In [3]: ▶|
```python
# 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 t
# Otherwise, the program should convert the length to inches and print out
# There are 2.54 centimetres in an inch.


user1= eval(input("Enter the length in cm: "))
if user1 > 0:
    inch=user1*2.54
    print("The vale in inches after conversion from cm is :",inch)
else:
    print("The value you have entered is invalid")
```

```
Enter the length in cm: -9
The value you have entered is invalid
```

In [7]: ▶|
```python
# #### Problem-2(Use conditional statements)
# Ask the user for a temperature. Then ask them what units, Celsius or Fah
# the temperature is in. Your program should convert the temperature to th
# The conversions are F = 9 5 C +32 and C = 5 9 (F – 32).

temp= eval(input("Enter the temperature "))
user2=input(" Enter for Celsius for C or Fahrenheit for F:  ")
if user2=='F':
    temp1 = (95*temp) +32
    print("The value in Farenheit is",temp1)
elif user2=='C':
    temp2=59*(temp-32)
    print("The value in Celsius is",temp2)
else:
    print("The unit you re asking for is invalid")
```

```
Enter the temperature 56
 Enter for Celsius for C or Fahrenheit for F:  C
The value in Celcius is 1416
```

In [18]: ▶|

```python
# #### Problem-3(Use conditional statements)
# Ask the user to enter a temperature in Celsius. The program should print
# • If the temperature is less than -273.15, print that the temperature is
#  • 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 temperatu
# • 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 norm
#  • 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 po

User3=eval(input("Enter the temperature in Celcius: "))
if User3<-273.15:
    print("the temperature is invalid because it is below absolute zero")
elif User3 == -273.15:
    print("The temperature is absolute 0")
elif User3<-273.15 and User3>0:
    print("The temperature is below freezing ")
elif User3==0:
    print("The temperature is at the freezing point.")
elif User3>0 and User3<100:
    print("The temperature is in the normal range")
elif User3==100:
    print("The temperature is at the boiling point")
else:
    print("The temperature is above the boiling point.")
```

```
Enter the temperature in Celcius: 78
The temperature is in the normal range
```

In [15]: ▶|

```python
#### 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 a sophomore.
# The range for juniors is 54 to 83, and for seniors it is 84 and over.

user4=eval(input("How many credits have you taken: "))
if user4 < 23:
    print(" You are a freshman.")
elif user4>24 and user4<53:
    print("You are a  sophomore.")
elif user4>54 and user4<83:
    print("You are a  junior.")
else:
    print("your are a senior")
```

```
How many credits have you taken: 99
your are a senior
```

In [19]: ▶|
```python
#### 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 th
import random
user5=random.randint(1,10)
print("The value generated form random function is: ",user5)
user5p1=eval(input("Guess a number between 1 and 10"))
if user5==user5p1:
    print("you won")
else:
    print("You lost")
```

```
The value generated form random function is:  1
Guess a number between 1 and 104
You lost
```

In [ ]: ▶|
```python
#### 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 pr
```

In [22]: ▶|
```python
user6=eval(input("Enter the number of items you are buying : "))
if user6<10:
    print(f"The total cost will be {user6*12}$")
elif user6>10 and user6<99:
    print(f"The total cost will be {user6*10}$")
else:
    print(f"The total cost will be {user6*7}$")
```

```
Enter the number of items you are buying : 45
The total cost will be 450$
```

In [28]: ▶|
```python
#### Problem-7(Use conditional statements)
# Write a program that asks the user for two numbers and prints Close if t
# .001 of each other and Not close otherwise.

num1=eval(input("Enter the first number"))

num2=eval(input("Enter the second number"))

if num1==num2+0.01 or num1==num2-0.01:
    print("The number is close")
else:
    print("The number is not close")
```

```
Enter the first number3
Enter the second number4
The number is not close
```

In [1]: ▶|

```python
#### Problem-8(Use conditional statements)
# A year is a leap year if it is divisible by 4, except that years divisib
# unless they are also divisible by 400. Write a program that asks the use
# it is a leap year or not.

year = eval(input("Enter the year: "))
if year%4 == 0 and (year%400==0 or year%100!= 0):
    print("The year is leap year")
else:
    print("The year is not a leap year")
```

```
Enter the year: 2024
The year is leap year
```

In [9]: ▶|

```python
#### 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 someth
user9=eval(input('Enter a number:'))
for i in range(1,user9+1):
    if user9%i==0:
        print(i)
```

```
Enter a number:56
1
2
4
7
8
14
28
56
```

In [18]:

```python
#### Problem-10(Use conditional statements)
# 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 futur
# 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
temp3=0
user10p1=eval(input("Enter the hours between 1 and 12 :"))
user10p2=eval(input("Enter if you want am being 1 or pm being 2:"))
user10p3=eval(input("How many hours into future do you want to go: "))
time=user10p1+user10p3
vali_t=time%12
if (user10p2/12)%2 == 0:
    if user10p2 == 1:
        print(f'{vali_t}am')
    else:
        print(f'{vali_t}pm')

else:
    if user10p2 == 1:
        print(f'{vali_t}pm')
    else:
        print(f'{vali_t}am')
```

```
Enter the hours between 1 and 12 :5
Enter if you want am being 1 or pm being 2:1
How many hours into future do you want to go: 8
1pm
```

In [ ]: