```c
#include <stdio.h>

void displayMatrix(int r, int c,int arr[r][c]){
 for(int i =0; i < r; i++)
 {
  if(i == 0){
   for(int j = 0; j < c; j ++){
    printf("___");
   }
   printf("_\n");
  }
  for(int j = 0; j < c; j++){
   if(j == 0){
    printf("|");
   }
   if(arr[i][j] < 0 || arr[i][j] >= 10){
    printf("%d",arr[i][j]);
   }
   else{
    printf(" %d",arr[i][j]);
   }
   printf("|");
  }
   printf("\n");
  for(int j = 0; j < c; j ++){
   printf("___");
  }
  printf("_\n");
 }
}

void transpose(int r, int c, int mat1[r][c], int mat2[c][r]){
 for(int i = 0; i < c; i++){
  for(int j = 0; j < r; j++){
   mat2[i][j] = mat1[j][i];
  }
 }

}

int main(){
 //first we will input a matrix by the user !
 int r,c;
 printf("Enter number of rows : ");
 scanf("%d",&r);
 printf("Enter number of columns: ");
 scanf("%d",&c);

 int mat[r][c];
 int transposeMat[c][r];

 for(int i = 0; i < r; i++){
  for(int j = 0; j < c; j++){
   printf("Enter element {%d:%d} > ",i,j);
   int ele;
   scanf("%d",&ele);
   mat[i][j] = ele;
  }
 }

 displayMatrix(r,c,mat);
 transpose(r,c,mat,transposeMat);
 displayMatrix(c,r,transposeMat);



 return 0;
```

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68 }
```