In [15]:

```
#Task
k = float(input())
m = int(input())
print("Square of {} is: {}".format(int(k),int(k)*int(k)))
print("Cube of {} is: {}".
      format(int(k),int(k)*int(k)*int(k)))
print("Addition of {} and {} is: {}"
      .format(int(k),m,int(k+m)))
print("Difference of {} and {} is: {}"
      .format(int(k),m,int(k-m)))
print("Multiplication of {} and {} is: {}"
      .format(int(k),m,int(k*m)))
print("Base of {} and exponent {} power is: {}"
      .format(int(k),m,int(k**m)))
print("Equation of 2x^3+5y^2+6 and its value is {}"
      .format(2*(int(k)**3)+5*(m**2)+6))
```

```
34.5
3
Square of 34 is: 1156
Cube of 34 is: 39304
Addition of 34 and 3 is: 37
Difference of 34 and 3 is: 31
Multiplication of 34 and 3 is: 103
Base of 34 and exponent 3 power is: 41063
Equation of 2x^3+5y^2+6 and its value is 78659
```

Conditional Statements:

- To check whether given condition is either True or False

- if -> single case
- if-else -> two cases
- nested if -> two or more cases
- elif -> three or more cases

If

Syntax:

```
if (conditions):
    //stmnts
```

if-else

Syntax:

```
if (conditions):
    //stmnt -> True stmnt based on user assumption
else:
    //stmnt -> False stmnt
```

nested if

Syntax:

```
if (condition1):
    if (condition2):
        //stmnt-1
    else:
        //stmnt-2
else:
    //stmntn
```

elif

Syntax:

```
if (condition1):
    //stmnt-1
elif (condition2):
    //stmnt-2
elif (condition3):
    //stmnt-3
    |    |
    |    |
else:
    //stmnt-n
```

In [17]:

```
n = int(input())
if n == 0:
    print("n Value is: {}".format(n))
```

```
0
n Value is: 0
```

In [20]:

```
m = int(input())
if m>0:
    print("M Value is {} and it is positive".format(m))
else:
    print("M Value is {} and it is negative".format(m))
```

```
56
M Value is 56 and it is positive
```

userid: 234

pin: 1234

Test case-1:

Input: 2345

1234

Output:

Userid 2345 or password is incorrect

Test case-2:

Input: 234

2222

Output:

Userid 234 or password is incorrect

Test case-3:

Input: 234

1234

Output:

Welcome Userid 234

In [23]:

```
uid = int(input())
pin = int(input())
if uid==234:
    if pin==1234:
        print("Welcome Userid {}".format(uid))
    else:
        print("Userid {} or password is incorrect".format(uid)
else:
    print("Userid {} or password is incorrect".format(uid))
```

```
234
1234
Welcome Userid 234
```

In [25]:

```
uid = int(input())
pin = input()
if uid==234 and pin=='0234':
    print("Welcome Userid {}".format(uid))
else:
    print("Userid {} or password is incorrect".format(uid))
```

```
234
0234
Welcome Userid 234
```

uid=123

```
pin=100
Test Case-1:
    Input: 1234
    Output: Invalid userid 1234
Test Case-2:
    Input: 123
           111
    Output: Invalid password for userid 123
Test Case-3:
    Input: 123
           100
    Output: Welcome Userid 123
```

In [29]:

```python
uid = int(input())
if uid == 123:
    pin = int(input())
    if pin==100:
        print("Welcome Userid {}".format(uid))
    else:
        print("Inalid Paswsword for userid {}".format(uid))
else:
    print("Invalid Userid {}".format(uid))
```

```
123
100
Welcome Userid 123
```

In [37]:

```
n = int(input())
if n%3==0 and n%5==0:
    print("{} is divisible by 3 and 5"
          .format(n))
elif n%3==0:
    print("{} is divisible by 3".format(n))
elif n%2==0:
    print("{} is divisible by 2".format(n))
else:
    print("Given number is: {}".format(n))
```

```
12
12 is divisible by 3
```

Control Statements, Iterations, Loops, Repetition:

- To Control the flow of execution

- For -> Particular range
- While -> infinity loop, it works like for also

For

```
for itervar in range(start,stop,step):
    //stmnt
```

```
range(10) -> 0 9
range(1,10) -> 1 9
range(10,50,10) -> 10 20 30 40
```

In [42]:

```
n = int(input())
for it in range(n+1):
    print(it+2,end=",")
```

```
6
2,3,4,5,6,7,8,
```

In [43]:

```
k = int(input())
m = int(input())
for nn in range(k,m):
    print(nn,end=" ")
```

```
20
25
20 21 22 23 24
```

In [50]:

```
k = int(input())
m = int(input())
s = int(input())
for nn in range(k,m,s-1):
    print(nn,end=" ")
```

```
1
20
3
1 3 5 7 9 11 13 15 17 19
```

Task - 2:

=========

in:12

174M1A0500

| |

| |

174M1A0512

In [56]:

```
n = int(input())
for k in range(n+1):
#     if k<=9:
#         print("174M1A050%d"%k)
#     else:
#         print("174M1A05%d"%k)
#     print("174M1A05%02d"%k)
    print("174M1A05{:02} 184M1A04{:02}".format(k,k))
```

```
12
174M1A0500 184M1A0400
174M1A0501 184M1A0401
174M1A0502 184M1A0402
174M1A0503 184M1A0403
174M1A0504 184M1A0404
174M1A0505 184M1A0405
174M1A0506 184M1A0406
174M1A0507 184M1A0407
174M1A0508 184M1A0408
174M1A0509 184M1A0409
174M1A0510 184M1A0410
174M1A0511 184M1A0411
174M1A0512 184M1A0412
```

Task-3:

In: 1

10

Output:

Even numbers are: 2,4,6,8,10

Odd numbers are: 1,3,5,7,9

Sum of even numbers are: 30

Sum of odd numbers are: 25

Even digits count: 5

Odd digits count: 5

In [74]:

```
st = int(input())
en = int(input())
es = os = ec = oc = 0
print("Even numbers are: ",end="")
for i in range(st,en+1):
    if i%2==0:
        if en==i:
            print(i,end="")
        else:
            print(i,end=",")
        es+=i
        ec+=1
print("\nOdd numbers are: ",end="")
for j in range(st,en+1):
    if j%2!=0:
        if en-1==j:
            print(j,end="")
        else:
            print(j,end=",")
        os+=j
        oc+=1
print("\nSum of Even numbers are: {}".format(es))
print("Sum of Odd numbers are: {}".format(os))
print("Even digits Count: {}".format(ec))
print("Odd digits Count: {}".format(oc))
```

```
1
10
Even numbers are: 2,4,6,8,10
Odd numbers are: 1,3,5,7,9
Sum of Even numbers are: 30
Sum of Odd numbers are: 25
Even digits Count: 5
Odd digits Count: 5
```

while

Syntax:

```
initialization
while (condition):
    //stmnts
    incr/decr
```

In [5]:

```
n = int(input())
m = int(input())
while m>=n:
    print(m,end=" ")
    m-=1
```

```
1
10
10 9 8 7 6 5 4 3 2 1
```

Input:

Tnu:2

Stn:3

end:6

Output:

```
2x3=06
2x4=08
2x5=10
2x6=12
```

In [8]:

```
t = int(input())
st = int(input())
en = int(input())
while st<=en:
    print("{}x{}={:02}".format(t,st,t*st))
    st+=1
```

```
1756
23
30
1756x23=40388
1756x24=42144
1756x25=43900
1756x26=45656
1756x27=47412
1756x28=49168
1756x29=50924
1756x30=52680
```

In [ ]:

```
n =29836487621837423864987263472667686287364876235419265465219465126435276534625934628364563254762354875263478523492873401243687263497628374687236487626354234
```

Input: 1234

Ouput: Given number is: 1234

Digit count is: 4

In [10]:

```
m = int(input())
t = m
c = 0
while m!=0:
    m=m//10
    c+=1
print("Given number is: {}\nDigit count is: {}"
      .format(t,c))
```

```
1234
Given number is: 1234
Digit count is: 4
```

Input: 23492064
Output:
Even numbers are: 2 4 2 0 6 4
Odd numbers are: 3 9
Sum of Even digits are: 18
Sum of Odd digits are: 12
Even digit count is: 6
Odd digit count is: 2

In [7]:

```
n = int(input())
r = k = es = od = ec = oc = 0
while n!=0:
    r = r*10+n%10
    n = n//10
# print(r)
odr = r
print("Even numbers are: ",end="")
while r!=0:
    m = r%10
    if m%2==0:
        print(m,end=" ")
        es+=m
        ec+=1
    r = r//10
print("\nOdd numbers are: ",end="")
while odr!=0:
    ll = odr%10
    if ll%2!=0:
        print(ll,end=" ")
        od+=ll
        oc+=1
    odr = odr//10
print("\nSum of Even digits are: {}".format(es))
print("Sum of Odd digits are: {}".format(od))
print("Even digit count is: {}".format(ec))
print("Odd digit count is: {}".format(oc))
```

```
13579
Even numbers are:
Odd numbers are: 1 3 5 7 9
Sum of Even digits are: 0
Sum of Odd digits are: 25
Even digit count is: 0
Odd digit count is: 5
```

In [ ]:

```
1
```