20BCS042 MOHD ADIL

PROGRAM:

```
#include <stdio.h>
#include <stdlib.h>


int r, c;
void display(int Matrix[r][c])
{
   for (int i = 0; i < r; i++)
   {
      for (int j = 0; j < c; j++)
      {
         if (Matrix[i][j] < 10)
         {
            printf(" %d ", Matrix[i][j]);
         }
         else
         {
            printf("%d ", Matrix[i][j]);
         }
      }
      printf("\n");
   }
}
void helical(int Matrix[r][c])
{
   int k = 0, l = 0;
   int last_row = r - 1, last_col = c - 1;
   printf("Result: ");
```

```
while (k <= last_row && l <= last_col)
{
   for (int i = l; i <= last_col; i++)
   {
      printf("%d ", Matrix[k][i]);
   }
   k++;
   for (int i = k; i <= last_row; i++)
   {
      printf("%d ", Matrix[i][last_col]);
   }
   last_col--;
   if (k <= last_row)
   {
      for (int i = last_col; i >= l; i--)
      {
         printf("%d ", Matrix[last_row][i]);
      }
      last_row--;
   }
   if (l <= last_col)
   {
      for (int i = last_row; i >= k; i--)
      {
         printf("%d ", Matrix[i][l]);
      }
      l++;
   }
}
```

```
}
int main()
{

    printf("Enter Rows: ");
    scanf("%d", &r);
    printf("Enter Columns: ");
    scanf("%d", &c);
    int Matrix[r][c];
    for (int i = 0; i < r; i++)
    {
        printf("Input element's of %d row: ", i + 1);
        for (int j = 0; j < c; j++)
        {
            scanf("%d", &Matrix[i][j]);
        }
    }
    display(Matrix);
    helical(Matrix);

    return 0;
}
```

OUTPUT

```
PS C:\Users\aadil\Desktop\CSE\clab> cd "c:\Users\aadil\Desktop\CSE\clab\" ; if ($?) { gcc program5.c -o program5 }
Enter Rows: 5
Enter Columns: 5
Input element's of 1 row: 1 2 3 4 5
Input element's of 2 row: 6 7 8 9 10
Input element's of 3 row: 11 12 13 14 15
Input element's of 4 row: 16 17 18 19 20
Input element's of 5 row: 21 22 23 24 25
 1  2  3  4  5
 6  7  8  9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
Result: 1 2 3 4 5 10 15 20 25 24 23 22 21 16 11 6 7 8 9 14 19 18 17 12 13
PS C:\Users\aadil\Desktop\CSE\clab>
```