In [8]:

```python
# Check whether given number is prime or not?

n = int(input())
s = 0
if n > 1:
    for i in range(2,n):
        if n%i==0:
            s=1
    if s==1:
        print("Not Prime")
    else:
        print("Prime")
else:
    print("Not Prime")
```

```
4
Not Prime
```

In [16]:

```python
# Check whether give nnumenr is a perfect or not?

n = int(input())
fs = 0
for i in range(1,n):
    if n%i==0:
#         print(i,end="")
      fs+=i
if fs==n:
    print("Given {} is Perfect number".format(n))
else:
    print("Given {} is not a Perfect number".format(n))
```

```
28
Given 28 is Perfect number
```

In [26]:

```python
# Given number table upto n(user selection state):
n = int(input("Enter table number: "))
st = int(input("Enter Starting range: "))
ed = int(input("Enter Ending range: "))
for i in range(st,ed+1):
    print("{} x {:02} = {:02}".format(n,i,n*i))
```

```
Enter table number: 7
Enter Starting range: 234
Enter Ending range: 239
7 x 234 = 1638
7 x 235 = 1645
7 x 236 = 1652
7 x 237 = 1659
7 x 238 = 1666
7 x 239 = 1673
```

In [31]:

```
# Check whether given number is palindrome or not?

n = int(input())
rev = 0
m = n
while n!=0:
    rev = rev*10+n%10
    n = n//10
if m == rev:
    print("Given {} is Palindrome number".format(m))
else:
    print("Given {} is Not a Palindrome number".format(m))
```

```
12345
Given 12345 is Not a Palindrome number
```

In [34]:

```
# Find the even numbers in a given number and the
# number should be printed from left to right direction

n = int(input())
lst = lastadd = rev = 0
while n!=0:
    lst = n%10
    if lst%2==0:
        lastadd = lastadd*10+lst
    n = n//10
while lastadd!=0:
    rev = rev*10+lastadd%10
    lastadd = lastadd//10
print(rev)
```

```
1276351726309129836867123
26260286862
```

In [43]:

```
s=input()
c=0
l=len(s)
for i in range(0,l):
    if s[i]==s[(l-1)-i]:
        c+=1
if(c==l):
    print("Palindrome")
else:
    print("Not palindrome")
```

```
hello
Not palindrome
```

Nested iteration

- An iteration with in a loop

In [44]:

```
r=int(input())
for j in range(2,r+1):
    s=0
    for i in range(2,j):
        if j%i==0:
            s=1
    if(s==0):
        print(j)
```

```
10
2
3
5
7
```

In [47]:

```
for i in range(10):
    if(i==5):
        continue
    print(i)
```

```
0
1
2
3
4
6
7
8
9
```

Functions in python

In [48]:

```
### function <function_name>\
    #### Body of the function
    #### return statement
```

In [51]:

```
def isEven(n=4):
    if n%2==0:
        return "Even"
    else:
        return "Odd"
```

Out[51]:

```
'Even'
```

In [52]:

```
isEven()
```

Out[52]:

```
'Even'
```

Kinds of arguments in python:

- Default arguments
- Realtime arguments
- Variable length arguments and
- Keyword arguments

In [55]:

```
def add(a,*b):
    sum=a
    for i in b:
        sum+=i
    return sum
```

In [56]:

```
add(3,2,3,4,4,6,7,7,8)
```

Out[56]:

```
44
```

In [77]:

```
def get(c,*a,**b):
    for k in a:
        print(k)
    for i,j in b.items():
        print(i,"=>",j)
    print(c)
```

In [80]:

```
get("hi","hello","how",123,name="Hanuman",role="Mean stack")
```

```
hello
how
123
name => Hanuman
role => Mean stack
hi
```

In [88]:

```
#n=1234567809
#m=4
#sum=25
def oddsum(n,m):
    s=0
    while(n!=0):
        rem=n%10
        if rem%m==0:
            s+=rem
        n=n//10
    return s
```

In [89]:
```
n=int(input())
m=int(input())
oddsum(n,m)
```

```
1234567809
2
```

Out[89]:
```
20
```

Strings

3 ways to give string

- ",""",'''string '''

In [90]:
```
s = 'python'
```

In [91]:
```
id(s)
```

Out[91]:
```
2312789788848
```

In [92]:
```
s
```

Out[92]:
```
'python'
```

In [93]:
```
s[0]
```

Out[93]:
```
'p'
```

In [94]:
```
s = s[0]
```

In [95]:
```
s
```

Out[95]:
```
'p'
```

In [96]:
```
id(s)
```

Out[96]:
```
2312748918960
```

In [97]:
```
s
```

Out[97]:
```
'p'
```

In [98]:
```
s = 'python program'
```

In [99]:

```
s[-1]
```

Out[99]:

```
'm'
```

In [102]:

```
s[-10]
```

Out[102]:

```
'o'
```

In [103]:

```
s
```

Out[103]:

```
'python program'
```

In [104]:

```
len(s)
```

Out[104]:

```
14
```

In [106]:

```
for i in s:
    print(i,end=' ')
```

```
p y t h o n   p r o g r a m
```

In [107]:

```
s
```

Out[107]:

```
'python program'
```

In [112]:

```
s[-1:-3:-1]
```

Out[112]:

```
'ma'
```

In [114]:

```
for i in range(10,1,-1):
    print(i)
```

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

In [115]:

```
s
```

Out[115]:

```
'python program'
```

In [116]:

```
s[0:-1:2]
```

Out[116]:

```
'pto rga'
```

In [117]:

```
s[::2]
```

Out[117]:

```
'pto rga'
```

In [118]:

```
s
```

Out[118]:

```
'python program'
```

In [119]:

```
s[::-1]
```

Out[119]:

```
'margorp nohtyp'
```

In [120]:

```
s[len(s)//2]
```

Out[120]:

```
'p'
```

In [121]:

```
s
```

Out[121]:

```
'python program'
```

In [122]:

```
s[::3]
```

Out[122]:

```
'ph oa'
```

In [123]:

```
s[0:8]
```

Out[123]:

```
'python p'
```

In [125]:

```
s[4:6]
```

Out[125]:

```
'on'
```

In [126]:

```
s1 = 'aba'
s2 = 'fdglhfdg'
```

In [127]:

```
if s1 == s1[::-1]:
    print('palindrome')
```

```
palindrome
```

In [129]:

```
s = input("enter string")
if s == s[::-1]:
    print('palindrome')
```

```
enter string12321
palindrome
```

In [130]:

```
s
```

Out[130]:

```
'12321'
```

In [131]:

```
s = 'python program'
```

In [132]:

```
s[3]
```

Out[132]:

```
'h'
```

In [2]:

```
print(dir(str))
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc__',
'__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__', '__getnewa
rgs__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__iter__', '__l
e__', '__len__', '__lt__', '__mod__', '__mul__', '__ne__', '__new__', '__reduce
__', '__reduce_ex__', '__repr__', '__rmod__', '__rmul__', '__setattr__', '__siz
eof__', '__str__', '__subclasshook__', 'capitalize', 'casefold', 'center', 'cou
nt', 'encode', 'endswith', 'expandtabs', 'find', 'format', 'format_map', 'inde
x', 'isalnum', 'isalpha', 'isascii', 'isdecimal', 'isdigit', 'isidentifier', 'i
slower', 'isnumeric', 'isprintable', 'isspace', 'istitle', 'isupper', 'join',
'ljust', 'lower', 'lstrip', 'maketrans', 'partition', 'replace', 'rfind', 'rind
ex', 'rjust', 'rpartition', 'rsplit', 'rstrip', 'split', 'splitlines', 'startsw
ith', 'strip', 'swapcase', 'title', 'translate', 'upper', 'zfill']
```

In [134]:

```
s
```

Out[134]:

```
'python program'
```

In [137]:

```
s.count('python')
```

Out[137]:

```
1
```

In [140]:

```
s = s.replace('h','t')
```

In [141]:

```
s
```

Out[141]:

```
'pytton program'
```

```
In [142]: s.capitalize()
```

```
Out[142]: 'Pytton program'
```

```
In [143]: s.casefold()
```

```
Out[143]: 'pytton program'
```

```
In [144]: s = 'python program'
```

```
In [153]: s = 'python'
```

```
In [158]: j = s.center(4,'o')
```

```
In [159]: j
```

```
Out[159]: 'python'
```

```
In [165]: s = 'python'
          x = s.center(20,'*')
          x
```

```
Out[165]: '*******python*******'
```

```
In [166]: s = ' python '
```

```
In [167]: s.strip()
```

```
Out[167]: 'python'
```

```
In [169]: s.upper()
```

```
Out[169]: ' PYTHON '
```

```
In [170]: s.lower()
```

```
Out[170]: ' python '
```

```
In [171]: s = 'PYthon PROGramming'
```

```
In [172]: s.swapcase()
```

```
Out[172]: 'pyTHON progRAMMING'
```

In [173]:
```
s.isupper()
```
Out[173]:
```
False
```

In [174]:
```
s.islower()
```
Out[174]:
```
False
```

In [175]:
```
sr = 'DFBFDKN'
```

In [176]:
```
sr.isupper()
```
Out[176]:
```
True
```

In [177]:
```
sr.islower()
```
Out[177]:
```
False
```

In [180]:
```
s.find('P')
```
Out[180]:
```
0
```

In [179]:
```
s
```
Out[179]:
```
'PYthon PROGramming'
```

In [181]:
```
s.index('P')
```
Out[181]:
```
0
```

In [183]:
```
s.endswith('m')
```
Out[183]:
```
False
```

In [184]:
```
s.startswith('p')
```
Out[184]:
```
False
```

In [185]:
```
s='aba'
s1 = 'cda'
```

In [186]:
```
s+s1
```
Out[186]:
```
'abacda'
```

In [187]:

```
s2 = 32
```

In [192]:

```
s.isalnum()
```

Out[192]:

```
True
```

In [4]:

```
s = '12345'
```

In [5]:

```
s.isdigit()
```

Out[5]:

```
True
```

In [193]:

```
s
```

Out[193]:

```
'12345'
```

In [194]:

```
s ='python program'
```

In [195]:

```
s.title()
```

Out[195]:

```
'Python Program'
```

In [196]:

```
s = 'cdljkf1324dfkdlf'
```

In [197]:

```
s.count('numbers')
```

Out[197]:

```
0
```

In [198]:

```
s.count(s)
```

Out[198]:

```
1
```

In [204]:

```
# 1 . Find number of characters and numbers in a string
# 2 .  in : amazon onzama
####   out : yes
###    in : hi bye
###   out: No
```

In [203]:

```
s="hello"
list(s)
```

Out[203]:

```
['h', 'e', 'l', 'l', 'o']
```

In [ ]:

```

```

Python datastructures

- List - `[ , ]`
- Sets - `{ , }`
- Tuples - `( , )` and
- Dictionaries - `{ , }`

In [ ]: