1. C program to print Pascal's triangle.

```
#include<stdio.h>
int main()
{
int arr[7][7]={0};
int row=2,col,i, j;
arr[0][0]=arr[1][0]=arr[1][1]=1;
while(row<7)
{
    arr[row][0]=1;
    for(col=1;col<=row;col++)
       arr[row][col]=arr[row-1][col-1] + arr[row-1][col];
    row++;
}
for(i=0;i<7;i++)
{
    printf("\n");
    for(j=0;j<=i;j++)
        printf("\t %d",arr[i][j]);
}
return 0;
}
```

```
1
1       1
1       2       1
1       3       3       1
1       4       6       4       1
1       5       10      10      5       1
1       6       15      20      15      6       1
```

2. Develop a program to print the transpose of a matrix.

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

```
    printf("%d  ", a[i][j]);
    if (j == c - 1)
    printf("\n");
  }
  for (int i = 0; i < r; ++i)
  for (int j = 0; j < c; ++j)
  {
    transpose[j][i] = a[i][j];
  }
  printf("\nTranspose of the matrix:\n");
  for (int i = 0; i < c; ++i)
  for (int j = 0; j < r; ++j)
  {
    printf("%d  ", transpose[i][j]);
    if (j == r - 1)
    printf("\n");
  }
  return 0;
}
```

```
Enter rows and columns: 2
3

Enter matrix elements:
Enter element a11: 1
Enter element a12: 4
Enter element a13: 0
Enter element a21: -5
Enter element a22: 2
Enter element a23: 7

Entered matrix:
1   4   0
-5   2   7

Transpose of the matrix:
1   -5
4   2
0   7
```