In [2]:
```python
# calculate square of all nuumbers between 0-10
#use list comprehension

sq=[i*i for i in range(1,10)]
print('Square of numbers between 0 & 10')
sq
```

Square of numbers between 0 & 10

Out[2]: [1, 4, 9, 16, 25, 36, 49, 64, 81]

In [3]:
```python
#multiply all list items by 10

list1=[1,5,4,62,84,45,15,487,2,3,0,44]
mu=[i*10 for i in list1]
print('List items multiplied by 10 is:')
mu
```

List items multiplied by 10 is:

Out[3]: [10, 50, 40, 620, 840, 450, 150, 4870, 20, 30, 0, 440]

In [6]:
```python
#Extract numbers from a list using list comprehension

list2=['sa',1,2,'he','is','hello',1,0,24,42,True,0b1011,3]
num=[i for i in list2 if type(i)==int]
print('Numbers in the list are: ')
num
```

Numbers in the list are:

Out[6]: [1, 2, 1, 0, 24, 42, 11, 3]

In [12]:
```python
# program to find prime numbers between 1 - 100

print('Prime numbers are: ')
for i in range(1,100):
    count=0
    for j in range(1,i):
        if i%j==0:
            count=count+1
    if count==1:
        print(i,end=" ")
```

Prime numbers are:
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97

In [14]:
```python
#program to find factors of a number

n=int(input('Enter a number: '))
print('Factors of',n,'are: ')
for i in range(1,n):
    if n%i==0:
        print(i,end=' ')
```

Enter a number: 1024
Factors of 1024 are:
1 2 4 8 16 32 64 128 256 512

In [ ]: