```c
#include<stdio.h>
int main()
{
    int a[10][10],transpose[10][10],r,c,i,j;
    printf("Enter rows and columns:");
    scanf("%d%d",&r,&c);
    printf("\nEnter matrix elements:\n");
    for(i=0;i<r;++i)
     for(j=0;j<c;++j)
        {
            printf("Enter element a%d%d:",i+1,j+1);
            scanf("%d",&a[i][j]);
        }
        printf("\nEntered matrix:\n");
        for(i=0;i<r;++i)
            for(j=0;j<c;++j)
            {
                printf("%d",a[i][j]);
                if(j==c-1)
                printf("\n");
            }
            for(i=0;i<r;++i)
                for(j=0;j<c;++j)
                {
                    transpose[j][i]=a[i][j];
                }
                printf("\n Transpose of the matrix:
\n");
                for(i=0;i<c;++i)
                    for(j=0;j<r;++j)
                    {
                        printf("%d",transpose[i][j]);
                        if(j==r-1)
                        printf("\n");
                    }
                    return 0;
}
```

TAB   {   }   (   )   "   &   RUN

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INPUT

If your program needs any run time inputs, please add it here. Use new lines for more than one input.

2 3
1
4
0
-5
2
7

✓ Show Always   ✓ Save Input

CANCEL   RUN

B   {   }   (   )   "   &   RUN

```
Enter rows and columns:
Enter matrix elements:
Enter element a11:Enter element
a12:Enter element a13:Enter element
a21:Enter element a22:Enter element
a23:
Entered matrix:
140
-527

 Transpose of the matrix:
1-5
42
07
```

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write a C program to implement transpose of a matrix

—Algorithum :—

Step 1 :- Start

Step 2 :- Input r,c

Step 3 :- for (i=0; i<r ;++i)

Step 4 :- for (j=0; j<c;++j)

Step 5 :- for Enter matrix a[i][j]

Step 6 :- for (i=0; i<r ;++i)

Step 7 :- for (j=0; j<c; ++j)

Step 8 :- if (j==c-1)

Step 9 :- for (i=0; i<r ;++i)

Step 10 :- for (j=0; j<c ;++j)

Step 11 :- Transpose [j][i]= a[i][j];

Step 12 :- output transpose of matrix

Step 13 :— if (j==r-1)

Step 14 :- output matrix

Step 15 :- Stop.

Flowchart

```
                    Start
                      |
              Input  r, c
                      |
   ┌──< for (i=0; i=r; ++i) >────────┐
   │                                  │
   └──< for (j=0; j<c; ++j) >─────────┘ T
                      |
              Entered  matrix
                 a[i][j]
                      |
            for (i=0; i<r; ++i)
                      |
            for (j=0; j<c; ++j)
                      |
                     if
                   (j==c-1) ──────────┐
                      |               │ F
                    T │               │
              print " \n "            │
                      |←──────────────┘
                      |
            for (i=0; i<r; ++i)
                      |
            for (j=0; j<c; ++j)
                      |
          transfer [j][i] = a[i][j]
                      |
                     if          F
                   (j==r-1) ──────────┐
                      |               │
              Print " \n "            │
                      |               │
         output " transfer of        │
            the matrix               │
                      |←──────────────┘
                    Stop
```