Write a function to check whether a number falls in a given range

```
def test_range(n, min, max):
    if n in range(min,max):
        print( " %s is in the range"%str(n))
    else :
        print("The number is outside the given range.")
test_range(15,3,9)
```

```
## Write a program that asks the user to enter
## how many cards they have and print out what their hand would reduce to under this rule.
def handbyhalf(N):
    if N == 0:
        return 0
    else:
 print("cards reducedto half")
        return N//2
    #return fibonacci(N - 1) + fibonacci(N - 2)


n=int(input("Enter the number of cards: "))
print(handbyhalf(n))
```

```
## Write a program that asks the user to enter a positive integer. Then generate a random number between
## that number and 10 more than that number and print the letter A that many times on the same line.

import random
n=int(input("Enter the number: "))
number=0
c=0
outputStr=""
if n<0 :
    print("Invalid number")
else:
    number = random.randint(n, n+10)
    print("Random number generated is ", number)
    while c<=number:
        outputStr=outputStr+" "+"A"
        c=c+1
    if c<=0:
        print("No Data generated")
    else:
        print(outputStr)
```

```
## This is a very simple billing program. Ask the user for a starting hour and ending hour, both given in
## 24-hour format (e.g., 1 pm is 13, 2 pm is 14, etc.). The charge to use the service is $5.50 per hour. Print
## out the user's total bill. You can assume that the service will be used for at least 1 hour and never
## more than 23 hours. Be careful to take care of the case that the starting hour is before midnight and
## the ending time is after midnight.

def hotelbillByhour(checkIn,checkOut):
    if checkIn == 0 and checkOut == 1:
```

```
        return 5.50
    elif checkIn <= 0 or checkOut <= 0 or checkIn > 24 or checkOut > 24  :
        print("Invalid checkin/checkout hours.")
        return 0
    elif checkOut <= checkIn:
        print("checkOut should not be less than checkin time")
        return 0
    else:
        noofhrs = checkOut - checkIn
        if noofhrs < 1 or noofhrs > 23 :
            print("Service hours should not be < 1 or > 23")
            return 0
        else:
            return noofhrs * 5.50
checkIn=int(input("Enter the check in hour: "))
checkOut=int(input("Enter the check in hour: "))
print("Total service bill is: ", hotelbillByhour(checkIn,checkOut))


# One way to estimate probabilities is to run what is called a computer simulation. Here we will estimate
# the probability of rolling doubles with two dice (where both dice come out to the same value). To
# do this, run a loop 10,000 times in which random numbers are generated representing the dice and
# a count is kept of how many times doubles appear. Print out the final percentage of rolls that are doubles.

import random

num = int(input('How many rolls do you want to simulate? '))

rolls = {}
for k in range(2, 13):
        rolls[k] = 0

doubles = 0

for k in range(num):
        first = random.randint(1, 6)
        second = random.randint(1, 6)
        if first == second:
                doubles+=1
        rolls[first+second]+=1

for k in rolls:
        print('%d - %d %f%%' %(k, rolls[k], float(rolls[k])/float(num)*100))

print('Doubles - %d - %f%%' %(doubles, float(doubles)/float(num)))
```