

# DATA HANDLING

## PROGRAMS

### #Print Hello world!

```
print('Hello, world!')
```

### #Add Two Numbers

```
num1 = float(input("enter first number"))
```

```
num2 = float(input("enter second number"))
```

```
# Add two numbers
```

```
sum = num1+num2
```

```
# Display the sum
```

```
print('The sum of {0} and {1} is {2}'.format(num1, num2, sum))
```

## #Find the Square Root

```
no = float(input('Enter a number: '))
no_sqrt = no ** 0.5
print('The square root of %0.3f is %0.3f'%(no ,no_sqrt))
```

## #Swap Two Variables using third variable

```
x = input('Enter value of x: ')
y = input('Enter value of y: ')
temp = x
x = y
y = temp
print('The value of x after swapping: ',x)
print('The value of y after swapping: ',y)
```

## #Swap Two Variables without using third variable

```
x = input('Enter value of x: ')
```

```
y = input('Enter value of y: ')
```

```
x,y=y,x
```

```
print('The value of x after swapping: ',x)
```

```
print('The value of y after swapping: ',y)
```

## #Calculate the Area of a Triangle(given base and height)

```
b = float(input('Enter base of a triangle: '))
```

```
h = float(input('Enter height of a triangle: '))
```

```
area = (b * h) / 2
```

```
print('The area of the triangle is %0.2f' % area)
```

## #Generate a Random Number

```
import random
```

```
x=random.randint(0,9)
```

```
print(x)
```

## #Solve Quadratic Equation

```
import math
```

```
# To take coefficient input from the users
```

```
a = float(input('Enter a: '))
```

```
b = float(input('Enter b: '))
```

```
c = float(input('Enter c: '))
```

```
# calculate the discriminant
```

```
d = (b**2) - (4*a*c)
```

```
# find two solutions
```

```
mq = d**0.5
```

```
sol1 = (- b - mq)/(2*a)
```

```
sol2 = (- b + mq)/(2*a)
```

```
print('The solution are {0} and {1}'.format(sol1,sol2))
```

## #Convert Celsius To Fahrenheit

```
celsius = float(input("enter celsius"))  
# calculate fahrenheit  
fahrenheit = (celsius * 1.8) + 32  
print('%0.1f degree Fahrenheit' %fahrenheit)
```

## #convert degree to radian

```
pi=22/7  
degree = float(input("Input degrees: "))  
radian = degree*(pi/180)  
print(radian)
```

## #convert radian to degree

```
pi=22/7  
radian = float(input("Input radians: "))  
degree = radian*(180/pi)  
print(degree)
```

## #print a complex number and its real and imaginary parts

```
cn = complex(5,3)
```

```
print("Complex Number: ",cn)
```

```
print("Complex Number - Real part: ",cn.real)
```

```
print("Complex Number - Imaginary part: ",cn.imag)
```

## #program to add, subtract, multiply and division of two complex numbers

```
print("Addition of two complex numbers : ",(5+3j)+(4-7j))
```

```
print("Subtraction of two complex numbers : ",(5+3j)-(4-7j))
```

```
print("Multiplication of two complex numbers : ",(5+3j)*(5-7j))
```

```
print("Division of two complex numbers : ",(5+3j)/(4-7j))
```

## #simple interest

```
P = float(input("enter amount"))
```

```
R = float(input("enter rate"))
```

```
T = float(input("enter time"))
```

```
# Calculates simple interest
```

```
SI = (P * R * T) / 100
```

```
# Print the value of SI
```

```
print("simple interest is", SI)
```

## #Compound Interest

```
principle=float(input("Enter principle amount:"))
```

```
time=int(input("Enter time duration:"))
```

```
rate=float(input("Enter rate of interest:"))
```

```
amount = (principle * (1 + (float(rate)/100))**time)
```

```
compound_interest=amount-principle;
```

```
print("Total amount:- ",amount)
```

```
print("Compound interest:- ",compound_interest)
```

## #standard deviation

```
import math
xs = [0.6,0.5,0.4,0.6] # values (must be floats!)
mean = sum(xs) / len(xs) # mean
var = sum(pow(x-mean,2) for x in xs) / len(xs) #
variance
std = math.sqrt(var) # standard deviation
print(std)
```