# Basic Programming assignment 2

## 1.Write a Python program to convert Kilometers to Miles ?

In [1]:
```
kilometers = float(input("Enter the distance in kilometers: "))

# Conversion factor: 1 kilometer = 0.621371 miles
conversion_factor = 0.621371

miles = kilometers * conversion_factor

print("The distance in miles is:", miles)
```

```
Enter the distance in kilometers: 25
The distance in miles is: 15.534275000000001
```

## 2.Write a Python program to convert Celsius to Farenheit ?

In [2]:
```
celsius = float(input("Enter the temperature in Celsius: "))

# Conversion formula: Fahrenheit = (Celsius * 9/5) + 32
fahrenheit = (celsius * 9/5) + 32

print("The temperature in Fahrenheit is:", fahrenheit)
```

```
Enter the temperature in Celsius: 25
The temperature in Fahrenheit is: 77.0
```

## 3.Write a Python program to display calender ?

In [3]:
```
import calendar

year = int(input("Enter the year: "))


# Display the calendar
print(calendar.calendar(year))
```

```
Enter the year: 2023
                                  2023

      January               February              March
Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su
                   1            1  2  3  4  5            1  2  3  4  5
 2  3  4  5  6  7  8   6  7  8  9 10 11 12   6  7  8  9 10 11 12
 9 10 11 12 13 14 15  13 14 15 16 17 18 19  13 14 15 16 17 18 19
16 17 18 19 20 21 22  20 21 22 23 24 25 26  20 21 22 23 24 25 26
23 24 25 26 27 28 29  27 28                 27 28 29 30 31
30 31

       April                 May                   June
Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su
                1  2   1  2  3  4  5  6  7               1  2  3  4
 3  4  5  6  7  8  9   8  9 10 11 12 13 14   5  6  7  8  9 10 11
10 11 12 13 14 15 16  15 16 17 18 19 20 21  12 13 14 15 16 17 18
17 18 19 20 21 22 23  22 23 24 25 26 27 28  19 20 21 22 23 24 25
24 25 26 27 28 29 30  29 30 31              26 27 28 29 30

        July                 August              September
Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su
                1  2      1  2  3  4  5  6                  1  2  3
 3  4  5  6  7  8  9   7  8  9 10 11 12 13   4  5  6  7  8  9 10
10 11 12 13 14 15 16  14 15 16 17 18 19 20  11 12 13 14 15 16 17
17 18 19 20 21 22 23  21 22 23 24 25 26 27  18 19 20 21 22 23 24
24 25 26 27 28 29 30  28 29 30 31           25 26 27 28 29 30
31

      October              November              December
Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su  Mo Tu We Th Fr Sa Su
                   1            1  2  3  4  5            1  2  3
 2  3  4  5  6  7  8   6  7  8  9 10 11 12   4  5  6  7  8  9 10
 9 10 11 12 13 14 15  13 14 15 16 17 18 19  11 12 13 14 15 16 17
16 17 18 19 20 21 22  20 21 22 23 24 25 26  18 19 20 21 22 23 24
23 24 25 26 27 28 29  27 28 29 30           25 26 27 28 29 30 31
30 31
```

## 4.Write a Python program to solve quadartic equation ?

In [6]:
```
import math
```

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```
import math

# Input coefficients of the quadratic equation
a = float(input("Enter the coefficient of x^2: "))
b = float(input("Enter the coefficient of x: "))
c = float(input("Enter the constant term: "))

# Calculate discriminant
discriminant = b**2 - 4*a*c

# Check the nature of roots
if discriminant > 0:
    # Two distinct real roots
    root1 = (-b + math.sqrt(discriminant)) / (2*a)
    root2 = (-b - math.sqrt(discriminant)) / (2*a)
    print("The roots are real and different:", root1, "and", root2)
elif discriminant == 0:
    # One real root (repeated root)
    root = -b / (2*a)
    print("The root is real:", root)
else:
    # Complex roots
    real_part = -b / (2*a)
    imaginary_part = math.sqrt(abs(discriminant)) / (2*a)
    print("The roots are complex:")
    print("Root 1:", real_part, "+", imaginary_part, "i")
    print("Root 2:", real_part, "-", imaginary_part, "i")
```

```
Enter the coefficient of x^2: 1
Enter the coefficient of x: 2
Enter the constant term: 1
The root is real: -1.0
```

## 5.Write a Python program to swap two variables without temp variable ?

In [7]:
```
var1 = input("Enter the value of variable 1: ")
var2 = input("Enter the value of variable 2: ")

print("Before swapping:")
print("Variable 1 =", var1)
print("Variable 2 =", var2)

var1, var2 = var2, var1

print("After swapping:")
print("Variable 1 =", var1)
print("Variable 2 =", var2)
```

```
Enter the value of variable 1: 10
Enter the value of variable 2: 25
Before swapping:
Variable 1 = 10
Variable 2 = 25
After swapping:
Variable 1 = 25
Variable 2 = 10
```