Sets

how to create set

```
a = { "Arun", "Amit", "Sumit" }
print(a)
print(type(a))
```

set items are unordered

```
a = { "Arun", "Amit", "Sumit" }
print(a[0])
```

```
          ~^^^
TypeError: 'set' object is not subscriptable
```

set cannot store duplicates

```
a = { "Arun", "Amit", "Sumit", "Arun" , "Sumit"}
print(a)
```

```
{'Arun', 'Sumit', 'Amit'}
```

Q: find all the unique elements for the list

[2,1,3,5,1,4,2,6]

o/p=> 2,1,3,5,4,6

```
b = [2,4,2,7,4,5,1,2,9]
s = set()
for x in b:
    s.add(x)
print(s)
```

We cannot add list to a set but we can add tuple to the set

```
a = {[1,2,3,4,5]}

print(a)
```

```
a = {(1,2,3,4,5)}

print(a)
```

```
a = {{1,2,3,4,5},{6,7,8,9}}

print(a)
```

```
TypeError: unhashable type: 'list'
```

```
a= []
b= ()
c= {}
d= set()
print(type(c))
print(type(d))
```

Check weather an element is present in set or not

```
a= {"Kiwi", "Apple", "Mango"}
print("Mango" in a)
```

```python
a = {"Kiwi", "Apple", "Mango"}
b = {1,2,3,4,5}
a.update(b)

print(a)
```

Adding and removing element from a set

```python
a = {1,2,3,4,5}
a.add(6)
a.remove(2)  # remove 2 from the set
a.pop()   # remove any randome element
print(a)
```

Join 2 sets

```
a = {1,2,3,4,5}
b = {6,7,8,9}

c = a.union(b)
print(c)
```

to find max anmd min in a set

```
a = {1,2,3,4,5,6,7,8}
print(max(a))
print(min(a))
```

```
a = {1,2,3,4,5,6}
b = {2,4,5,7,8,9}
print(a.intersection(b))
```

for(i=0 ; i<=N ; i++) {

① ② ⑤ ⑧ ④ ⑦

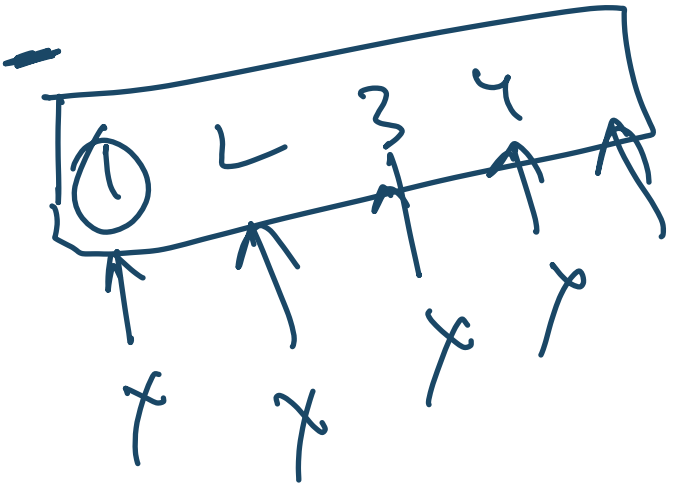
↓ ⑥ ⑨

③ printf( )

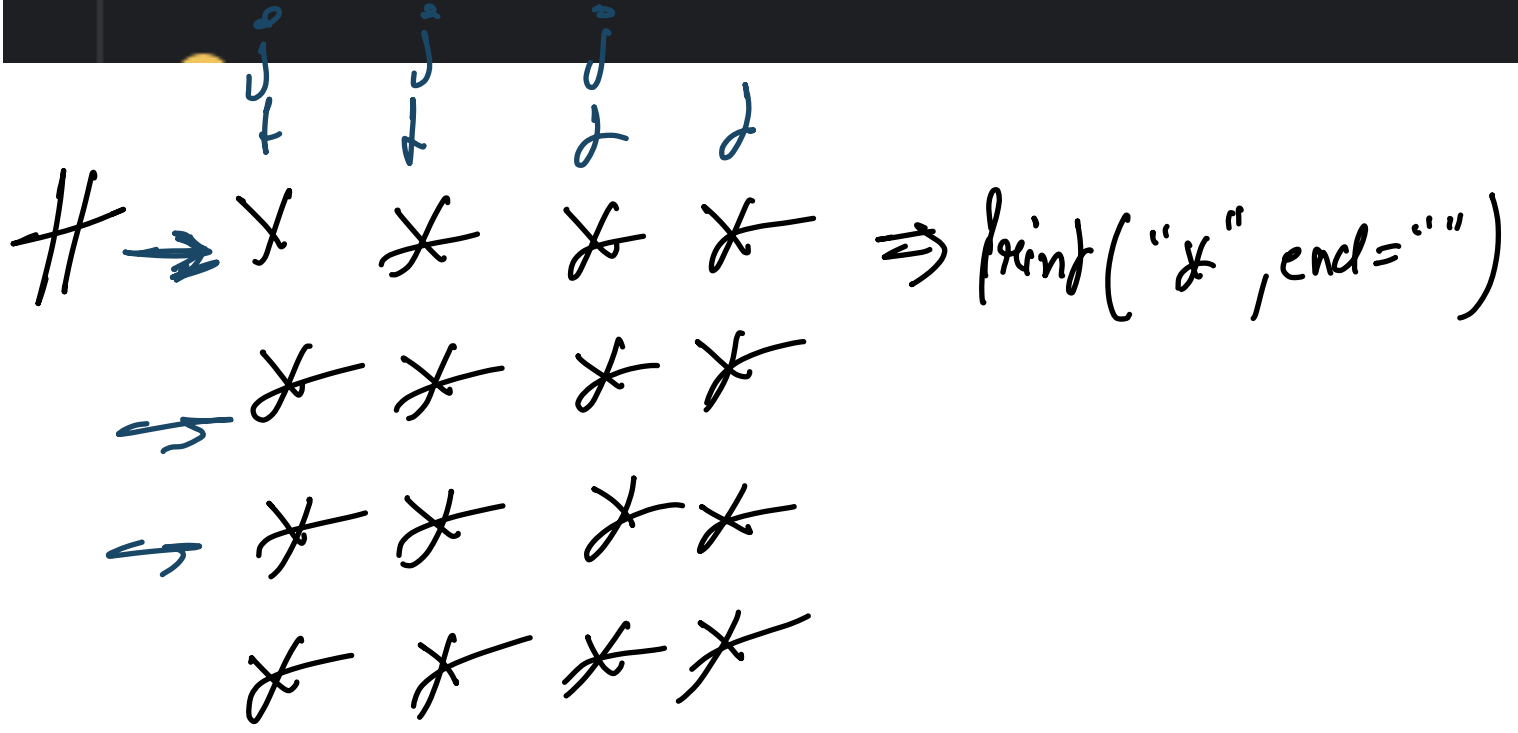
for x in range(incr):

for x in a:

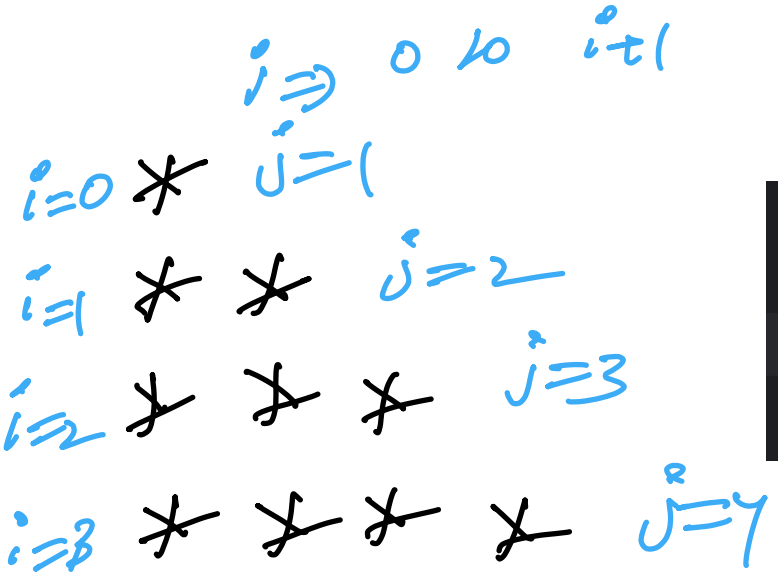
≡



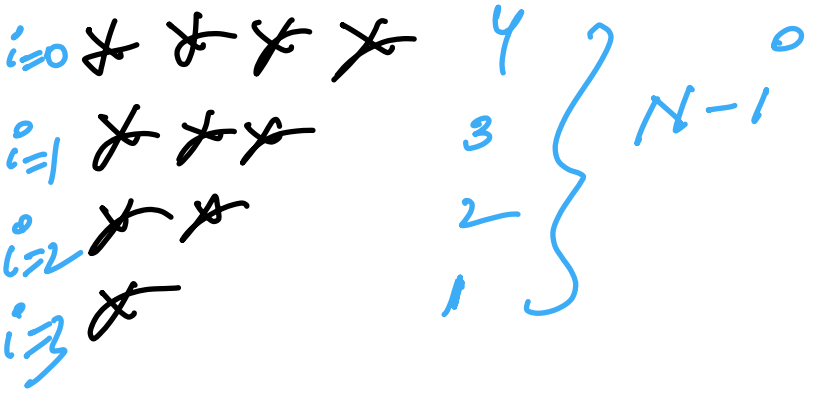
```python
b = [2,4,5,7,8,9]
s = set()
for x in b:
    s.add(x)
```



```
n=4
for i in range(n):
    for j in range(n):
        print("* ", end="")
    print()
```



```
for i in range(4):
    for j in range(i+1):
        print("* " , end="")
    print()
```



1

2 3

4 5 6

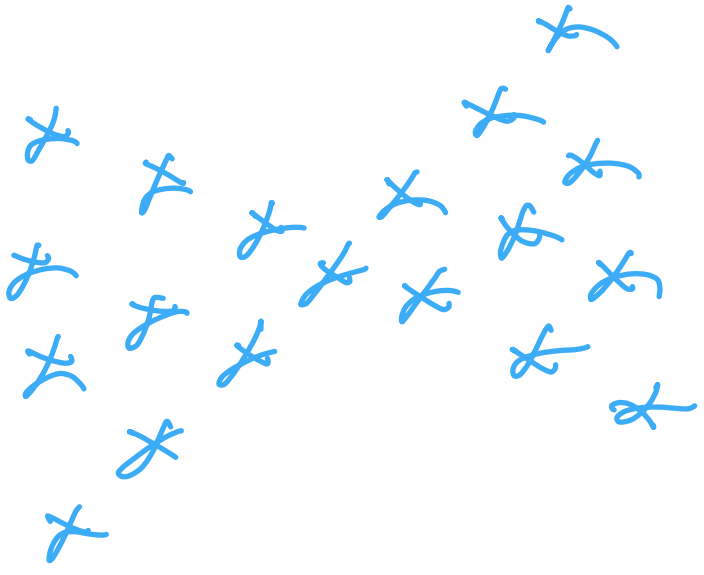
7 8 9 10

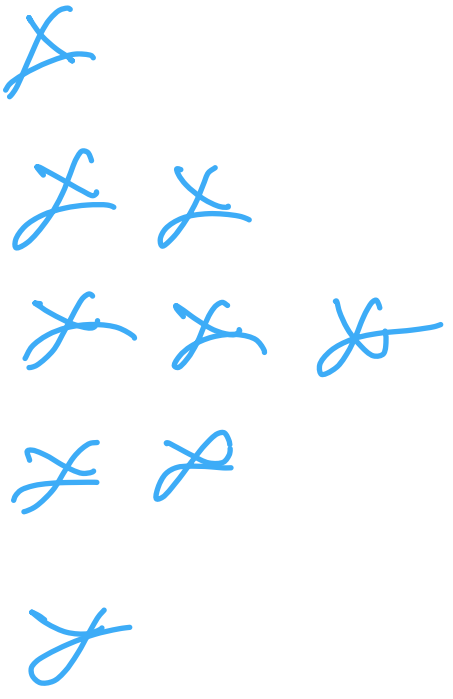
1

0 1

(0 1

0) 0 1





Q: Check weather a number is prime or not

(13)

10 → 1, 2, 5, 10

13 → 1, 13

6 → 1, 2, 3, 6

```
num = 11
for i in range(2, num):
    if(num%i==0):
        print("Not prime")
        break
else:
    print("prime")
```