**Program No.:-16**

**Aim: write a program for implementation of n-queens problem.**

**Source Code:**

#include<stdio.h>

#include<conio.h>

int x[100];

int place(int k,int i)

{

for(int j=1;j<=k-1;j++)

{

if ((x[j]==i) || (x[j]-i)==(j-k) || (x[j]-i)==(-(j-k)))

{

return 0;

}

}

return 1;

}

void n\_queen(int k,int n)

{

for(int i=1;i<=n;i++)

{

if(place(k,i))

{

x[k]=i;

if(k==n)

{

for(int j=1;j<=n;j++)

{

printf("%d",x[j]);

printf("\t");

}

printf("\n");

}

else

{

n\_queen(k+1,n);

}

}

}

}

void main()

{

clrscr();

int n;

printf("enter the number of queens");

scanf("%d",&n);

printf("the solution to %d queens problem :\n",n);

n\_queen(1,n);

getch();

}

**Output:**

