Darshan UNIVERSITY

योगः कर्मसु कौशलम्

(https://www.darshan.ac.in/)

Python Programming - 2101CS405

Lab - 1

01) WAP to print “Hello World”

In [1]:
```
print("Hello World")
```

```
Hello World
```

02) WAP to print your address i) using single print ii) using multiple print

In [2]:
```
print("Utkarsh Boys Hostel, Hadala, rajkot-morbi highway,Gujarat, 360003")
```

```
Bileshwar
```

In [2]:
```
print("Utkarsh Boys Hostel, \nHadala,\nrajkot-morbi highway,\nGujarat,\n360003")
```

```
utkarsh Boys Hostel,
Hadala,
rajkot-morbi highway,
Gujarat,
360003
```

03) WAP to print addition of 2 numbers (without input function)

In [1]:
```
a=10
b=20
addition = a + b
print(addition)
```

```
30
```

04) WAP to calculate and print average of 2 numbers (without input function)

In [5]:
```
a=10
b=20
average = (a + b)/2
print(average)
```

```
15.0
```

05) WAP to add two number entered by user.

In [2]:
```
a = int(input("Enter First Number :"))
b = int(input("Enter Second Number : "))
c = a + b
print(c)
```

```
Enter First Number :10
Enter Second Number : 20
30
```

06) WAP to calculate simple interest.

In [3]:
```
p = int(input("Enter First Number :"))
r = int(input("Enter Second Number : "))
n = int(input("Enter First Number :"))

interest = (p*r*n)/100

print(interest)
```

```
Enter First Number :20
Enter Second Number : 30
Enter First Number :50
300.0
```

07) WAP Calculate Area and Circumfrence of Circle

In [6]:
```
r = int(input("Enter Radius : "))

Area = 3.14 * r * r
Circumference = 2 * 3.14 * r
print("Area :",Area)
print("Circumference :",Circumference)
```

```
Enter Radius : 5
Area : 78.5
Circumference : 31.400000000000002
```

08) WAP to print Multiplication table of given number without using loops.

In [7]:
```
num = int(input("Enter Any Number : "))

print(num*1,num*2,num*3,num*4,num*5,num*6,num*7,num*8,num*9,num*10)
```

```
Enter Any Number : 5
5 10 15 20 25 30 35 40 45 50
```

09) WAP to calculate Area of Triangle (hint: a = h * b * 0.5)

In [8]:
```
Hight = int(input("Enter Hight : "))
Base = int(input("Enter Base : "))

Area = Hight * Base * 0.5

print("Area Of Triangle :",Area)
```

```
Enter Hight : 3
Enter Base : 4
Area Of Triangle : 6.0
```

10) WAP to convert degree to Fahrenheit and vice versa.

In [18]:
```
Fahrenheit = int(input("Enter Degree in F : "))
Degree = int(input("Enter Degree in C : "))
Deg = ((Fahrenheit - 32) * 5)/9
print("Degree :",Deg,"C")

de = (Degree * 9/5)+ 32
print("Fahrenheit :",de, "F")
```

```
Degree : -12.222222222222221 C
Fahrenheit : 68.0 F
```

11) WAP to calculate total marks and Percentage.

In [12]:
```
sub1 = int(input("Enter First Sub : "))
sub2 = int(input("Enter First Sub : "))
sub3 = int(input("Enter First Sub : "))

print("Total Is :",sub1 + sub2 + sub3)
print("Percentage Is :",(sub1 + sub2 + sub3)/3)
```

```
Enter First Sub : 50
Enter First Sub : 50
Enter First Sub : 50
Total Is : 150
Percentage Is : 50.0
```

12) Compute distance between two points taking input from the user (Pythagorean Theorem).

In [13]:
```
from math import sqrt

AB = int(input("Enter The Value Of AB :"))
BC = int(input("Enter The Value Of BC :"))

AC = sqrt(AB*AB + BC*BC)

print(AC)
```

```
Enter The Value Of AB :3
Enter The Value Of BC :4
5.0
```

13) WAP to convert seconds into hours, minutes & seconds and print in HH:MM:SS

[e.g. 10000 seconds mean 2:46:40 (2 Hours, 46 Minutes, 40Seconds)]

In [15]:
```
Second = int(input("Enter Seconds : "))

H = Second // 3600
M = (Second % 3600)//60
S = ((Second % 3600)%60)


print("TIME => ",H,":",M,":",S)
```

```
Enter Seconds : 10000
TIME =>  2 : 46 : 40
```

14) WAP to enter distance into kilometer and convert it into meter, feet,inches, and centimeter

In [16]:
```
KM = int(input("Enter Kilometers : "))

Meter = KM * 1000
feet = KM * 1000 * 3.254
inches = KM * 1000 * 3.254 * 12

print("Meter :",Meter,"    ","feet :",feet,"    ","inches :",inches)
```

```
Enter Kilometers : 1
Meter : 1000      feet : 3254.0      inches : 39048.0
```

In [ ]:
```

```

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Python Programming - 2101CS405

Lab - 2

if..else..

01) WAP to check whether the given number is positive or negative.

In [1]:
```
number = int(input("Enter Any Number : "))

if number > 0:
    print("Number is Positive.")
elif number < 0:
    print("Number Is Negative.")
else:
    print("Invalid Input OR number is ZERO.")
```

```
Enter Any Number : 12
Number is Positive.
```

02) WAP to check whether the given number is odd or even

In [2]:
```
number = int(input("Enter Any Number : "))

if number % 2 == 0:
    print("number is Even")
elif number % 2 != 0:
    print("number is odd")
else:
    print("Invalid Input !!")
```

```
Enter Any Number : 17
number is odd
```

03) WAP to find out largest number from given two numbers using simple if and ternary operator.

In [3]:
```
a = int(input("Enter First Number : "))
b = int(input("Enter Second Number : "))

if a > b:
    print(a," Is Greatest")
elif b > a:
    print(b," Is Greatest")
elif b==a:
    print("Both Are Same")
else:
    print("INVALID INPUT !!")
```

```
Enter First Number : 10
Enter Second Number : 20
B Is Greatest
```

04) WAP to find out largest number from given three numbers.

In [10]:
```
num1 = float(input("Enter First Number : "))
num2 = float(input("Enter Second Number : "))
num3 = float(input("Enter Second Number : "))

if num1>num2 and num1>num3:
    print(num1,"Is Largest Number")
elif num2>num1 and num2>num3:
    print(num2,"Is Largest Number")
if num3>num1 and num3>num2:
    print(num3,"Is Largest Number")
else:
    print("Invalid Input!!")
```

```
90.0 Is Largest Number
```

05) WAP to check whether the given year is leap year or not.

[If a year can be divisible by 4 but not divisible by 100 then it is leap year but if it is divisible by 400 then it is leap year]

In [52]:
```
#2017 is not a leap year
#1900 is a not leap year
#2012 is a leap year
#2000 is a leap year

year = int(input("Enter A Year :"))

if year % 4 == 0 and year % 100 != 0 :
    print(year," Is  Leap Year")

elif year % 4 == 0 and year % 400 == 0 :
    print(year," Is Year Year")

else :
    print(year,"Is Not Leap Year")
```

```
1900 Is Not Leap Year
```

06) WAP in python to display the name of the day according to the number given by the user

In [10]:
```
#RUN IN VS CODE
num = int(input("Enter Any Number : "))

match (num):
    case (1):
        print("Sunday")
    case (2):
        print("Monday")
    case (3):
        print("Tuesday")
    case (4):
        print("Wednesday")
    case (5):
        print("Thursday")
    case (6):
        print("Friday")
    case (7):
        print("Saturday")
    case _:
        print("INVALID INPUT !!")
```

```
INVALID INPUT !!
```

07) WAP to implement simple calculator which performs (add,sub,mul,div) of two no. based on user input.

In [12]:
```
num1 = int(input("Enter First Number : "))
num2 = int(input("Enter Second Number : "))

operation = input("Enter Operation \n '+' For Addition\n '-' For Subtraction\n '*' For multiplication\n '/' For Division\n")

if operation =='+':
    print("Addition :", num1 + num2)
elif operation == '-':
    print("Subtraction :",num1 - num2)
elif operation =='*':
    print("Multiplication :", num1 * num2)
elif operation == '/':
    print("Division :",num1 / num2)
```

```
Enter First Number : 10
Enter Second Number : 20
Enter Operation
 '+' For Addition
 '-' For Subtraction
 '*' For multiplication
 '/' For Division
/
Division : 0.5
```

08) WAP to calculate electricity bill based on following criteria. Which takes the unit from the user.

a. First 1 to 50 units – Rs. 2.60/unit
b. Next 50 to 100 units – Rs. 3.25/unit
c. Next 100 to 200 units – Rs. 5.26/unit
d. above 200 units – Rs. 8.45/unit

In [13]:
```
u = int(input("Enter unit :"))

if u<=1 or u>50:
    print("Rs. ",2.60/u)

elif u<=50 or u>100:
    print("Rs.",3.25/u)

elif u<=100 or u>200:
    print("Rs.",5.26/u)
elif u<=200:
    print("Rs.",8.45/u)
else:
    print("INVALID INPUT!!")
```

```
Enter unit :200
Rs.  0.013000000000000001
```

01) WAP to read marks of five subjects. Calculate percentage and print class accordingly.

Fail below 35
Pass Class between 35 to 45
Second Class
between 45 to 60
First Class between 60 to 70
Distinction if more than 70

In [14]:
```
sub1 = float(input("Enter First Subject Marks :"))
sub2 = float(input("Enter Second Subject Marks :"))
sub3 = float(input("Enter Third Subject Marks :"))
sub4 = float(input("Enter Fourth Subject Marks :"))
sub5 = float(input("Enter Fifth Subject Marks :"))

sum = (sub1 + sub2 + sub3 + sub4 + sub5)
per = sum/5
print("Percentage :",per)

if per < 35:
    print("You Are Fail!")

elif per <= 35 or per < 45:
    print("You Are Pass With Pass Class")

elif per <= 45 or per < 60:
    print("You Are Pass With Second Class")

elif per <=60 or per < 70:
    print("You Are Pass With First Class")

elif per >= 70:
    print("You Are Pass With Distinction")

else:
    print("INVALID INPUT !!")
```

```
Enter First Subject Marks :70
Enter Second Subject Marks :70
Enter Third Subject Marks :70
Enter Fourth Subject Marks :70
Enter Fifth Subject Marks :70
Percentage : 70.0
You Are Pass With Distinction
```

02) WAP to find out the Maximum and Minimum number from given 4 numbers.

In [15]:
```
num1 = int(input("Enter First Number : "))
num2 = int(input("Enter Second Number : "))
num3 = int(input("Enter Third Number : "))
num4 = int(input("Enter Fourth Number : "))

if(num1 == num2 == num3 == num4):
    print("All Number Are Same")
else:
    ("INVALID INPUT !!")

#a=list(map(int,input("Enter a no's:").split()))
print("Maximum Number : ",max(num1,num2,num3,num4))
print("Minimum Number : ",min(num1,num2,num3,num4))
```

```
Enter First Number : 10
Enter Second Number : 20
Enter Third Number : 30
Enter Fourth Number : 40
Maximum Number :  40
Minimum Number :  10
```

03) WAP to input an integer number and check the last digit of number is even or odd.

In [16]:
```
num = int(input("Enter Any Number : "))
if (num % 10)%2 == 0 :
    print(num," -> Last Digit Is Even")
else :
    print(num," ->Last Digit is Odd")
```

```
Enter Any Number : 101
101  ->Last Digit is Odd
```

04) WAP to determine the roots of the equation ax2+bx+c=0.

In [17]:
```
from math import sqrt
import cmath

a= float(input("Enter Value Of a:"))
b= float(input("Enter Value Of b:"))
c= float(input("Enter Value Of c:"))

d= (b*b) - (4*a*c)

sol1 = (-b-cmath.sqrt(d))/(2*a)
sol2 = (-b+cmath.sqrt(d))/(2*a)

print("The Solution Are {0} And {1}".format(sol1,sol2))
```

```
Enter Value Of a:2
Enter Value Of b:3
Enter Value Of c:4
The Solution Are (-0.75-1.1989578808281798j) And (-0.75+1.1989578808281798j)
```

In [ ]: