Bitwise operators

```python
a=11

b=9

print("a",bin(a))

print("b",bin(b))

d=b<<4  #010010000

result=d|a

print(result,"--->",bin(result))

#to separate them

print("mask",int(0b01111))

a1=result&15

print(a1)

b1=result>>4

print(b1)
```

Loops

There are 2 loops in python, for and while

for loop

- When you know the number of iterations in advance, then use for loop

Syntax	

for <var> in iterable:
   statements
	for i in range(1,11): #1-10
	   print(i,end=" ")
	print()
	print("end of loop")
	for i in range(10): #0-9
	   print(i,end=" ")
	print()
	print("end of loop")
	
	for i in range(3,21,3): #0-9
	   print(i,end=" ")
	print()
	print("end of loop")

for <var> in iterable:
    statements
    if condition:
      break
  else:
    statements
	#to chek the number is prime or not
	num=int(input("enter a number"))
	for i in range(2,num):
	  if num%i==0:
	    print("The number is not prime")
	    break

	else: #if break statement does not get executed
	print("The number is prime")

You should use while loop, if you are not aware of number of iterations in advance

syntax	

while <condition>:
    statements
	#to find addition of digits of the number
	num=int(input("enetr number"))
	s=0
	#345345
	while num>0:
	  d=num%10
	  num=num//10
	  s=s+d
	print("sum of digits:",s)

while <condition>:
    statements
    if condition:
        break
else:
    statements	