In [2]:
```
list=['siva','akhil','rahul']
list.remove('rahul')
list
```

Out[2]:
```
['siva', 'akhil']
```

In [3]:
```
hello=list.pop(1)
hello
```

Out[3]:
```
'akhil'
```

In [4]:
```
list
```

Out[4]:
```
['siva']
```

In [5]:
```
list.pop(0)
```

Out[5]:
```
'siva'
```

In [6]:
```
dict={"siva":"10"}
dict
```

Out[6]:
```
{'siva': '10'}
```

In [9]:
```
i=input()
print(i[0],"******",i[7])
```

```
siva sai
s ****** i
```

In [10]:
```
str=input()
a=str[0]
b=str[-1]
c=len(str)-2
d=c*"#"
print(a,d,b)
```

```
siva sai
s ###### i
```

In [11]:
```
c
```

Out[11]:
```
6
```

In [13]:
```
list1=[12,13,14]
list1.pop()
```

Out[13]:
```
14
```

In [14]:
```
list1
```

Out[14]:
```
[12, 13]
```

In [15]:
```
dict["siva"]
```

Out[15]:
```
'10'
```

In [19]:
```
s="siva"
s
```

Out[19]:
```
'siva'
```

In [22]:
```
s[-1]
```

Out[22]:
```
'a'
```

In [23]:
```
p=len(s)-1
p
```

Out[23]:
```
3
```

In [24]:
```
dir(dict)
```

Out[24]:
```
['__class__',
 '__class_getitem__',
 '__contains__',
 '__delattr__',
 '__delitem__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getitem__',
 '__gt__',
 '__hash__',
 '__init__',
 '__init_subclass__',
 '__ior__',
 '__iter__',
 '__le__',
 '__len__',
 '__lt__',
 '__ne__',
 '__new__',
 '__or__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__reversed__',
 '__ror__',
 '__setattr__',
 '__setitem__',
 '__sizeof__',
 '__str__',
 '__subclasshook__',
 'clear',
 'copy',
 'fromkeys',
 'get',
 'items',
 'keys',
 'pop',
 'popitem',
 'setdefault',
 'update',
 'values']
```

In [25]:
```
dir(set)
```

Out[25]:
```
['__and__',
 '__class__',
 '__class_getitem__',
 '__contains__',
 '__delattr__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__gt__',
 '__hash__',
 '__iand__',
 '__init__',
 '__init_subclass__',
 '__ior__',
 '__isub__',
 '__iter__',
 '__ixor__',
 '__le__',
 '__len__',
 '__lt__',
 '__ne__',
 '__new__',
 '__or__',
 '__rand__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__ror__',
 '__rsub__',
 '__rxor__',
 '__setattr__',
 '__sizeof__',
 '__str__',
 '__sub__',
 '__subclasshook__',
 '__xor__',
 'add',
 'clear',
 'copy',
 'difference',
 'difference_update',
 'discard',
 'intersection',
 'intersection_update',
 'isdisjoint',
 'issubset',
 'issuperset',
 'pop',
 'remove',
 'symmetric_difference',
 'symmetric_difference_update',
```

```
 'union',
 'update']
```

In [26]:
```
dir(list)
```

Out[26]:
```
['__add__',
 '__class__',
 '__class_getitem__',
 '__contains__',
 '__delattr__',
 '__delitem__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getitem__',
 '__gt__',
 '__hash__',
 '__iadd__',
 '__imul__',
 '__init__',
 '__init_subclass__',
 '__iter__',
 '__le__',
 '__len__',
 '__lt__',
 '__mul__',
 '__ne__',
 '__new__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__reversed__',
 '__rmul__',
 '__setattr__',
 '__setitem__',
 '__sizeof__',
 '__str__',
 '__subclasshook__',
 'append',
 'clear',
 'copy',
 'count',
 'extend',
 'index',
 'insert',
 'pop',
 'remove',
 'reverse',
 'sort']
```

Conditional Statements

- if
- if else
- elif
- nested if

if statement syntax

if(condition): statements

In [27]:
```
n=int(input())
if(n%2==0):
    print("even")
```

```
10
even
```

In [30]:
```
m=int(input())
if(m>0):
    print("positive")
```

```
10
positive
```

Syntax for if else statement

if(condition): statement else: statement

In [31]:
```
x=int(input())
y=int(input())
if(x>y):
    print(x,"is big number")
else:
    print(X,"is small number")
```

```
8
6
8 is big number
```

In [32]:
```
c=int(input())
if(c>=18):
    print("eligible for vote")
else:
    print("Not eligible for vote")
```

```
15
Not eligible for vote
```

In [54]:
```
v=int(input())
if(100<=v<=200):
    print("exist")
else:
    print("does not exist")
```

```
154
exist
```

In [45]:
```
m=int(input())
u=int(input())
o=int(input())
if(m>u and m>o):
    print(m,"is big")
elif(u>o):
    print(u,"is big")
else:
    print(o,"is big")
```

```
12
11
10
12 is big
```

In [2]:
```
t=int(input())
if(90<=t<=100):
    print("excellent")
elif(80<=t<=89):
    print("A grade")
elif(70<=t<=79):
    print("B grade")
elif(60<=t<=69):
    print("C grade")
elif(50<=t<=59):
    print("D grade")
elif(t<=49):
    print("Fail")
else:
    print("Invalid")
```

```
88
A grade
```

In [11]:
```
r=input()
vowels="AEIOUaeiou"
if r in vowels:
    print(r,"is vowel")
else:
    print(r,"is consonant")
```

```
t
t is consonant
```

In [17]:
```
g=input()
hg=("november","april","june","september")
l=("january","march","may","july","august","october","december")
if g in hg:
    print(g,"has 30days")
elif g in l:
    print(g,"has 31 days")
elif(g=="february"):
    print(g,"has 28 or 29 days")
else:
    print("invalid")
```

```
february
february has 28 or 29 days
```

In [ ]:
```
## nested if structure
 if(condition):
     if(condition):
         statements
     else:
         statements
  else:
      statements
```

In [ ]:
```
ss=int(input())
if(ss%2==0):
    print("even")
    if(ss>10):
        print("cube is:",ss**3)
    else:
        print("square root is:",ss**2)
else:
    print("odd")
```

loops

1.for loop
2.while loop

for loop syntax

```
for value in range(start,end,stepcount):
    statements
```

In [1]:
```
num=int(input())
for i in range(1,num+1):
    print(i,end=' ')
```

```
100
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 3
0 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56
57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 8
3 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
```

In [6]:
```
q=int(input())
for i in range(1,q+1):
    if(i%2!=0):
        print(i,end=' ')
```

```
100
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55
57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99
```

In [8]:
```
k=int(input())
for i in range(1,11):
    print(k,"x",i,"=",k*i)
```

```
7
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
7 x 6 = 42
7 x 7 = 49
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70
```

In [9]:
```
# factors
j=int(input())
for i in range(1,j+1):
    if(j%i==0):
        print(i,end=' ')
```

```
10
1 2 5 10
```

In [10]:
```
# 1*2*3*4*5
b=int(input())
f=1
for j in range(1,b+1):
    f=f*j
print(f)
```

```
5
120
```

In [12]:
```
# 5*4*3*2*1
t=int(input())
f1=1
for k in range(t,0,-1):
    f1=f1*k
print(f1)
```

```
5
120
```

In [14]:
```
w=int(input())
for i in range(1,w+1):
    if(i%2==0):
        print(i,end=' ')
```

```
100
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56
58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100
```

In [ ]: