In [8]:
```
#--1. Write a program to generate all possible multiples of a number provided by
num=int(input("enter num"))
i=1
while i<=10:
    print(i)
    i=i+1
```

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

In [18]:
```
# 2. Write a program to calculate the factorial of a number provided by the user
num=int(input())
fact=1
i=1
while i<=num:
    fact=fact*i
    i+=1
print(f"""factorial of {num} is {fact}""")

# for i in range(1,num+1):
#     fact*=i
#     print(fact)
```

```
factorial of 30 is 265252859812191058636308480000000
```

In [29]:
```
# 3. Write a program to display all odd and even numbers in the range between 10

i=11
while i>10 and i<25:
    if i%2==0:
        print(i,"even",end=", ")
    else:
        print(i,"odd", end=", ")
    i=i+1
```

```
11 odd, 12 even, 13 odd, 14 even, 15 odd, 16 even, 17 odd, 18 even, 19 odd, 20 ev
en, 21 odd, 22 even, 23 odd, 24 even,
```

In [37]:
```
# 4. Write a program to generate the multiplication table of a number provided b
# user.
# The output should be in the format: 2 x 2 = 4 and so on.
num=int(input())
i=1
while i<=10:
    print(f"""{num} x {i} = {num*i}""")
    i+=1
```

```
55 x 1 = 55
55 x 2 = 110
55 x 3 = 165
55 x 4 = 220
55 x 5 = 275
55 x 6 = 330
55 x 7 = 385
55 x 8 = 440
55 x 9 = 495
55 x 10 = 550
```

In [57]:
```python
# 5. Write a program to check whether a number provided by the user is a
# palindrome.
num=int(input())
temp=num
rev=0
while num>0:
    lastdig=num%10
    rev=rev*10+lastdig
    num=num//10
if rev==temp:
    print("p")
else:
    print("n")
```

```
p
```

In [2]:
```python
# 6. Write a program to generate the Fibonacci series up to a number provided by
# user.
num=int(input())
i=0
a=0
b=1
while i<=num:
    print(a,end=" ")
    c=a+b
    a=b
    b=c
    i=i+1

# for i in range (7):
#     print(a,end=" ")
#     c=a+b
#     a=b
#     b=c
```

```
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946
```

In [19]:
```python
# 7. Write a program to check whether a number provided by the user is prime.
num=int(input())
i=2
isPrime = True

if num<=1:
    print("Not Prime")
elif num ==2:
    print("Prime")

elif num>2:
    while(i<num):
        if num%i==0:
```

```
            isPrime = False
            break
        i+=1

    if isPrime:
        print("Prime")
    else:
        print("Not Prime")
```

In [36]:
```
# 8. Write a program to generate the squares of the first 10 natural numbers.
# The output should be in the format: Square of 2: 4 and so on.

i=1
while i<=11:
    print(f"Sqare of {i} : {i*i}")
    i+=1
```

```
Sqare of 1 : 1
Sqare of 2 : 4
Sqare of 3 : 9
Sqare of 4 : 16
Sqare of 5 : 25
Sqare of 6 : 36
Sqare of 7 : 49
Sqare of 8 : 64
Sqare of 9 : 81
Sqare of 10 : 100
Sqare of 11 : 121
```

In [37]:
```
# 9. Write a program to calculate the sum of the digits of a number provided by
# user.
# num= int(input())

# s=0
# while num>0:
#     last=num%10
#     s=s+last
#     num=num//10

# print(s)
```

```
6
```

In [41]:
```
# 10.Write a program to check whether a number provided by the user is a
# palindrome.
num= int(input())
temp=num
s=0
while num>0:
    last=num%10
    s=s*10+last
    num=num//10

if temp==s:
    print("p")
else:
    print("np")
```

```
p
```

In [49]:
```
#11. Write a program that takes the starting and ending points of a range as inp
# from the user, then calculates the sum of all numbers within that range.

num1= int(input())
num2= int(input())
sm=0
i=num1
while i>=num1 and i<=num2:
    sm=sm+i
    i+=1

print(sm)
```

```
27
```

In [68]:
```
#12.Write a program that takes the starting and ending points of a range as inpu
#from the user, then calculates the product of all numbers within that range.

num1= int(input())
num2= int(input())
sm=1
i=num1
while i>=num1 and i<=num2:
    sm=sm*i
    i+=1

print(sm)
```

```
6
```

In [14]:
```
# 13.Write a program to find the greatest character in the string "python".
string="python"
char= ""
i=0
while i<len(string):
    if string[i] > char:
        char =string[i]
    i+=1
print(char)
```

```
y
```

In [15]:
```
# 14.Write a program that allows the user to search for a character within the s
# "Python is a programming language".
text = "Python is a programming language"
inp = input("Enter a character to search: ")

i = 0
count=0
found = False

while i < len(text):
    if text[i] == inp:
        print(f"Character '{inp}' found at position {i}")
        found = True
        count+=1
    i += 1

if not found:
```

```
    print(f"Character '{inp}' not found in the string.")
else:
    print(count)
```

```
Character 'l' found at position 24
1
```

In [18]:
```
# 15.Write a program to filter out all vowels and consonants from a string provi
# the user.
str="pyathon"
vob=" "
cos=" "
i=0
while i<len(str):
    if str[i]=="a" or str[i]=="e" or str[i]=="i" or str[i]=="o" or str[i]=="u":
        vob=vob+str[i]
    else:
        cos=cos+str[i]
    i+=1

print(f"vowels are :{vob}")
print(f"consonent are : {cos}")
```

```
vowels are : ao
consonent are :  pythn
```

In [21]:
```
# 16.Write a program to filter out duplicate characters from a string provided b
# user.
str="prorammin"
dup=""
i=0
while i < len(str):
    dup= dup+str[i]
    if str[i]in dup:
        du=str[i]
    i+=1
print(du)
```

```
n
```

In [22]:
```
#17.Write a program to find the greatest character in the string "python".
string = "python"
greet = " "
i=0
while i<len(string):
    if string[i]> greet:
        greet=string[i]
    i+=1
print(greet)
```

```
y
```

In [29]:
```
#18.Write a program to display all letters except 'm' and 'i' from the string
str="Dreamer Infotech".lower()

str1=" "
i=0
while i<len(str):
    if str[i]!='m' and str[i]!="i":
        str1=str1+str[i]
```

```
    i+=1
print(str1)
```

```
dreaer nfotech
```

In [30]:
```
#19.Write a program to print alternate characters of a string provided by the us
str=input("ennter kro bhai string")
alt=" "
i=0
while i < len(str):
    if i%2==0:
        alt=alt+str[i]
    i+=1
print(alt)
```

```
aceg
```

In [37]:
```
#20.Write a program to reverse a string provided by the user.

str=input("ennter kro bhai string")
i=len(str)-1
while i>=0:
    print(str[i])
    i-=1
```

```
j
u
n
a
```