n = int(input("Enter no. of Telephone Numbers : "))

HT = [0] \* n

print("\n\*\*\* Initial Hashtable \*\*\*")

print(HT)

print("Insert keys using linear probing")

for i in range(len(HT)) :

key = int(input("Enter a telephone number : "))

ind = key % n

if HT[ind]==0:

HT[ind] = key

else :

ind = (key+1)%n

if HT[ind] == 0 :

HT[ind] = key

break

print("\n\*\*\*\*\* Hash Table after insertion \*\*\*\*\*")

print(HT)

print("Insert keys using collision resolution")

for i in range(len(HT)):

key= int(input("Enter a telephone number : "))

ind= key % len(HT)

if HT[ind] == 0 :

HT[ind] = key;

else:

occ\_key = HT[ind]

occ\_ind = occ\_key % len(HT)

if occ\_ind != ind :

HT[ind]=key

else :

for j in range(len(HT)):

ind = (key + 1) % len(HT)

if HT[ind] == 0 :

HT[ind]=key

break

print("\*\*\*\*\* Hash Table after collision resolution \*\*\*\*\*")

print(HT)

print("Insert keys using Quadratic probing")

for i in range(len(HT)) :

key = int(input("Enter a telephone number : "))

ind = key % n

if HT[ind]==0:

HT[ind] = key

else :

for j in range(len(HT)):

indn = (key+ j\*j)%n

if HT[indn] == 0 :

HT[indn] = key

print("\*\*\*\*\* Hash Table after Quadratic probing \*\*\*\*\*")

print(HT)