Problem-1(Use conditional statements)

Write a program that asks the user to enter a length in centimetres. If the user enters a negative length, the program should tell the user that the entry is invalid. Otherwise, the program should convert the length to inches and print out the result. There are 2.54 centimetres in an inch.

In [8]:
```
x=eval(input('Please Enter Length in Centimeters'))
if x<0:
    print(f'Invalid Input Data {x}')
else:
    ans=(x/2.54)
    print(f'After Conversion {x} centimetres is Equal to {ans}')
```

```
Invalid Input Data -1
```

Problem-2(Use conditional statements)

Ask the user for a temperature. Then ask them what units, Celsius or Fahrenheit, the temperature is in. Your program should convert the temperature to the other unit. The conversions are F = 9 5 C +32 and C = 5 9 (F − 32).

In [20]:
```
x=eval(input('Please Enter temperature'))
curr=input('Please Enter current type Celsius or Fahrenheit')
if curr=='Celsius' :
    F = ((9/5) * x +32)
    print(f'For Given {x} Celsius equivalent to {F} Fahrenheit')
elif curr=='Fahrenheit':
    C = (5/9) * (x - 32)
    print(f'For Given {x} Fahrenheit equivalent to {C} Celsius')
else:
    print('Invalid Temparatue type')
```

```
For Given 45 Fahrenheit equivalent to 7.222222222222222 Celsius
```

Problem-3(Use conditional statements)

Ask the user to enter a temperature in Celsius. The program should print a message based on the temperature: • If the temperature is less than -273.15, print that the temperature is invalid because it is below absolute zero. • If it is exactly -273.15, print that the temperature is absolute 0. • If the temperature is between -273.15 and 0, print that the temperature is below freezing. • If it is 0, print that the temperature is at the freezing point. • If it is between 0 and 100, print that the temperature is in the normal range. • If it is 100, print that the temperature is at the boiling point. • If it is above 100, print that the temperature is above the boiling point.

In [30]:
```
x=eval(input('Please Enter temperature'))
if x<-273.15:
    print(f'Current Temparature {x} is Invalid because it is below absolute zero ')
```

```
elif x==-273.15:
    print(f'Current Temparature {x} is absolute 0 ')
elif (x>-273.15 and x<=0):
    print(f'Current Temparature {x} is below Freezing')
elif x==0:
    print(f'Current Temparature {x} is at the freezing point')
elif x>=0 and x<100:
    print(f'Current Temparature {x} is Normal')
elif x==100:
    print(f'Current Temparature {x} is at Boling Point')
else:
    print(f'Current Temparature {x} is above the Boling Point')
```

```
Current Temparature -273.15 is absolute 0
```

Problem-4(Use conditional statements)

Write a program that asks the user how many credits they have taken. If they have taken 23 or less, print that the student is a freshman. If they have taken between 24 and 53, print that they are asophomore. The range for juniors is 54 to 83, and for seniors it is 84 and over.

In [36]:
```
x=eval(input('Please Enter Credits You have Taken'))
if x<23:
    print(f'Student is a Freshman ')
elif (x>=24 and x<53):
    print(f'Student is a asophomore')
elif (x>=54 and x<84):
    print(f'Student is a Junior')
else:
   print(f'Student is a Senior')
```

```
Student is a Senior
```

Problem-5(Use conditional statements)

Generate a random number between 1 and 10. Ask the user to guess the number and print a message based on whether they get it right or not.

In [38]:
```
import random
ran =random.randint(1,5)
count=5
for j in range(1,6):
    count-=1
    user_no=eval(input('Please Enter a Number'))
    if(ran==user_no):
        print('You won Lottery')
        break
    else:
        print('Better Luck Next Time')
    if(count==0):
        print('Please try after 24 hours')
```

```
Better Luck Next Time
Better Luck Next Time
Better Luck Next Time
```

```
Better Luck Next Time
Better Luck Next Time
Please try after 24 hours
```

Problem-6(Use conditional statements)

A store charges $12 per item if you buy less than 10 items. If you buy between 10 and 99 items, the cost is 10 per item. If you buy 100 or more items, the cost is $7 per item. Write a program that asks the user how many items they are buying and prints the total cost.

In [44]:
```
x=eval(input('Please Enter No of Items'))
ans=0
if (x>=10 and x<99):
    ans=x*10
    print(f'For {x} Items,Total Cost is {ans} $')
elif (x>=100):
    ans=x*7
    print(f'For {x} Items,Total Cost is {ans} $')
else:
   print(f'Please Enter Valid Input')
```

```
For 500 Items,Total Cost is 3500 $
```

Problem-7(Use conditional statements)

Write a program that asks the user for two numbers and prints Close if the numbers are within .001of each other and Not close otherwise.

In [60]:
```
x=eval(input('Please Enter First No'))
y=eval(input('Please Enter second No'))
if(round(abs(x-y),3))<=0.001:
    print('Close')
else:
    print('Not CLose')
```

```
Close
```

Problem-8(Use conditional statements)

A year is a leap year if it is divisible by 4, except that years divisible by 100 are not leap years unless they are also divisible by 400. Write a program that asks the user for a year and prints out whether it is a leap year or not.

In [70]:
```
x=eval(input('Please Enter Year Number'))
if (((x%100!=0) and (x%4==0)) or (x%400==0)):
    print(f'{x} is a Leap Year')
else:
    print(f'{x} is NOT Leap Year')
```

```
2400 is a Leap Year
```

Problem-9(Use conditional statements)

Write a program that asks the user to enter a number and prints out all the divisors of that number. [Hint: the % operator is used to tell if a number is divisible by something.

In [78]:
```
ans=[]
x=eval(input('Please Enter Year Number'))
for k in range(1,x+1):
    if(x%k==0):
        ans.append(k)
print(f'The Divisors of {x} are :{ans}')
```

```
The Divisors of 20 is :[1, 2, 4, 5, 10, 20]
```

Write a program that asks the user for an hour between 1 and 12, asks them to enter am or pm, and asks them how many hours into the future they want to go. Print out what the hour will be that many hours into the future, printing am or pm as appropriate. An example is shown below. Enter hour: 8 am (1) or pm (2)? 1 How many hours ahead? 5 New hour: 1 pm

In [98]:
```
x=eval(input('Please Enter an Hour Value b/w 1 & 12'))
y=input('Please Enter current time is in am or pm')
z=eval(input('Please Enter how many hours into the future they want to go.'))
sum=x+z
if y=='am':
    if sum>12:
        print(f'{sum-12} pm')
    elif sum==12:
        print(f'12 pm')
    else:
        print(f'{sum} am')
elif y=='pm':
    if sum>12:
        print(f'{sum-12} am')
    elif sum==12:
        print(f'00 am')
    else:
        print(f'{sum} pm')
```

```
10 pm
```

In [80]:
```
import time
dir(time)
```

Out[80]:
```
['_STRUCT_TM_ITEMS',
 '__doc__',
 '__loader__',
 '__name__',
 '__package__',
 '__spec__',
 'altzone',
 'asctime',
 'ctime',
 'daylight',
 'get_clock_info',
 'gmtime',
 'localtime',
 'mktime',
 'monotonic',
 'monotonic_ns',
 'perf_counter',
 'perf_counter_ns',
 'process_time',
 'process_time_ns',
 'sleep',
 'strftime',
 'strptime',
 'struct_time',
 'thread_time',
 'thread_time_ns',
 'time',
 'time_ns',
 'timezone',
 'tzname']
```

In [ ]: