**def** add(a,b):

**return** a**+**b

**def** sub(a,b):

**return** a**-**b

**def** prod(a,b):

**return** a **\*** b

**def** div(a,b):

**return** a **/** b

**def** si(p, r, t):

**return** (p**\***r**\***t) **/** 100

**def** ci(p, r ,t):

**return** p **\*** pow((1 **+** r**/**100), t)

**def** sqr(num):

**return** num**\*\***2

**def** sqrt(num)

**return** num**\*\***0.5

print(add(10,15))

program -2

num **=** 5

a **=** (2 **\*** num) **-** 2

**for** i **in** range(0, num):

**for** j **in** range(0, a ):

         print(end**=**" ")

**for** j **in** range(0, i**+**1)

     print('\*' , end**=**" ")

print(" ")

program - 3

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9 | year **=** int(input('enter year'))  **if** year **%** 400 **==** 0:    print('it is a leap year')  **elif** year **%** 4 **==** 0:    print('it is a leap year')  **elif** year **%** 100 **==** 0:    print('not a leap year')  **else**:    print('not a leap year') |

Program -4

**import** math

pi **=** math.pi

**def** circle(radius):

**return** pi **\*** radius**\*\***2

**def** cube(side):

**return** side**\*\***3

**def** cylinder(radius, height):

**return** 2**\***pi**\***radius **+** 2**\***pi**\***height

**def** sphere(radius):

**return** 2**\***pi**\***(radius**\*\***2)

print(circle(10))

program – 5

a **=** [1,2,3,4,5,6,7,8,9,10]

print(a[: : **-**1])

#this will print the list in reverse.

Program – 6----LCM calculate

**def** calculate\_lcm(x, y):

**if** x > y:

        greater = x

**else**:

        greater = y

**while**(True):

**if**((greater % x == 0) **and** (greater % y == 0)):

            lcm = greater

**break**

        greater += 1

**return** lcm

num1 = int(input("Enter first number: "))

num2 = int(input("Enter second number: "))

**print**("The L.C.M. of", num1,"and", num2,"is", calculate\_lcm(num1, num2))

**Output:**

Enter first number: 3

Enter second number: 4

The L.C.M. of 3 and 4 is 12

Program – 7----GCD calculate

**def** calculate\_hcf(x, y):

**if** x > y:

        smaller = y

**else**:

        smaller = x

**for** i **in** range(1,smaller + 1):

**if**((x % i == 0) **and** (y % i == 0)):

            hcf = i

**return** hcf

num1 = int(input("Enter first number: "))

num2 = int(input("Enter second number: "))

**print**("The H.C.F. of", num1,"and", num2,"is", calculate\_hcf(num1, num2))

**Output:**

Enter first number: 8

Enter second number: 12

The H.C.F. of 8 and 12 is 4

Program – 8---Display calendar

**import** calendar

yy = int(input("Enter year: "))

mm = int(input("Enter month: "))

**print**(calendar.month(yy,mm))

program – 9---fibonacci using recursion

**def** recur\_fibo(n):

**if** n <= 1:

**return** n

**else**:

**return**(recur\_fibo(n-1) + recur\_fibo(n-2))

nterms = int(input("How many terms? "))

**if** nterms <= 0:

**print**("Plese enter a positive integer")

**else**:

**print**("Fibonacci sequence:")

**for** i **in** range(nterms):

**print**(recur\_fibo(i))

**program – 10----Simple Calculator**

**def** add(P, Q):

   # This function is used for adding two numbers

**return** P + Q

**def** subtract(P, Q):

**return** P - Q

**def** multiply(P, Q):

**return** P \* Q

**def** divide(P, Q):

**return** P / Q

**print** ("Please select the operation.")

**print** ("a. Add")

**print** ("b. Subtract")

**print** ("c. Multiply")

**print** ("d. Divide")

choice = input("Please enter choice (a/ b/ c/ d): ")

num\_1 = int (input ("Please enter the first number: "))

num\_2 = int (input ("Please enter the second number: "))

**if** choice == 'a':

**print** (num\_1, " + ", num\_2, " = ", add(num\_1, num\_2))

**elif** choice == 'b':

**print** (num\_1, " - ", num\_2, " = ", subtract(num\_1, num\_2))

**elif** choice == 'c':

**print** (num1, " \* ", num2, " = ", multiply(num1, num2))

**elif** choice == 'd':

**print** (num\_1, " / ", num\_2, " = ", divide(num\_1, num\_2))

**else**:

**print** ("This is an invalid input")

**Output:**

**Case - (1):**

Please select the operation.

a. Add

b. Subtract

c. Multiply

d. Divide

Please enter choice (a/ b/ c/ d): d

Please enter the first number: 1

Please enter the second number: 2

1 / 2 = 0.5

**Case - (2):**

Please select the operation.

a. Add

b. Subtract

c. Multiply

d. Divide

Please enter choice (a/ b/ c/ d): b

Please enter the first number: 12

Please enter the second number: 11

12 - 11 = 1

Program-11---ASCII key values

K = input("Please enter a character: ")

**print** ("The ASCII value of '" + K + "' is ", ord(K))

**Output:**

Please enter a character: J

The ASCII value of 'J' is 74

**Program – 12---ASCII key values**

**print** ("Please enter the String: ", end = "")

string = input()

string\_length = len(string)

**for** K **in** string:

    ASCII = ord(K)

**print** (K, "\t", ASCII)

**Output:**

Please enter the String:

"JavaTpoint#

" 34

J 74

a 97

v 118

a 97

T 84

p 112

o 111

i 105

n 110

t 116

# 35

Program – 12

K = 21

J = 123

R = 76

**print** ("The character value of 'K' ASCII value is: ", chr(K))

**print** ("The character value of 'J' ASCII value is: ", chr(J))

**print** ("The character value of 'R' ASCII value is: ", chr(R))

**Output:**

The character value of 'K' ASCII value is:

The character value of 'J' ASCII value is: {

The character value of 'R' ASCII value is: L

Program – 13 ---- bin, dec , octal convert---using function

**def** decimal\_into\_binary(decimal\_1):

    decimal = int(decimal\_1)

**print** ("The given decimal number", decimal, "in Binary number is: ", bin(decimal))

**def** decimal\_into\_octal(decimal\_1):

    decimal = int(decimal\_1)

**print** ("The given decimal number", decimal, "in Octal number is: ", oct(decimal))

**def** decimal\_into\_hexadecimal(decimal\_1):

    decimal = int(decimal\_1)

**print** ("The given decimal number", decimal, " in Hexadecimal number is: ", hex(decimal))

decimal\_1 = int (input (" Enter the Decimal Number: "))

decimal\_into\_binary(decimal\_1)

decimal\_into\_octal(decimal\_1)

decimal\_into\_hexadecimal(decimal\_1)

**Output:**

**Case - (1):**

Enter the Decimal Number: 12

The given decimal number 12 in Binary number is: 0b1100

The given decimal number 12 in Octal number is: 0o14

The given decimal number 12 in Hexadecimal number is: 0xc

**Case - (2):**

Enter the Decimal Number: 196

The given decimal number 196 in Binary number is: 0b11000100

The given decimal number 196 in Octal number is: 0o304

The given decimal number 196 in Hexadecimal number is: 0xc4