Pranav Polavarapu - 19BTRCR008

A. (1) To elobrate variables and data types int,float ,Boolean,string,list,set,dict, tuples ¶

In [1]:
```
a=10
b=4.0
c="Python"
d=True
e=[4,3.0,"Pranav"]
f={4,4,3,2,1,45}
g=(4,3.0,"Pranav")
h={"a":8,"Python":"Language"}
```

Values & Types of variables

In [2]:
```
print("value of a=",a)
print("type of a=",type(a))

print("value of b=",b)
print("type of b=",type(b))

print("value of d=",d)
print("type of d=",type(d))

print("value of c=",c)
print("type of c=",type(c))

print("value of e=",e)
print("type of e=",type(e))

print("value of f=",f)
print("type of f=",type(f))

print("value of g=",g)
print("type of g=",type(g))

print("value of h=",h)
print("type of h=",type(h))
```

```
value of a= 10
type of a= <class 'int'>
value of b= 4.0
type of b= <class 'float'>
value of d= True
type of d= <class 'bool'>
value of c= Python
type of c= <class 'str'>
value of e= [4, 3.0, 'Pranav']
type of e= <class 'list'>
value of f= {1, 2, 3, 4, 45}
type of f= <class 'set'>
value of g= (4, 3.0, 'Pranav')
type of g= <class 'tuple'>
value of h= {'a': 8, 'Python': 'Language'}
type of h= <class 'dict'>
```

A. (2) Exchange of 2 values(int,float,string)

In [3]:
```
a=int(input("Enter a 1st no: "))
b=int(input("Enter a 2nd no:"))
print("Before Swapping a= ",a,"b=",b)
a,b=b,a
print("After Swapping a= ",a,"b=",b)
```

```
Enter a 1st no: 23
Enter a 2nd no:45
Before Swapping a=  23 b= 45
After Swapping a=  45 b= 23
```

In [4]:
```
a=float(input("Enter a 1st no: "))
b=float(input("Enter a 2nd no:"))
print("Before Swapping a= ",a,"b=",b)
a,b=b,a
print("After Swapping a= ",a,"b=",b)
```

```
Enter a 1st no: 2.5
Enter a 2nd no:5.6
Before Swapping a=  2.5 b= 5.6
After Swapping a=  5.6 b= 2.5
```

In [5]:
```
a=(input("Enter a 1st String: "))
b=(input("Enter a 2nd String: "))
print("Before Swapping a= ",a,"b=",b)
a,b=b,a
print("After Swapping a= ",a,"b=",b)
```

```
Enter a 1st String: Pranav
Enter a 2nd String: Python
Before Swapping a=  Pranav b= Python
After Swapping a=  Python b= Pranav
```

B. (1) Elaborate Mathematical Operations(Addition, Subtraction, Multiplication, Modulo,Powers)

In [13]:
```
a=int(input("Enter first number:"))
b=int(input("Enter second number:"))

sum=a+b
diff=a-b
prod=a*b
div=a/b
rem=a%b
pow=a**b
flr=a//b

print("Sum of {0} and {1} is: {2}".format(a,b,sum))

print("Difference of {0} and {1} is: {2}".format(a,b,diff))

print("Product of {0} and {1} is : {2}".format(a,b,prod))

print("{0} divided by {1} is: {2}".format(a,b,div))

print("{0} remainder {1} is: {2}".format(a,b,rem))

print("{0} power {1} is : {2}". format(a,b,pow))

print("{0} floor division {1} is : {2}".format(a,b,flr))
```

```
Enter first number:800
Enter second number:5
Sum of 800 and 5 is: 805
Difference of 800 and 5 is: 795
Product of 800 and 5 is : 4000
800 divided by 5 is: 160.0
800 remainder 5 is: 0
800 power 5 is : 327680000000000
800 floor division 5 is : 160
```

B. (2) Explore the operator precedence

In [18]:
```
a = 50

b = 10

c = 15

d = 5

e = (a + b) * c / d    #( 60 * 15 ) / 5
print("value of (a + b)* c / d is ",e)

e = ((a + b) * c) / d     # (60 * 15 ) / 5
print("value of ((a + b) c) / d is ",e)

e = (a + b) * (c / d)    # (60) * (15/5)
print("Value of (a + b) (c/ d) is ",e)

e = a + (b * c) / d      # 50 + (150/5)
print("Value of a + (b* c) / d is ",e)
```

```
value of (a + b)* c / d is  180.0
value of ((a + b) c) / d is  180.0
Value of (a + b) (c/ d) is  180.0
Value of a + (b* c) / d is  80.0
```