WEEK 10

Implementation of N Queen problem

Code:

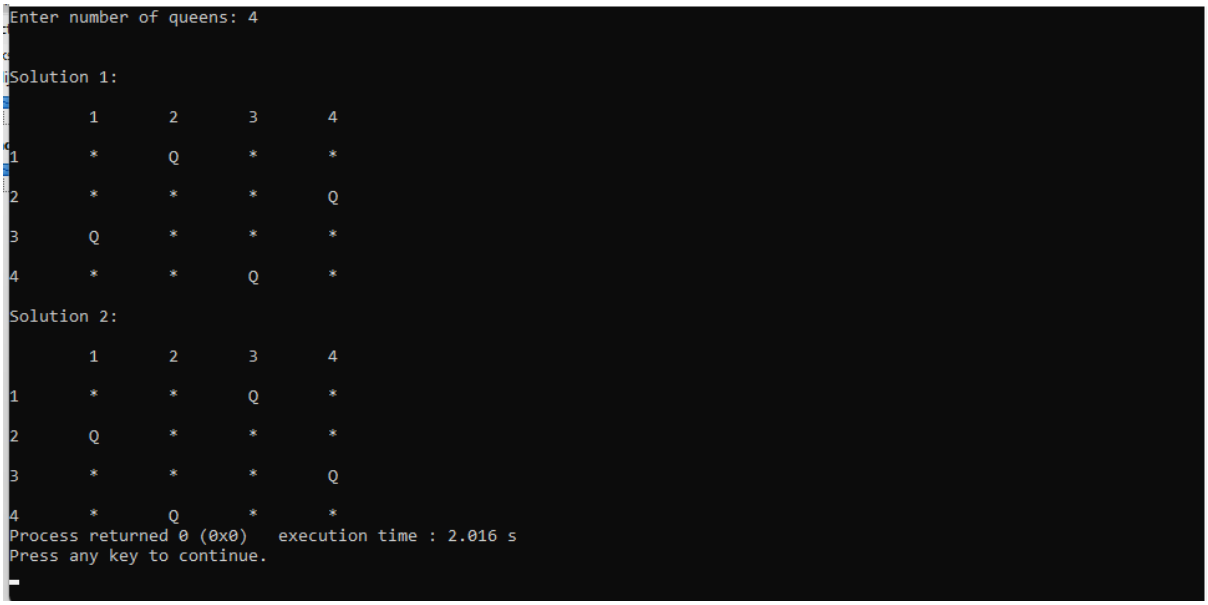
```
#include<stdio.h>
#include<math.h>
int board[20],count;
int main()
{
int n,i,j;
void queen(int row,int n);
printf("Enter number of queens:");
scanf("%d",&n);
queen(1,n);
return 0;
}
void print(int n)
{
int i,j;
printf("\n\nSolution %d:\n\n",++count);

for(i=1;i<=n;++i)
  printf("\t%d",i);
```

```
for(i=1;i<=n;++i)
{
  printf("\n\n%d",i);
  for(j=1;j<=n;++j)
  {
   if(board[i]==j)
    printf("\tQ");
   else
    printf("\t*");
  }
}
}
int place(int row,int column)
{
int i;
for(i=1;i<=row-1;++i)
{
  if(board[i]==column)
   return 0;
  else
   if(abs(board[i]-column)==abs(i-row))
    return 0;
}
```

```
return 1;
}
void queen(int row,int n)
{
int column;
for(column=1;column<=n;++column)
{
  if(place(row,column))
  {
   board[row]=column;
   if(row==n)
    print(n);
   else
    queen(row+1,n);
  }
}
}
```

Output :


Enter number of queens: 4
Solution 1:
1 2 3 4
1 * Q * *
2 * * * Q
3 Q * * *
4 * * Q *
Solution 2:
1 2 3 4
1 * * Q *
2 Q * * *
3 * * * Q
4 * Q * *
Process returned 0 (0x0) execution time : 2.016 s
Press any key to continue.