

## Code:

```
import random
from array import array

board =
[[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0]
,[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0]]
neighbour =
[[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0]
,[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0],[0,0,0,0,0,0,0,0]]
queens = [0,0,0,0,0,0,0,0]

def collision_count(column,row):
    coll = 0

    for j in range(8):
        if j == row:
            continue
        if board[column][j] == 1 :
            coll += 1

    while(column < 7 and row < 7):
        row += 1
        column +=1
        if board[column][row] == 1:
            coll += 1

    while(column > 0 and row > 0):
        row -= 1
        column -=1
        if board[column][row] == 1:
            coll += 1

    while(column > 0 and row < 7):
        row += 1
        column -=1
        if board[column][row] == 1:
            coll += 1
```

```
while(column < 7 and row > 0):  
    row -= 1  
    column +=1  
    if board[column][row] == 1:  
        coll += 1
```

```
return coll
```

```
def totalcoll():  
    totcoll = 0  
    for i in range(8):  
        totcoll += collision_count(i,queens[i])  
    return totcoll
```

```
while True:
```

```
    for i in range(8):  
        queens[i] = random.randrange(0,8)  
        board[i][queens[i]] = 1
```

```
totalcollision = totalcoll()
```

```
while True:
```

```
    for i in range(8):  
        oldqueen = queens[i]  
        for j in range(8):
```

```
            queens[i] = j
```

```
            neighbour[i][j] = totalcoll()
```

```
    queens[i] = oldqueen
```

```
min = neighbour[0][0]
```

```
minqueencol = 0
```

```
minqueenrow = 0
```

```
for i in range(8):
```

```
    for j in range(8):
```

```
        if(neighbour[i][j]<min):
```

```
            min = neighbour[i][j]
```

```

        minqueenrow = j
        minqueencol = i

    if min<totalcollision:
        totalcollision = min
        queens[minqueencol] = minqueenrow
    else:
        break

if totalcollision == 0:
    break

print("a")

for i in range(8):
    for j in range(8):
        print(board[i][j])

Output:

...    array([[0, 0, 0, 0, 0, 1, 0, 0],
              [0, 0, 1, 0, 0, 0, 0, 0],
              [1, 0, 0, 0, 0, 0, 0, 0],
              [1, 0, 0, 0, 0, 0, 0, 0],
              [0, 0, 0, 1, 0, 0, 0, 0],
              [0, 0, 0, 0, 0, 0, 1, 0],
              [1, 0, 0, 0, 0, 0, 0, 0],
              [1, 0, 0, 0, 0, 0, 0, 0]])

```