**#Basic Calculation**

**#Q.1. Program to print two different strings “Hello” and “World” in different**

**lines.**

**Ans.1-**

a="hello"

b="world"

print(a)

print(b)

**#Q.2. Program to print two different strings “Hello” and “World” in a single line.**

**Ans.2-**

a="hello"

b="world"

print(a,b,sep="")

**#Q.3.Program to add two entered integer values.**

**Ans.3-**

a=10

b=20

print(a+b)

**#Q.4.Program to subtract two entered integer values.**

**Ans.4-**

a=10

b=20

print(a-b)

**#Q.5.Program to multiply two entered integer values.**

**Ans.5-**

a=10

b=20

print(a\*b)

**#Q.6.Program to input two integer values and calculate first number raised to the power second.**

**number.**

**Ans.6-**

a=int(input('enter first number'))

b=int(input('enter second number'))

print(a\*\*b)

**#Q.7. Program to find the area and perimeter of a rectangle, when the required input (Length and**

**Breadth) are entered by the user.**

**Ans.7-**

l=int(input('enter the length'))

b=int(input('enter the breadth'))

c=l\*b

print('area of rectangle',c)

d=2\*(l+b)

print('perimeter of rectangle',d)

**#Q.8.program to find the area and circumference of a circle, when the radius is entered by the user.However, the user can input radius in integer or float.**

**Ans.8-**

r=float(input('enter the radius'))

a=3.14\*r\*r

print('area of the circle',a)

b=2\*3.14\*r

print('area of circumferance',b)

**#Q.9.Program to input two numbers and print the swapped values of them.**

**Ans.9-**

a=int(input('enter first number'))

b=int(input('enter second number'))

a,b=b,a

print("a=",a)

print("b=",b)

**#Q.10.Program to find the hypotenuse of a right angled triangle, when the base and height are entered by the user.**

**Ans.10-**

from math import sqrt

print("input lenghts of shorter triangle sides:")

b=float(input('enter the base'))

h=float(input('enter the height'))

c=sqrt(h\*\*2 + b\*\*2)

print('the hypotenuse of a right angled triangle',c)

**#Q.11.Program that calculates the number of rectangular tiles required to cover a rectangular floor if the dimensions of the floor and the dimensions of a tile are entered by the user.**

**Ans.11-**

x=float(input('lenth of floor'))

y=float(input('breadth of floor'))

z=x\*y

print('area of dimensional in floor',z)

a=float(input('length of tiles'))

b=float(input('breath of tiles'))

c=a\*b

print('dimension of tiles',c)

print( 'no.of tiles',z/c)

**#Q.12. Program to find the Simple Interest and the total amount when the Principal, Rate of Interest and Time are entered by the user.**

**Ans.12-**

p=int(input("Enter the principal"))

r=int(input("Enter the rate of interest"))

t=int(input("Enter the time"))

si=(p\*r\*t)/100

print('the simple interest is',si)

**#Q.13.Program to find the Compound Interest compounded annually and the total amount when the Principal, Rate of Interest and Time are entered by the user.**

**Ans.13-**

p=int(input("Enter the principal"))

r=float(input("Enter the rate of interest"))

t=int(input("Enter the time in years"))

ci=p\*(1+r/100)\*\*t

print('the simple interest is',ci)

**#Q.14.Program to find the number of currency notes of each type (Rs. 2000, Rs. 500 and Rs. 100), when the total number of currency notes counted altogether is minimum and there must be at**

**least a 100 rupee note dispensed. The amount to be withdrawn is to be entered by the user.**

**Ans.14-**

n=int(input())

r=n-100

t=r//2000

r%=2000

f=r//500

r%=500

o=r//100

print(f'''Hundred:{o+1}

Five hundred:{f}

Two thousand:{t}'''

**#Q.15.Program to find the hypotenuse of a right angled triangle, when the base and height are entered.**

**by the user.**

**Ans.15-**

a=float(input("enter base of rectangle"))

b=float(input("enter perpendicular of rectangle"))

print("the hypotenuse of rectangle is",(a\*\*2 +b\*\*2)\*\*(1/2))

**#Q.16. Program to input the number of overs in a Cricket match and output the maximum runs a player can score in the match. Assume that there are no extra runs or NO balls in the match**

**played. For example, in a 50 over match, the maximum runs scored are 1653.**

**Ans.16-**

Over=int(input("please enter the number of over"))

'''

logic

in one ball

player hit 5 six in one over and take 3 runs in last over

'''

print("the maximum runs hit by player =",Over\*33+3)

**#Q.17.Program to find whether a triangle is scalene, isosceles, equilateral triangle or invalid when the sides of the triangle are entered by the user.**

**Ans.17-**

a=int(input("enter the first side"))

b=int(input("enter the second side"))

c=int(input("enter the third side"))

if(a==b==c):

print("This is equilateral triangle")

elif (a!=b==c):

print("this is isosceles triangle")

elif(a!=b!=c):

print("this is scalene triangle")

else:

print("invalid syntax")

**#Q.18.Program to input the number of heads and feet in a farm and identify the number of chickens and goats in the farm. For example, if there are 340 heads and 1,060 feet, there are 150 chickens and 190 goats.**

**Ans.18-**

heads = int(input("Enter the number of heads: "))

feet = int(input("Enter the number of feet: "))

goats = (feet - 2 \* heads) / 2

chickens = heads - goats

print("Number of chickens:", chickens)

print("Number of goats:", goats)

**#if-else**

**#Q.1.Program to find whether an input number is even or odd.**

**Ans.1-**

print ("Enter an integer number to check:\n")

x = int (input ())

if (x % 2 == 0):

print ("The input number is even.\n")

else:

print ("The input number is odd.\n")

**#Q.2.Program to input two numbers and subtract the smaller number from the greater number.**

**Ans.2-**

a=int(input('enter first number'))

b=int(input('enter second number'))

if(a>b):

print(a-b)

else:

print(b-a)

**#Q.3. A man has certain number of apples.**

**If he picks them in a group of 7, he can pick all of them.**

**If he picks them in a group of 6, 1 apple is left behind.**

**If he picks them in a group of 5, 1 apple is left behind.**

**If he picks them in a group of 4, 1 apple is left behind.**

**Ans.3-**

a=int(input("enter the certain number of apples"))

if(a==7):

print("he can pick all of them")

elif a==5:

print("1 apple is left behind")

elif a==6 :

print("1 apple is left behind")

elif a==4:

print("1 apple is left behind")