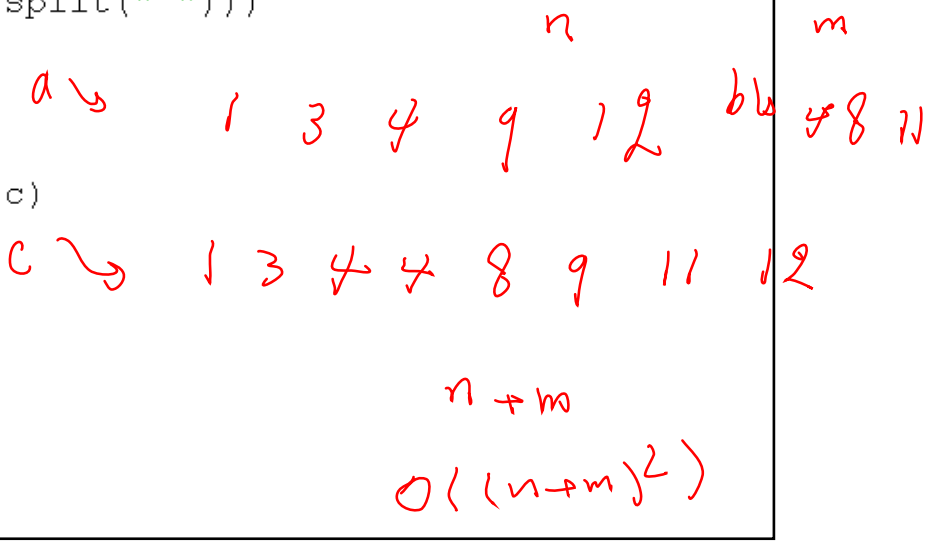
Merge

merge.py - C:/Documents and Settings/admin/Desktop/intro-python/examples/17-2/merge.py (3.4.4)

File Edit Format Run Options Window Help

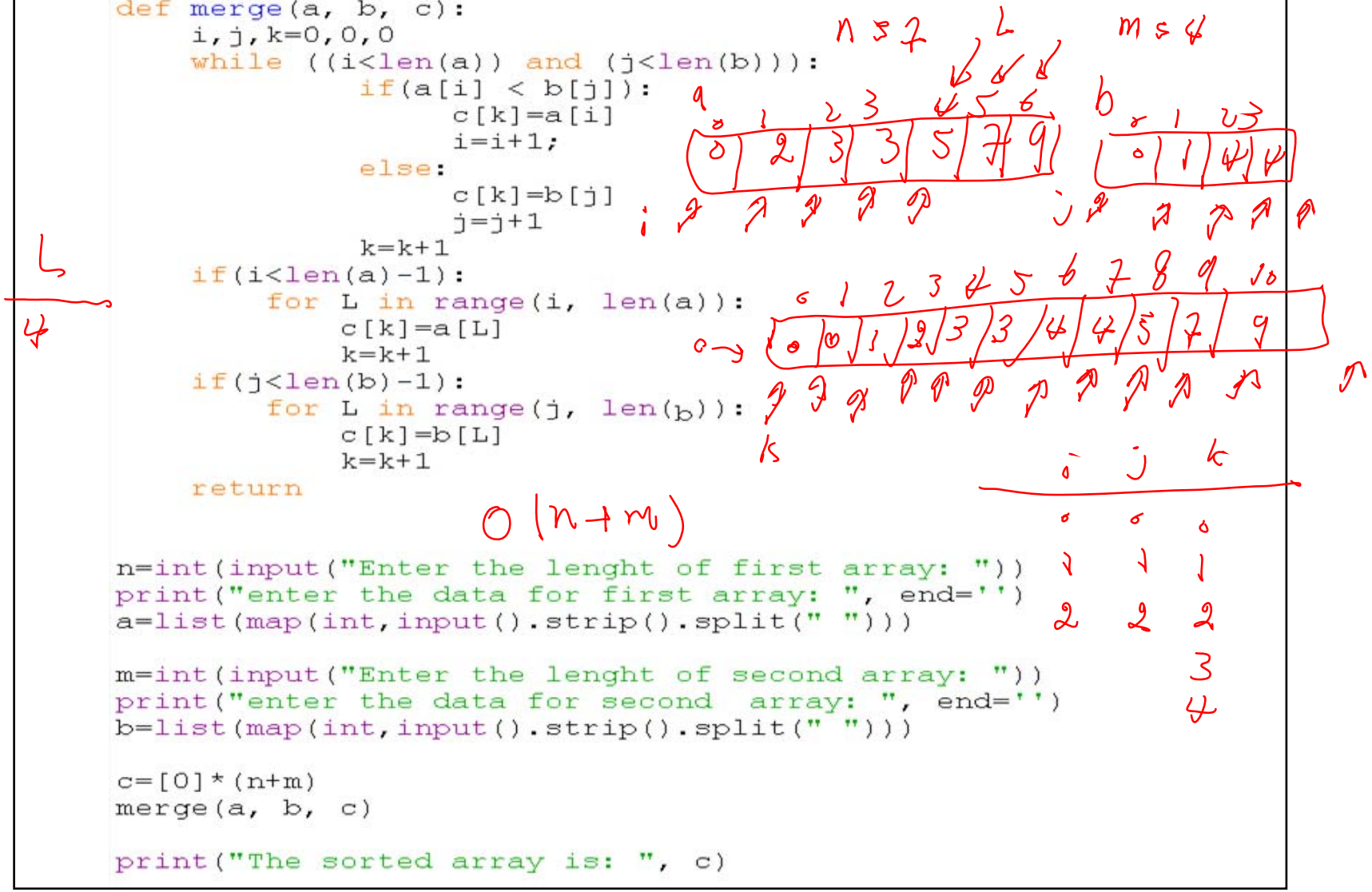
```
n=int(input("Enter the lenght of first array: "))
print("enter the data for first array: ", end='')
a=list(map(int,input().strip().split(" ")))

m=int(input("Enter the lenght of second array: "))
print("enter the data for second  array: ", end='')
b=list(map(int,input().strip().split(" ")))

c = a+ b
c.sort()

print("The sorted array is: ", c)
```



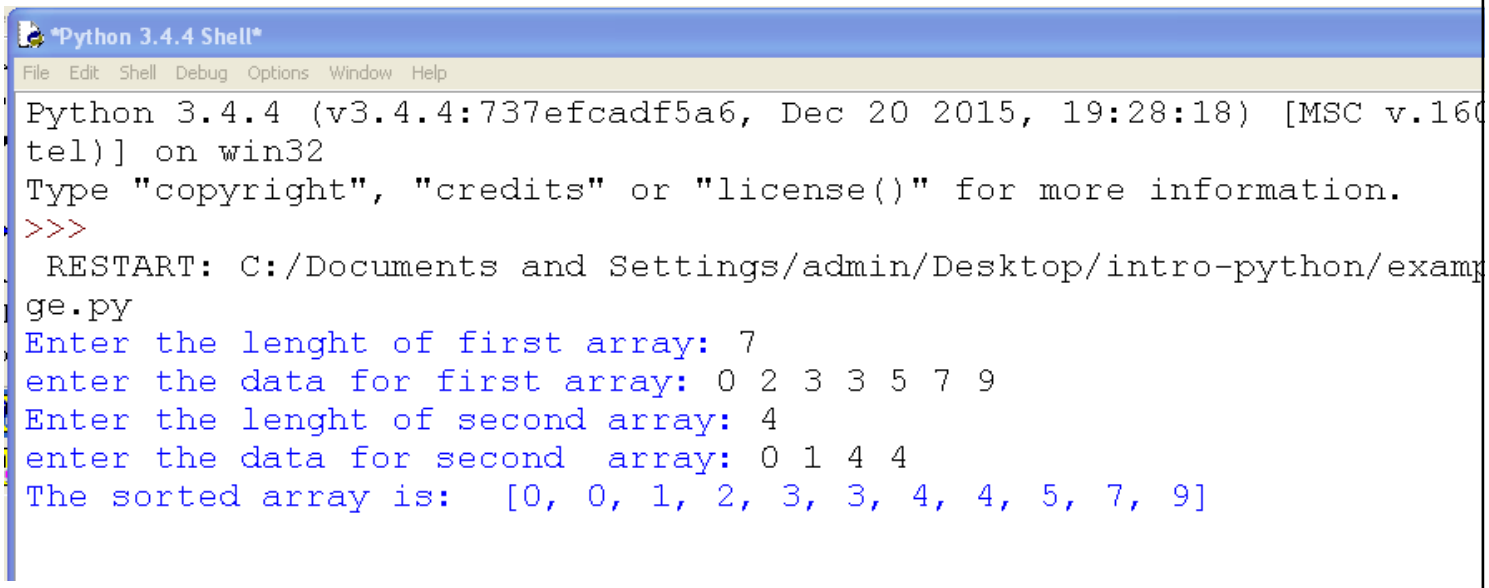
merge.py - C:/Documents and Settings/admin/Desktop/intro-python/examples/17-2/merge.py (3.4.4)

File Edit Format Run Options Window Help

```
def merge(a, b, c):
    i,j,k=0,0,0
    while ((i<len(a)) and (j<len(b))):
            if(a[i] < b[j]):
                c[k]=a[i]
                i=i+1;
            else:
                c[k]=b[j]
                j=j+1
            k=k+1
    if(i<len(a)-1):
        for L in range(i, len(a)):
            c[k]=a[L]
            k=k+1
    if(j<len(b)-1):
        for L in range(j, len(b)):
            c[k]=b[L]
            k=k+1
    return

n=int(input("Enter the lenght of first array: "))
print("enter the data for first array: ", end='')
a=list(map(int,input().strip().split(" ")))

m=int(input("Enter the lenght of second array: "))
print("enter the data for second  array: ", end='')
b=list(map(int,input().strip().split(" ")))

c=[0]*(n+m)
merge(a, b, c)

print("The sorted array is: ", c)
```



Merge


Python 3.4.4 Shell
File Edit Shell Debug Options Window Help
Python 3.4.4 (v3.4.4:737efcadf5a6, Dec 20 2015, 19:28:18) [MSC v.160
tel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Documents and Settings/admin/Desktop/intro-python/examp
ge.py
Enter the lenght of first array: 7
enter the data for first array: 0 2 3 3 5 7 9
Enter the lenght of second array: 4
enter the data for second array: 0 1 4 4
The sorted array is: [0, 0, 1, 2, 3, 3, 4, 4, 5, 7, 9]

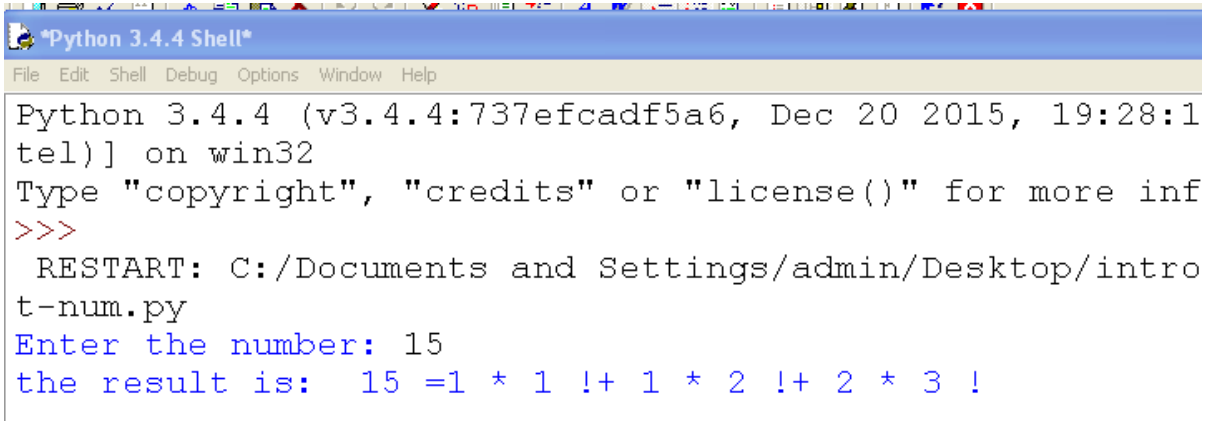
Factorial number

fact-num.py - C:/Documents and Settings/admin/Desktop/intro-python/examples/17-2/fact-num.py (3.4.4)

File Edit Format Run Options Window Help

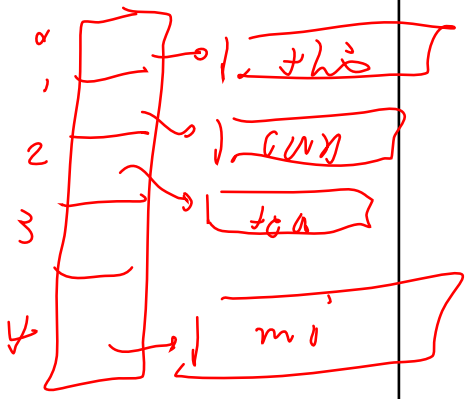
```
# n=d_1*1! + d_2 * 2! + d_3 *3! + .... + d_k * k!

def fact_num(d, x, n):
    x[0]=n
    i=1
    while (x[i-1]!=0):
        d[i]=x[i-1] % (i+1)
        x[i]=(x[i-1]) // (i+1)
        i=i+1
    return i


n=int(input("Enter the number: "))
d=[0]*n
x=[0]*n
m=fact_num(d, x, n)
print("the result is: ", n, '=', end='')
print(d[1], '*', 1, '!', end='')
i=2
while (i<m):
    print('+', d[i], '*', i, '!', end='')
    i=i+1

print()
```

Factorial number



Hashing

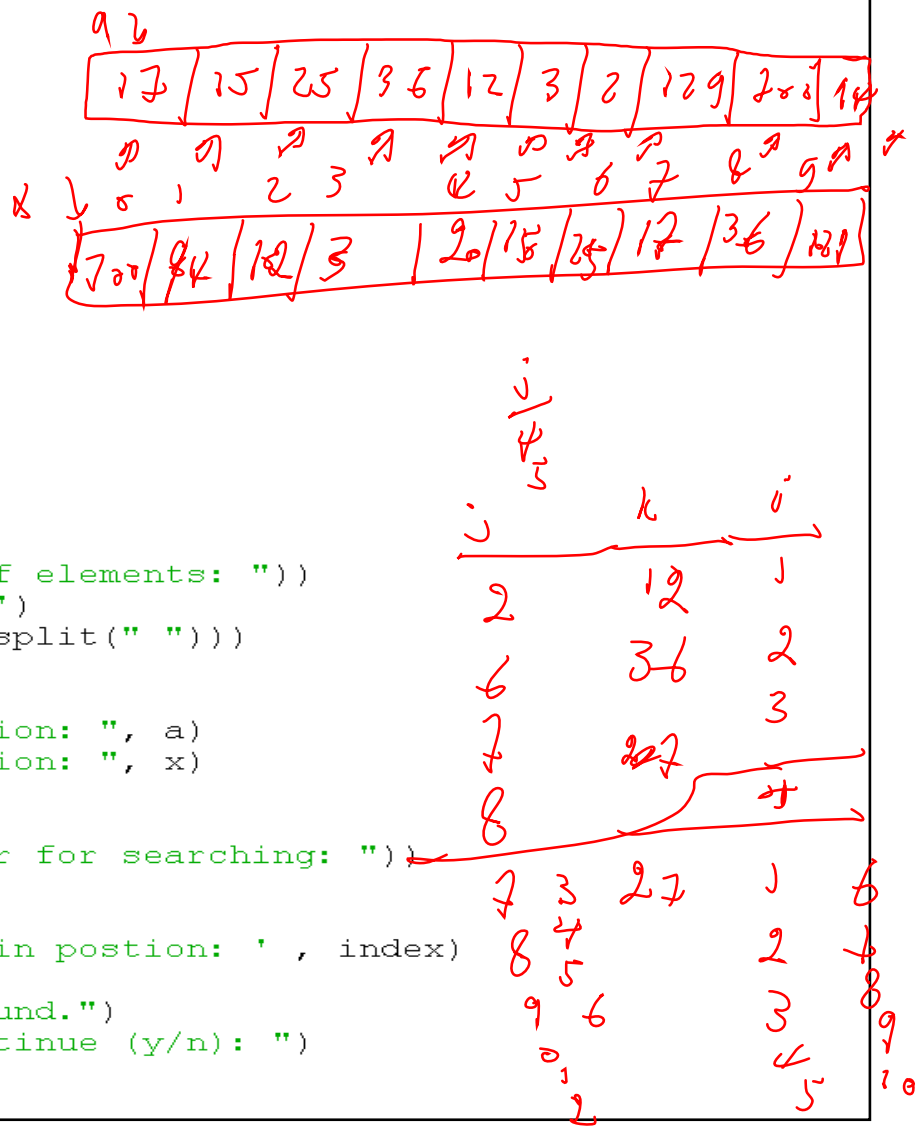
- *Hashing* is the transformation of a string of characters into a usually shorter fixed-length value or key that represents the original string. *Hashing* is used to index and retrieve items in a database because it is faster to find the item using the shorter *hashed* key than to find it using the original value.



hash.py - C:/Documents and Settings/admin/Desktop/intro-python/examples/17-2/hash.py (3.4.4)

File Edit Format Run Options Window Help

```
def hash(a, x, n):
    i=0
    while(i<n):
        j=a[i] %n
        while (x[j]!=0):
            j=(j+1) % n
        x[j]=a[i]
        i=i+1
    return

def search(x, n, k):
    i=1
    j=k %n
    while (x[j]!=k) and (i!=n):
        j=(j+1) % n
        i=i+1
    return j

n=int(input("Enter the number of elements: "))
print("enter the data: ", end='')
a=list(map(int,input().strip().split(" ")))
x=[0]*n
hash(a, x, n)
print("The values before insertion: ", a)
print("The values after  insertion: ", x)
c='y'
while(c=='y'):
    k=int(input("Enter a  number for searching: "))
    index=search(x, n, k)
    if (x[index]==k) :
        print('number is found in postion: ' , index)
    else:
        print("number is not found.")
    c=input("Do you want to continue (y/n): ")
print()
```



Hashing

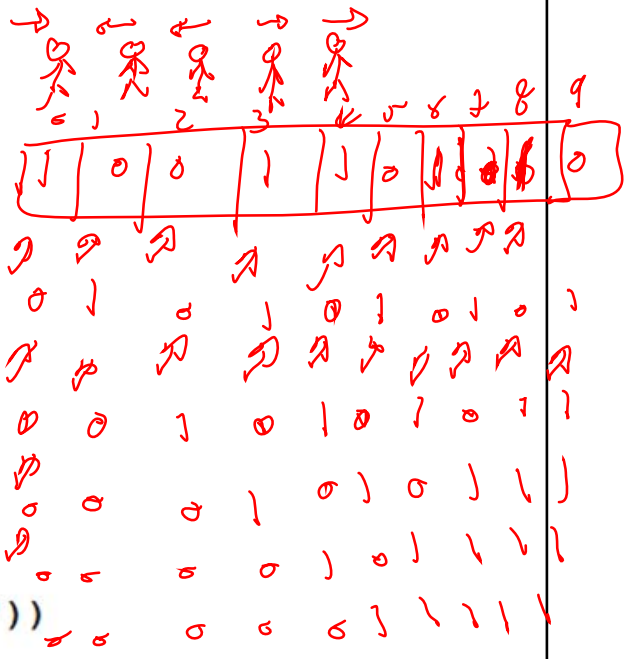
```
Enter the number of elements: 10
enter the data: 17 15 25 36 12 3 2 129 700 94
The values before insertion:  [17, 15, 25, 36, 12, 3, 2, 129, 700, 94]
The values after  insertion:  [700, 94, 12, 3, 2, 15, 25, 17, 36, 129]
Enter a  number for searching: 12
number is found in postion:  2
Do you want to continue (y/n): y
Enter a  number for searching: 36
number is found in postion:  8
Do you want to continue (y/n): y
Enter a  number for searching: 93
number is not found.
Do you want to continue (y/n): n
```

Marin moves

*marin.py - /home/nowzari/Desktop/python/python-my/python/examples/15-

File Edit Format Run Options Window Help

```
def marin move(a):
    f=1
    k=0
    while(f==1):
        f=0; i=0
        while( i < len(a)-1):
            if(a[i]==1) and (a[i+1]==0):
                a[i]=0
                a[i+1]=1
                f=1
                i=i+1
            i=i+1

        print('After  the command: ', a)
        k=k+f
    return k

n=int(input("Enter the lenght of array: "))
print("enter the data: ", end='')
a=list(map(int,input().strip().split(" ")))
print('Before the command: ', a)
k=marin move(a)
print("The number of move is: ", k)

print('Good Bye')
```



Marin moves

```
Enter the lenght of array: 10
enter the data: 1 0 0 1 1 0 1 0 1 0
Before the command:  [1, 0, 0, 1, 1, 0, 1, 0, 1, 0]
After  the command:  [0, 1, 0, 1, 0, 1, 0, 1, 0, 1]
After  the command:  [0, 0, 1, 0, 1, 0, 1, 0, 1, 1]
After  the command:  [0, 0, 0, 1, 0, 1, 0, 1, 1, 1]
After  the command:  [0, 0, 0, 0, 1, 0, 1, 1, 1, 1]
After  the command:  [0, 0, 0, 0, 0, 1, 1, 1, 1, 1]
After  the command:  [0, 0, 0, 0, 0, 1, 1, 1, 1, 1]
The number of move is:  5
Good Bye
```

End