In [1]:
```python
num=1
alphabet=[]
for i in "abcdefghijklmnopqrstuvwxyz":
    alphabet.append(i * num)
    num+=1
print(alphabet)
```

```
['a', 'bb', 'ccc', 'dddd', 'eeeee', 'ffffff', 'ggggggg', 'hhhhhhhh', 'iiiiiiii
i', 'jjjjjjjjjj', 'kkkkkkkkkkk', 'llllllllllll', 'mmmmmmmmmmmmmm', 'nnnnnnnnnnnnnn
n', 'ooooooooooooooo', 'pppppppppppppppp', 'qqqqqqqqqqqqqqqqq', 'rrrrrrrrrrrrrrr
rrr', 'ssssssssssssssssss', 'ttttttttttttttttttttt', 'uuuuuuuuuuuuuuuuuuuuuu', 'v
vvvvvvvvvvvvvvvvvvvvv', 'wwwwwwwwwwwwwwwwwwwwwww', 'xxxxxxxxxxxxxxxxxxxxxxxxx',
'yyyyyyyyyyyyyyyyyyyyyyyyyy', 'zzzzzzzzzzzzzzzzzzzzzzzzzz']
```

In [6]:
```python
x=int(input("Enter an integer: "))
factors=[1,x]
for i in range(2,x):
    if x%i==0:
        factors.append(i)
factors.sort()
print (factors)
```

```
Enter an integer: 16
[1, 2, 4, 8, 16]
```

In [1]:
```python
ones=[]
for i in range(11):
    ones.append(1)
    for y in range(i):
        ones.append(0)
ones.append(1)
print(ones)
```

```
[1, 1, 0, 1, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1]
```

```python
from random import randint
large=0
count=0
rlist=[]
for i in range(100):
    rlist.append(randint(0,1))
for y in range(len(rlist)):
    if rlist[y]==0:
        count+=1
    else:
        if count>large:
            large=count
        count=0
print(rlist)
print("\nThe longest run is: ",large)
```

```
[0, 0, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 1, 0, 1, 1, 0, 0, 1,
 1, 1, 0, 1, 0, 1, 1, 1, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 0, 1, 0, 0, 1, 1, 1, 1,
 0, 0, 1, 0, 1, 0, 1, 0, 0, 0, 1, 1, 0, 0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 0, 1,
 1, 1, 1, 0, 0, 1, 1, 1, 0, 1, 0, 0, 1, 0, 0, 1, 1, 0, 0, 1]

The longest run is:  7
```

```python
from random import randint
dup=[]
size=20
high=10
low=1

for x in range(size):
    dup.append(randint(low,high))

print("Original List: ",dup)
dup.reverse()

for m in range(low,(high+1)):
    if (dup.count(m))>1:
        for c in range(0,(dup.count(m)-1)):
            dup.remove(m)

dup.reverse()
print("Final List: ",dup)
```

```
Original List:  [6, 7, 10, 3, 5, 10, 1, 6, 3, 4, 1, 1, 9, 4, 2, 2, 8, 8, 8, 7]
Final List:   [6, 7, 10, 3, 5, 1, 4, 9, 2, 8]
```