Q1.Write a program to accept an integer n greater than 10. Then print all the odd numbers from 1 to n.

In [2]:
```
n=int(input('Enter a number that is greater than 10 :'))
while n<10:
    n=int(input('Enter a number that is greater than 10 :'))
for i in range(1,n+1,2):
    print(i,end=' ')
```

```
Enter a number that is greater than 10 :14
1 3 5 7 9 11 13
```

In [ ]:

Q2.Write a program to accept an integer n greater than 10. Then print all the prime numbers from 1 to n.

In [3]:
```
m=int(input('Enter a number :'))
while m<10:
    m=int(input('Enter a number :'))
for n in range(2,m):
    count=0
    for i in range(2,((n//2)+1)):
        if(n%i==0):
          count=count+1
          break
    else:
        print(n,end=' ')
```

```
Enter a number :12
2 3 5 7 11
```

In [ ]:

Q3.In this exercise you will create a program that computes the average of a collection of values entered by the user. The user will enter 0 as a sentinel value to indicate that no further values will be provided. Your program should display an appropriate error message if the first value entered by the user is 0.

In [5]:
```
print("input some integers to calculate their sum and average>input 0 to exit.")
count=0
sum=0.0
number=1

while number !=0:
    number=int(input(""))
    sum=sum+number
    count+=1
if count ==0:
    print('input some numbers')

else:
    print("average and sum of the above numbers are:",sum/(count-1),sum)
```

```
input some integers to calculate their sum and average>input 0 to exit.
6
7
8
9
0
average and sum of the above numbers are: 7.5 30.0
```

In [ ]:

Q4.Write a program that takes a number as input and prints its multiplication table.

In [6]:
```
num=int(input('Enter the number '))
for i in range(1,10):
    print(num,'x',i,'=',num*i)
```

```
Enter the number 13
13 x 1 = 13
13 x 2 = 26
13 x 3 = 39
13 x 4 = 52
13 x 5 = 65
13 x 6 = 78
13 x 7 = 91
13 x 8 = 104
13 x 9 = 117
```

In [ ]:

Q5.Write a program that displays a temperature conversion table for degrees Celsius and degrees Fahrenheit. The table should include rows for all temperatures between 0 and 100 degrees Celsius that are multiples of 10 degrees Celsius. Include appropriate headings on your columns.

In [7]:
```
print('   F    C ' )
for C in range(0,100,10):
    F=9 * C / 5 + 32
    print('%4.0f %4.0f' % (F , C))
```

```
   F    C
  32    0
  50   10
  68   20
  86   30
 104   40
 122   50
 140   60
 158   70
 176   80
 194   90
```

In [ ]:

Q6.A string is a palindrome if it is identical forward and backward. For example “anna“, “civic“, “level“ and “madam“ are all examples of palindrome words. Write a program that reads a string from the user and uses a loop to determine whether or not it is a palindrome. Display the result, including a meaningful output message.

In [8]:
```
str1=input('Enter the string:')
rev=str1[::-1]
for i in range(len(str1)):
    if str1[i]!=rev[i]:
        print('The string ',str1,'is not a palindrome')
        break

else:
     print('The string ',str1,'is a palindrome')
```

```
Enter the string:civic
The string  civic is a palindrome
```

Q7.The greatest common divisor (GCD) of two positive integers, n and m, is the largest number, d, which divides evenly into both n and m. The following algorithm is used to find GCD of n and m :

Initialize d to the smaller of m and n.

While d does not evenly divide m or d does not evenly divide n do

Decrease the value of d by 1

Report d as the greatest common divisor of n and m

In [10]:
```
m=int(input('Enter a number :'))
n=int(input('Enter a number :'))
d=min(m,n)
while m%d!=0 or n%d!=0:
    d=d-1
print(d)
```

```
Enter a number :2
Enter a number :4
2
```

In [ ]:

Q8.The prime factorization of an integer, n, can be determined using the following steps:

Initialize factor to two

While factor is less than or equal to n do

If n is evenly divisible by factor then # Conclude that factor is a factor of n

Divide n by factor using integer division

Else

Increase factor by one

In [11]:
```
x= eval(input('Enter the value of n:'))
divisor=2
while divisor<=x:
    if x % divisor ==0:
        print(divisor)
        x=x/divisor
    else:
        divisor+=1
```

```
Enter the value of n:80
2
2
2
2
5
```

In [ ]:

Q9. Write a program that converts a binary (base 2) number to decimal (base 10). Your program should begin by reading the binary number from the user as a string. Then it should compute the equivalent decimal number by processing each digit in the binary number. Finally, your program should display the equivalent decimal number with an appropriate message.

In [12]:
```
result=''#result will hold the final equivalent decimal no:
binary=input('Enter the binary numbers:')
decimal=0
for digit in binary:
    decimal=decimal*2+int(digit)
print('The equivalent decimal of is :',decimal)
```

```
Enter the binary numbers:450
The equivalent decimal of is : 26
```

In [ ]:

Q10.Demonstrate the formatting capabilities of format function on integers, floats and strings.

In [13]:
```
r,l,name=30.5,35,'David miller'
print(f'radius={r}')
print(f'length={l},name={name}')
for i in name.split():
    print(i)
```

```
radius=30.5
length=35,name=David miller
David
miller
```

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

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