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1204 //n-queen
1205 #include<stdio.h>
1206 #include<stdlib.h>
1207 #include<math.h>
1208 int a[50],count=0;
1209 int place(int pos) {
1210     int i;
1211     for (i=1;i<pos;i++) {
1212         if ((a[i]==a[pos]) || ((abs(a[i]-a[pos])==abs(i-pos))))
1213             return 0;
1214     }
1215     return 1;
1216 }
1217 void print_sol(int n) {
1218     int i,j;
1219     count++;
1220     printf("\n\nSolution %d :\n",count);
1221     for (i=1;i<=n;i++) {
1222         for (j=1;j<=n;j++) {
1223             if(a[i]==j)
1224                 printf("Q\t");
1225             else
1226                 printf("-\t");
1227         }
1228         printf("\n");
1229     }
1230 }
1231 void queen(int n) {
1232     int k=1;
1233     a[k]=0;
1234     while(k!=0) {

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1234 while (k!=0) {
1235     a[k]=a[k]+1;
1236     while ((a[k]<=n) &&!place(k))
1237         a[k]++;
1238     if (a[k]<=n) {
1239         if (k==n)
1240             print_sol(n);
1241         else{
1242             k++;
1243             a[k]=0;
1244         }
1245     }
1246     else
1247         k--;
1248 }
1249 }
1250 int main() {
1251     int n;
1252     printf("Enter the number of Queens :- ");
1253     scanf("%d",&n);
1254     queen(n);
1255     printf("\nTotal solutions=%d",count);
1256     return 0;
1257 }
1258
1259

```

Enter the number of Queens :- 4

Solution 1 :

-	Q	-	-
-	-	-	Q
Q	-	-	-
-	-	Q	-

Solution 2 :

-	-	Q	-
Q	-	-	-
-	-	-	Q
-	Q	-	-

Total solutions=2

Process returned 0 (0x0) execution time : 1.903 s

Press any key to continue.