Program and Output

Program :

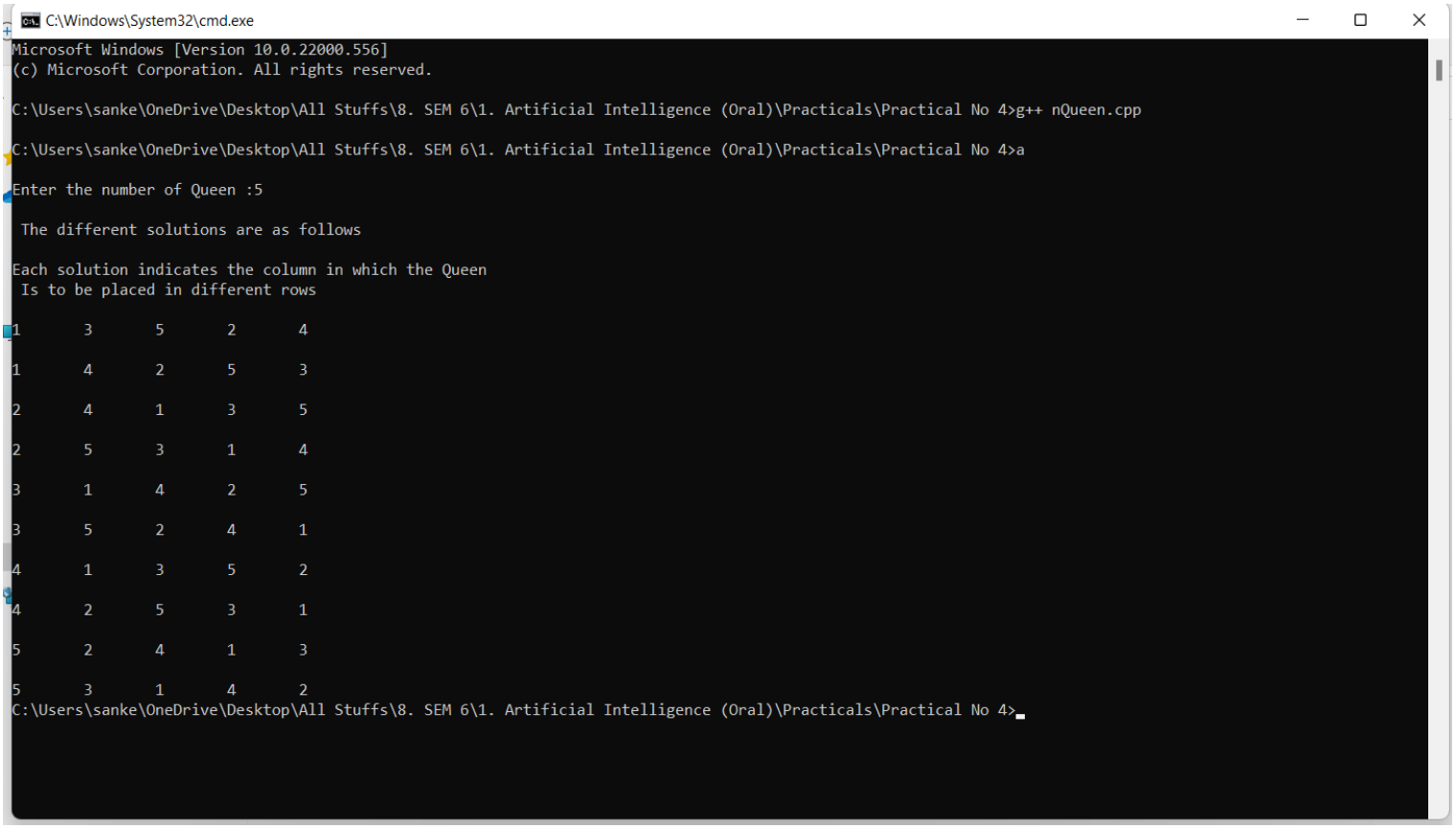
```
#include<iostream>
#include<cmath>
using namespace std;
#define MAX 10
class nqueen
{
        public: void placequeen(int);
                        int place(int[MAX],int);

};
int nqueen :: place(int x[MAX],int k)
{
        int i;
        for(i=1;i<k;i++)
                if(x[i]==x[k] || abs(x[i]-x[k])==abs(i-k)) return 0;
        return 1;
}
void nqueen :: placequeen(int n)
{
        int k,count,x[MAX],i;
        k=1; count=0;x[k]=0;
        cout<< "\n The different solutions are as follows";
        cout<< "\n\nEach solution indicates the column in which the Queen";
        cout<< "\n Is to be placed in different rows";
        while(k!=0)
        {
                x[k]=x[k]+1;
                while((x[k]<=n) && (!place(x,k)))
                x[k]=x[k]+1;
                if(x[k]<=n)
                {
                        if(k==n)
                        {
                                count=count+1;
                                cout<<endl<<endl;
```

```
                        for(i=1;i<=n;i++)
                                cout<<x[i]<<"\t";//getch

                }
                else
                {
                        k++;
                        x[k]=0;
                }
        }
        else
        k--;
    }
}
int main()
{
    int n;
    nqueen nq;
    cout<<"\nEnter the number of Queen :"; cin>>n;
    nq.placequeen(n);return 0;
}
```

Output :


C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.556]
(c) Microsoft Corporation. All rights reserved.
C:\Users\sanke\OneDrive\Desktop\All Stuffs\8. SEM 6\1. Artificial Intelligence (Oral)\Practicals\Practical No 4>g++ nQueen.cpp
C:\Users\sanke\OneDrive\Desktop\All Stuffs\8. SEM 6\1. Artificial Intelligence (Oral)\Practicals\Practical No 4>a
Enter the number of Queen :5
The different solutions are as follows
Each solution indicates the column in which the Queen
Is to be placed in different rows
1 3 5 2 4
1 4 2 5 3
2 4 1 3 5
2 5 3 1 4
3 1 4 2 5
3 5 2 4 1
4 1 3 5 2
4 2 5 3 1
5 2 4 1 3
5 3 1 4 2
C:\Users\sanke\OneDrive\Desktop\All Stuffs\8. SEM 6\1. Artificial Intelligence (Oral)\Practicals\Practical No 4>