Tender Heart High School

Class X Computer Application Date: 29.07.24

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* WAP to input integers in 4x3 matrix and display the following:
Sum of the numbers in each row.
Sum of the numbers in each column.

```
import java.util.*;
class mat
{
  public static void main(String args[])
  {
    Scanner sc= new Scanner (System.in);
    int a[][] = new int [4][3];
                        R  C
    int sum1 , sum2;
    int i, j;
    System.out.println(" Enter elements in 4X3 array);
    for (i=0; i<4; i++)
    {
      for (j=0; j<3; j++)
      {
        a[i][j] = sc.nextInt();
      }
    }
//Display the elements
    for(i=0; i<4; i++)
    {
      for (j=0; j<3; j++)
      {
        System.out.println(a[i][j]);
      }
      System.out.println();
    }
```

	C0	C1	C2
R0	1	2	3
R1	4	5	6
R2	7	8	9
R3	10	11	12

```
// Calculation of row-wise sum
for (i=0; i<4; i++)
{
    sum1 = 0; // so that everytime sum=0
    for (j=0; j<3; j++)
    {
        sum1 = sum1 + a[i][j];
    }
System.out.println("Sum of " + (i+1) +
                   "row is " + sum1);
}
// Calculation of column-wise sum
for (j=0; j<3; j++)
{
    sum2 = 0; // so that after every iteration sum=0
    for (i=0; i<4; i++)
    {
        sum2 = sum2 + a[i][j];
    }
System.out.println("Sum of" + (j+1) + "column
                   is" + sum2);
}
```

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WAP to enter 4x4 2d array. calculate
a. Sum of all elements
b. Sum of all numbers in left diagonal
c. Sum of all numbers in right diagonal

```
import java.util.*;
class dia
{
  public static void main(String args[])
  {
   Scanner sc = new Scanner(System.in);
   int a[][]= new int[4][4];
   int sum=0, left=0, right=0, i,j;
   System.out.println("Enter elements");
   for(i=0; i<4; i++)
   {
     for(j=0; j<4; j++)
     {
       a[i][j] = sc.nextInt();
       sum = sum + a[i][j];
     }
   }
// sum of left diagonal & right diagonal
    for(i=0; i<4 ; i++)
    {
       for(j=0; j<4; j++)
       {
          if(i==j)
          left= left+ a[i][j];
          if(i+j==3)
            right = right + a[i][j];
    } }
```

```
// Output
System.out.println("Sum of
                    all element" +sum);
System.out.println("Sum of left
                    diagonal" + left);
System.out.println("Sum of right
                    diagonal" + right);
    }
}
```

WAP to store the numbers in a 4x3 matrix in a DDA. Find the transpose of the matrix and display the entered matrix and transpose.

```
import java.util.*;
class tra
{
  public static void main (String args[])
  {
   Scanner sc = new Scanner (System.in);
   int i,j ;
   int m[][] = new int [4] [3];
   int n[][] = new int [3] [4];
System.out.println("Enter num:");
 for(i=0; i<4; i++)
  {
    for(j=0; j<3; j++)
    {
      m[i][j] = sc.nextInt();
    }
  }
//Transpose
  for (i=0; i<3; i++)
   {
    for (j=0; j<4; j++)
    {
     n[i][j] = m[j][i];
    }
  }
```

```
// Display entered matrix
    for (i=0; i<4; i++)
    {
      for (j=0; j<3; j++)
      {
       System.out.print(m[i][j]+" ");
      }
System.out.println();
}
// Display transpose
    for (i=0; i<3; i++)
    {
      for (j=0; j<4; j++)
      {
        System.out.print(n[i][j]+" ")
      }
       System.out.println();
    }
```

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WAP to create a DDA as char ch[][]= new char[3][3] The program stores nine different letters in the DDA. Display the letters which are vowels.

```
import java.util.*;
class chvow
{
  public static void main(String args[])
  {
    Scanner sc = new Scanner(System.in);
    char ch[][] = new char[3][3];
System.out.println("Enter nine characters");
 for(int i=0; i<3; i++)
   {
     for(int j=0; j<3; j++)
      {
        ch[i][j]= sc.next().charAt(0);
      }
   }
// display characters in matrix
  for(int i=0; i<3; i++)
  {
    for(int j=0; j<3; j++)
    {
      System.out.println(ch[i][j]);
    }
System.out.println();
```

```
// Display vowels
for (int i = 0; i<3; i++)
  {
    for (int j=0; j<3; j++)
    {
      if (a[i][j] == 'a' || a[i][j] == 'e' ||
a[i][j] == 'i' || a[i][j] == 'o' || a[i][j] == 'u' ;
System.print.out (a[i][j]) + ',');
    }
}
```