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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 [1]:
```
#Using Single Print
print("Shiv , block no 2 , ravi tenament")

#using Multiple Print
print("shiv")
print("block no 2")
print("ravi tenament")
```

```
Shiv , block no 2 , ravi tenament
shiv
block no 2
ravi tenament
```

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

In [6]:
```
a = 10
b = 20
sum = (a+b)
print("sum = " , sum)
```

```
sum =  30
```

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

In [7]:
```
a = 10
b = 20
avg = (a+b)/2
print("average = " , avg)
```

```
average =  15.0
```

05) WAP to add two number entered by user.

In [9]:
```
a = int(input("enter first number"))
b = int(input("enter second number"))
addition = a + b
print("add of given two numbers is" , addition)
```

```
enter first number20
enter second number30
add of given two numbers is 50
```

06) WAP to calculate simple interest.

In [12]:
```
p = float(input("Enter principal amount p : "))
r = float(input("Enter Rate r :  "))
n = float(input("Enter no of years n :  "))
i = (p*r*n)/100
print("simple intrest = " , i)
```

```
Enter principal amount p : 10000
Enter Rate r :  10
Enter no of years n :  1
simple intrest =  1000.0
```

07) WAP Calculate Area and Circumfrence of Circle

In [16]:
```
r = float(input("Enter redious :  "))
area = 3.14*r*r
circumfrence = 2*3.14*r
print("area of circle is = ",area)
print("circumstances of circle is =  ",circumfrence)
```

```
Enter redious :  1
area of circle is =  3.14
circumstances of circle is =   6.28
```

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

In [3]:
```
a = int(input("Enetr number to get multiplication table : "))

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

```
Enetr number to get multiplication table : 45
45 * 1 = 45
45 * 2 = 90
45 * 3 = 135
45 * 4 = 180
45 * 5 = 225
45 * 6 = 270
45 * 7 = 315
45 * 8 = 360
45 * 9 = 405
45 * 10 = 450
```

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

In [1]:
```
h = float(input("Enter height :  "))
b = float(input("Enter base :  "))
area = h*b*0.5
print("Area of Triangle is = ",area)
```

```
Enter height :  50
Enter base :  50
Area of Triangle is =  1250.0
```

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

In [5]:
```
f = float(input("Enter temperature in fahrenheit to convert in celsius : "))
c = float(input("Enter temperature in celsius to convert in fahrenheit :  "))

fahrenheit = (c*1.8+32)
celsius = ((f-32)*(5/9))
print(f"Celsius to Fahrenheit is : {fahrenheit}")
print(f"Fahrenheit to Celsius is : {celsius}")
```

```
Enter temperature in fahrenheit to convert in celsius : 122
Enter temperature in celsius to convert in fahrenheit :  10
Celsius to Fahrenheit is : 50.0
Fahrenheit to Celsius is : 50.0
```

11) WAP to calculate total marks and Percentage.

In [6]:
```
sub1 = int(input("Enter marks of first subject : "))
sub2 = int(input("Enter marks of first subject : "))
sub3 = int(input("Enter marks of first subject : "))
sub4 = int(input("Enter marks of first subject : "))
sub5 = int(input("Enter marks of first subject : "))

total = sub1+sub2+sub3+sub4+sub5
percent = (total*100)/500

print (f"Total Marks of all subject is {total} and peercentage is {percent}")
```

```
Enter marks of first subject : 80
Enter marks of first subject : 80
Enter marks of first subject : 80
Enter marks of first subject : 80
Enter marks of first subject : 80
Total Marks of all subject is 400 and peercentage is 80.0
```

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

In [8]:
```
import math
x1 = float(input("Enter x cordinate of first point : "))
y1 = float(input("Enter y cordinate of first point : "))
x2 = float(input("Enter x cordinate of second point : "))
y2 = float(input("Enter y cordinate of second point : "))

d = (((x2-x1)**2)+((y2-y1)**2))**(1/2)
print(f"Distance between two point is : {d}")
```

```
Enter x cordinate of first point : 5
Enter y cordinate of first point : 5
Enter x cordinate of second point : 12
Enter y cordinate of second point : 12
Distance between two point is : 9.899494936611665
```

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 [18]:
```
sec = int(input("Enter seconds :  "))
h = sec/3600
sec = sec%3600
m = sec/60
sec = sec%60
print(int(h),":",int(m),":",int(sec))
```

```
Enter seconds :  10000
2 : 46 : 40
```

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

In [10]:
```
d = float(input("Enter distance in kilometer : "))

meter = d * 1000
feet = d * 3281
inch = d * 39370
centimeter = d * 100000

print(f"Kilometer into meter : {meter}")
print(f"Kilometer into feet : {feet}")
print(f"Kilometer into inch  : {inch}")
print(f"Kilometer into centimeter : {centimeter}")
```

```
Enter distance in kilometer : 1
Kilometer into meter : 1000.0
Kilometer into feet : 3281.0
Kilometer into inch  : 39370.0
Kilometer into centimeter : 100000.0
```

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Python Programming - 2101CS405

Lab - 2

if..else..

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

In [3]:
```
n = int(input("Enter number :  "))
if n>0 :
    print("positive")
else :
    print("negative")
```

```
Enter number :  5
positive
```

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

In [4]:
```
n = int(input("Enter number :  "))
if n%2==0 :
    print("Even")
else :
    print("odd")
```

```
Enter number :  5
odd
```

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

In [5]:
```
a = int(input("enter 1st number :  "))
b = int(input("enter 2nd number :  "))
print("a is large") if a>b else print("b is large")
```

```
enter 1st number :  4
enter 2nd number :  5
b is large
```

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

In [10]:
```
a = int(input("enter 1st number :  "))
b = int(input("enter 2nd number :  "))
c = int(input("enter 3rd number :  "))
if a>b:
    if a>c:
        print(f"{a} is large")
    else:
        print(f"{c} is large")
else :
    if b>c:
        print(f"{b} is large")
    else:
        print(f"{c} is large")
```

```
enter 1st number :  4
enter 2nd number :  5
enter 3rd number :  7
7 is large
```

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 [11]:
```
year = int(input("Enter year :  "))
print("Leap year")if (year%4==0 and year%100!=0) or year%400==0 else print("No
```

```
Enter year :  2100
Not leap year
```

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

In [14]:
```
n = int(input("Enter number"))
if n==1 :
    print("Monday")
elif n==2 :
    print("Tuesday")
elif n==3 :
    print("Wednesday")
elif n==4 :
    print("Thursday")
elif n==5 :
    print("Friday")
elif n==6 :
    print("Saturday")
elif n==7 :
    print("Sunday")
else :
    print("Enter number only between 1 to 7")
```

```
Enter number6
Saturday
```

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

In [15]:
```
a = int(input("Enter num1 :  "))
b = int(input("Enter num2 :  "))
n = int(input("Enter 1 for addition\n Enter 2 for substraction\n Enter 3 for M
if n==1 :
    add = a+b
    print("sum = ",add)
elif n==2 :
    sub = a-b
    print("sub = ",sub)
elif n==3 :
    mul = a*b
    print("mul = ",mul)
elif n==4 :
    div = a/b
    print("div = ",div)
else :
    print("Invalid Number")
```

```
Enter num1 :  4
Enter num2 :  5
Enter 1 for addition
 Enter 2 for substraction
 Enter 3 for Multiplication
 Enter 4 for divison2
sub =  -1
```

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 [6]:
```
unit = int(input("Enter unit = "))
if(unit > 0 and unit <= 50):
    ans = unit * 2.60
elif(unit > 50 and unit <= 100):
    ans = (50 * 2.60) + ((unit - 50) * 3.25)
elif(unit > 100 and unit <= 200):
    ans = (50 * 2.60) + (50 * 3.25) + ((unit - 100) * 5.26)
else:
    ans = (50 * 2.60) + (50 * 3.25) + (100 * 5.26) + ((unit - 200) * 8.45)
print(f"Total bill is = {ans}")
```

```
Enter unit = 50
Total bill is = 130.0
```

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 [16]:
```
maths = int(input("Enter maths marks :  "))
phy = int((input("Enter phy marks :  ")))
chem = int(input("Enter Chemistry mark :  "))

per = (maths+phy+chem)/3

if per<35 :
    print("Fail")
elif per>= 35 and per<=45 :
    print("Pass")
elif per >= 45 and per<=60 :
    print("Second class")
elif per>=60 and per<=70 :
    print("First class")
else :
    print("Distinction")
```

```
Enter maths marks :  100
Enter phy marks :  100
Enter Chemistry mark :  50
Distinction
```

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

In [2]:
```
a = int(input("enter 1st number :  "))
b = int(input("enter 2nd number :  "))
c = int(input("enter 3rd number :  "))
d = int(input("Enter 4th number :  "))

if a>b :
    if a>c :
        if a>d :
            print(f"{a} is large")
        else :
            print(f"{d} is large")
    else :
        if b>c :
            print(f"{b} is large")
        else :
            print(f"{c} is large")
else :
    if b>c :
        if b>d :
            print(f"{b} is large")
        else :
            print(f"{d} is large")
    else :
        if c>d :
            print(f"{c} is large")
        else :
            print(f"{d} is large")
```

```
enter 1st number :  45
enter 2nd number :  78
enter 3rd number :  55
Enter 4th number :  222
222 is large
```

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

In [18]:
```
n = int(input("Enter number :  "))
ld = n/10
if ld%2 == 0 :
    print("Even")
else :
    print("Odd")
```

```
Enter number :  20
Even
```

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

In [24]:
```
a = int(input("enter 1st number :  "))
b = int(input("enter 2nd number :  "))
c = int(input("enter 3rd number :  "))

D = b**2-(4*a*c)

if D==0 :
    print("same root")
elif D>=0 :
    print("real root")
else :
    print("imaginary root")

x = (-b + D**0.5)/(2*a)

print("answer is = ",x)
```

```
enter 1st number :  2
enter 2nd number :  3
enter 3rd number :  6
imaginary root
answer is =  (-0.7499999999999999+1.5612494995995996j)
```