**/\* GOPIKRISHNA V**

**S3 CSE A**

**52**

**C Program to find the transpose of a sparse matrix**

**\*/**

**#include<stdio.h>**

**void main()**

**{**

**int a[100][100],b[100][3],i,j,k=1,m,n;**

**printf("Enter the rows and columns of the matrix\n");**

**scanf("%d%d",&n,&m);**

**printf("Enter the elements of the matrix\n");**

**for(i=0;i<n;i++)**

**for(j=0;j<m;j++)**

**scanf("%d",&a[i][j]);**

**printf("Inputted Sparse Matrix\n");**

**for(i=0;i<n;i++)**

**{**

**for(j=0;j<m;j++)**

**{ printf("%d ",a[i][j]);}**

**printf("\n");**

**}**

**printf("\n");**

**for(i=0;i<n;i++)**

**{**

**for(j=0;j<m;j++)**

**{**

**if(a[i][j]!=0)**

**{**

**b[k][0]=i;**

**b[k][1]=j;**

**b[k][2]=a[i][j];**

**k++;**

**}**

**}**

**}**

**b[0][2]=k-1;**

**b[0][0]=n;**

**b[0][1]=m;**

**printf(" Tuple Form\n");**

**printf("Row Column Element\n");**

**for(i=0;i<k;i++)**

**{**

**for(j=0;j<3;j++)**

**{**

**printf("%d \t",b[i][j]);**

**}**

**printf("\n");**

**}**

**printf("Transpose of Sparse Matrix\n");**

**printf(" Tuple Form\n");**

**printf("Row Column Element\n");**

**printf("%d\t%d\t%d\n",b[0][1]=m,b[0][0]=n,b[0][2]=k-1);**

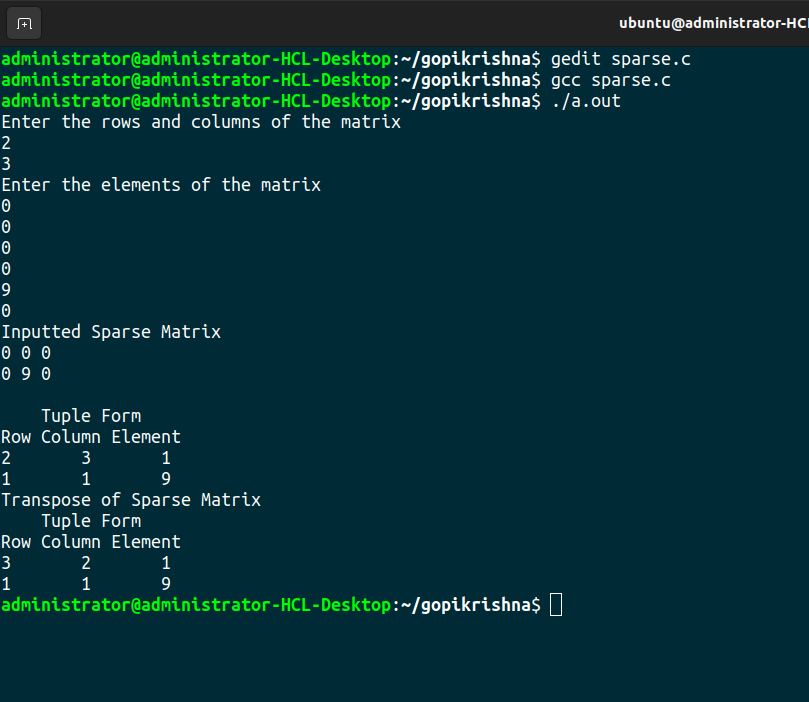
**for(i=1;i<k;i++)**

**{**

**printf("%d\t%d\t%d\n",b[i][1],b[i][0],b[i][2]);**

**}**

**}**

****