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**Aim:**

**JAVA PROGRAM TO DISPLAY THE TRANSPOSE OF A MATRIX**

**CODE:**

```
import java.util.*;

public class Main
{
    public static void main(String []args)
    {
        ///Take input from the user
        Scanner sc=new Scanner(System.in);

        int m,n;          //Matrix Size Declaration

        System.out.println("Enter the number of rows: \n");
        m=sc.nextInt(); //Matrix Size Initialization
```

```
System.out.println("Enter the number of column: \n");
n=sc.nextInt(); //Matrix Size Initialization
```

```
int arr[][]=new int[10][10];    //Matrix Size Declaration
```

```
System.out.println("Enter the elements of the matrix: ");
```

```
for(int i=0;i<m;i++) //Matrix Initialization
```

```
{
```

```
    for(int j=0;j<n;j++)
```

```
    {
```

```
        arr[i][j]=sc.nextInt();
```

```
    }
```

```
}
```

```
//Print the original Matrix
```

```
System.out.println("The elements in the original matrix are: ");
```

```
for(int i=0;i<m;i++) //Print the matrix
```

```
{
```

```
    for(int j=0;j<n;j++)
```

```
    {
```

```
        System.out.print(arr[i][j]+" ");
```

```
    }
```

```
System.out.println("");
```

```

    }

    int brr[][]=new int[10][10];    //Transpose Matrix Declaration
    for(int i=0;i<m;i++)    //Transpose Matrix initialization
    {
        for(int j=0;j<n;j++)
        {
            brr[j][i]=arr[i][j];    //Store elements in the transpose matrix
        }
    }

    System.out.println("After transposing the elements are...");
    for(int i=0;i<m;i++)    //Print the transpose matrix
    {
        for(int j=0;j<n;j++)
        {
            System.out.print(brr[i][j]+" ");
        }
        System.out.println("");
    }

}

}

```

# OUTPUT:

```
Command Prompt
C:\Users\Student\Desktop>java Main
Enter the number of rows:
3
Enter the number of column:
3
Enter the elements of the matrix:
5 3 2 1 7 8 9 0 3
The elements in the original matrix are:
5 3 2
1 7 8
9 0 3
After transposing the elements are...
5 1 9
3 7 0
2 8 3
C:\Users\Student\Desktop>
```