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A magic square is an n \* n matrix of the integers 1 to n2 such that the sum of each row, column, and diagonal is the same.

The figure given below is an example of magic square for case n=5. In this example, the common sum is 65.

Write C/C++ Program for magic square.

15 8 1 24 17

16 14 7 5 23

22 20 13 6 4

3 21 19 12 10

9 2 25 18 11

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#include<stdio.h>

#include<conio.h>

#include<process.h>

#include<stdlib.h>

#define MAX 50

void Magic(int n,int s[][MAX])

{

int nc,nr,i,j;

//int sr[MAX][MAX];

int Row,Col;

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

for(j=0;j<n;j++)

s[i][j]=0;

nr=0; //Top of most row to start with

nc=(int)(n/2); //computes middle of top row

s[nr][nc]=1;

for(i=2;i<=n\*n;i++)

{

Row=nr;

Col=nc;

nr--;

if(nr<0)

nr=n-1;

nc--;

if(nc<0)

nc=n-1;

if(s[nr][nc]!=0)

{

nr=++Row;

nc=Col;

}

s[nr][nc]=i;

}

}

void display(int n,int s[][MAX])

{

int i,j;

printf("Now printing the magic square of n %d\n",n);

printf("\n\n");

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

{

for(j=0;j<n;j++)

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

printf("\n\n");

}

}

int main()

{

int n,sq[MAX][MAX];

printf("Enter the order of the matrix::");

scanf("%d",&n);

if(n>MAX)

{

printf("Error:Size of the sqaure exceeded\n");

printf("Press any key to abort");

getch();

exit(1);

}

if(n%2==0)

{

printf("Error,Number of row/cols should be odd\n");

printf("Press any key to terminate");

getch();

exit(1);

}

Magic(n,sq);

display(n,sq);

printf("Press any key to terminate\n");

return 0;

}

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OUTPUT :

Enter the order of the matrix::5

Now printing the magic square of n 5

15 8 1 24 17

16 14 7 5 23

22 20 13 6 4

3 21 19 12 10

9 2 25 18 11

Press any key to terminate

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