaces elements having even values with its half and elements having odd values with twice its value

5 Write a function in C++ which accepts an integer array and its size as argument and exchanges the value of first half side elements with the second half side elements of the array.

Example : If an array of eight elements has initial content as

2,4,1,6,7,9,23,10

The function should rearrange the array as 7,9,23,10,2,4,1,6.

X[0] X[1] X[2] X[3] X[4] X[5] X[6] X[7] X[8] 4

MARKS QUESTIONS

6 Write a function in c++ to find and display the sum of each row and each column of 2 dimensional array. Use the array and its size as parameters with int as the data type of the array.

7 Write function SORTPOINTS() in c++ to sort an array of structure Game in descending order of points using Bubble Sort. (Note: Assume the following definition of structure Game) struct Game

{ long PNo; // Player Number

char PName[20];

 long points;};

8 Write a c++ function to shift all the negative numbers to left and positive enumber in the right side.

9 Define a function SWPCOL() in C++ to swap (interchange) the first column elements with the last column elements, for a two dimensional array passed as the argument of the function. Example : if the two dimensional array contains

2 1 4 9
1 3 7 7
5 8 6 3
7 2 1 2
After swapping of the content of 1st and last column, it should be 9
1 4 2
7 3 7 1
3 8 6 5
2 2 1 7

10 Define a function SWPROW() in C++ to swap (interchange) the first row elements with the last row elements, for a two dimensional array passed as the argument of the function. Example : if the two dimensional array contains
2 1 4 9
1 3 7 7
5 8 6 3
7 2 1 2
After swapping of the content of the array will be
7 2 1 2
5 8 6 3
1 3 7 7
2 1 4 9

11 Write a function in C++ to print the product of each column of a 2D integer array passed as the argument of the function
Example : if the two dimensional array contains
2 1 4 9
1 3 7 7
5 8 6 3
7 2 1 2
Then the output should appears as
 Product of Column1 = 70
 Product Column2 = 48
 Product of column3= 168
 Product of Column4=378

12 Write a function in C++ to print the product of each row of a 2D integer array passed as the argument of the function
Example : if the two dimensional array contains
2 1 4 9
1 3 7 7
5 8 6 3
7 2 1 2
Then the output should appears as
 Product of Row1 = 72
 Product Row2 = 147
 Product of Row3= 720
 Product of Row4=28

13. Write a function which accept 2D array of integers and its size as arguments and displays the sum of elements which lie on diagonals.[Assuming the 2D array to be a square matrix with odd dimension ie 3 x 3 ,
4 x 4 etc]
Example of the array content is
5 4 3
6 7 8
1 2 9
Output through the function should be
Diagonal One Sum : 21
Diagonal Two: 11

14. Write a function in C++ which accepts a 2D array of integers and its size as arguments and displays the elements of middle row and the elements of middle column.
 [Assuming the 2D array to be a square matrix with odd dimension ie 3 x 3 ,5 x 5, 7 x 7 etc] Example of the array content is
5 4 3
6 7 8
1 2 9
Output through the function should be
Middle row: 6 7 9
Middle Column 4 7 2

15. Write a function in C++ which accepts an integer array and its size as arguments and assign the elements into a two dimensional array of integers in the following format
If the array is 1,2,3,4,5,6 if the array is 1,2,3
The resultant 2D array is The resultant 2D array is
1 2 3 4 5 6   1 2 3
1 2 3 4 5 0   1 2 0
1 2 3 4 0 0   1 0 0
1 2 3 0 0 0
1 2 0 0 0 0
1 0 0 0 0 0

16. Write a function in C++ which accepts an integer array and its size as arguments and assign the elements into a two dimensional array of integers in the following format
If the array is 1,2,3,4,5,6 if the array is 1,2,3
The resultant 2D array is The resultant 2D array is
1 2 3 4 5 6   1 2 3
0 1 2 3 4 5   0 1 2
0 0 1 2 3 4   0 0 1
0 0 0 1 2 3
0 0 0 0 1 2
0 0 0 0 0 1

17. Write a function in C++ which accepts an integer array and its size as arguments and assign the elements into a two dimensional array of integers in the following format

If the array is 1,2,3,4,5,6 if the array is 1,2,3
The resultant 2D array is The resultant 2D array is
1 0 0 0 0 0 1 0 0
1 2 0 0 0 0 1 2 0
1 2 3 0 0 0 1 2 3
1 2 3 4 0 0
1 2 3 4 5 0
1 2 3 4 5 6

18. Write a user defined function named upperhalf() which takes a 2D array A,with size n rows and n cols as arguments and print the upper half of the matrix. Example 1 2 3 1 2 3
6 7 8 7 8
2 3 4 4

19. Write a user defined function lowerhalf() which takes a 2D array, with size n rows and n cols as argument and prints the lower half of the matrix
Eg:- 1
2 3 1
5 6 7 5 6
9 1 2 9 1 2

20 Write the function to find the largest and second largest number from a two dimensional array. The function should accept the array and its size as argument.

21 Write a function in C++ to merge the contents of two sorted arrays A & B into third array C. Assuming array A is sorted in ascending order, B is sorted in descending order, the resultant array is required to be in ascending order.

22. An array A[5][5] is stored in memory . The address of A[2][4] when stored in Row major form is   1556 and when stored in Column major form is 1588. Find the address of A [1][2] in row major.

23. A two dimensional array P[20] [50] is stored in the memory along the row with each of its element occupying 4 bytes, find the address of the element P[10] [30], if the element P[5] [5] is stored at the memory location 15000.