

```
In [1]: print("hello world!")
```

```
hello world!
```

```
In [ ]:
```

```
In [2]: print("hello world!")
```

```
hello world!
```

```
In [1]: ca$h=5000
```

```
File "<ipython-input-1-351b42bcdcf>", line 1
```

```
ca$h=5000
```

```
^
```

```
SyntaxError: invalid syntax
```

```
In [5]: a="Roman"
        print(a)
```

```
Roman
```

```
In [3]: a="ary'an"
        print(a)#if a use to use single cotetion
```

```
ary'an
```

```
In [11]: x=36e3
         print((x))
         y=36E3
         print(type(y))
```

```
36000.0
<class 'float'>
```

```
In [19]: #if you convert a value in binary,octal,hexadecimal
         a=0b1111#binary
         print(a)
         print(type(a))
         b=0o723#octal
         print(b)
         c=0xABCD#hexadecimal
         print(c)
         bin(0o11)
         print(bin(0o11))
```

```
15
<class 'int'>
467
43981
0b1001
```

```
In [17]:
```

```
<built-in function bin>
```

```
In [ ]: # hello wolrd is fast execute!
```

```
In [6]: a=100
        print(type(a))#integer
```

```
<class 'int'>
```

```
In [8]: b=45.0
        print(type(b))#float
```

```
<class 'float'>
```

```
In [22]: bin(0o11)#octal
```

```
Out[22]: '0b1001'
```

```
In [23]: bin(0o785)#error is come by 8 is not consider in octal
```

```
File "<ipython-input-23-acd219e10f07>", line 1
      bin(0o785)
          ^
```

```
SyntaxError: invalid digit '8' in octal literal
```

```
In [36]: a=bin(15)
```

```
In [38]: a=10
        b=20
        c=a+b
        print(c)
        print(b)
```

```
30
20
```

```
In [43]: list1=[1,2,3,4,5]
        list1[0]=6
        print(list1)
```

```
[6, 2, 3, 4, 5]
```

```
In [44]: tuple1=(1,2,3,4,5)
        tuple1[0]=6
        print(tuple1)
```

```
-----
TypeError                                Traceback (most recent call last)
<ipython-input-44-b3188037523e> in <module>
      1 tuple1=(1,2,3,4,5)
----> 2 tuple1[0]=6
      3 print(tuple1)
```

```
TypeError: 'tuple' object does not support item assignment
```

```
In [5]: for i in range(1,12,2):
        print(i)
```

```
1
3
5
7
9
11
```

```
In [32]: print(bin(15))
```

```
0b1111
```

In [21]: `bin(0x111)#hexa`

Out[21]: `'0b100010001'`

In [9]: `d={10:'luckey',20:'jay',10:'aryan',}#dict
print(d[10])
print(d[20])
print(type(d))`

aryan
jay
<class 'dict'>

In [10]: `x={"apple","banana","cherry","oranage"}#set #unorder #unindex #do not allow to duplicate
print(x)`

{'apple', 'oranage', 'cherry', 'banana'}

In [13]: `print(20>8)
print(20==8)
print(20<8)
print(bool("abc")) #boolean type
print(bool(""))
print(bool(120))
print(bool(0))`

True
False
False
True
False
True
False

In [22]: `x=str(7)
y=int(7)
z=float(7)`

In [15]: `a,b,c="ornage","banana","cherry"
print(a)
print(b)
print(c)`

ornage
banana
cherry

In [24]: `a=1,2,3
print(a)
print(type(a))
a,b,c =1,2,3
print(a)
print(b)
print(c)
print(type(a))
print(type(b))
print(type(c))`

(1, 2, 3)
<class 'tuple'>
1

```
2
3
<class 'int'>
<class 'int'>
<class 'int'>
```

```
In [25]: a=20
          b=20
          c=a+b
          print(c)
          x="20"
          y="20"
          z=x+y
          print(z)
```

40
2020

```
In [28]: a=20
          b=20
          c=a*b
          print(c)

          x="20"
          y=20
          z=x*y
          print(z)
```

400
20

```
In [44]: a="python"
def test():
    global a    #global variable
    a="java"
    print(a)
test()
print(a)
```

```
java
java
```

```
In [45]: def sum(x,y):
          c=x+y
          print(c)
          a=10
          b=20
          sum(a,b) '''a and b sum of a 30'''#multiline comments
```

30

```
In [50]: x=input("enter value")
          print(x)
          print(type(x))
```

```
enter value10
10
<class 'str'>
```

```
In [52]: a=int(input("enter value of A:")) #take value from user
          b=int(input("enter value of B:"))
          c=a+b
          print(c)
```

```
enter value of A:10
enter value of B:20
30
```

```
In [57]: print(int(123.957))

123
```

```
In [58]: print(int("true"))
```

```
-----
ValueError                                Traceback (most recent call last)
<ipython-input-58-8ccac2156352> in <module>
----> 1 print(int("true"))

ValueError: invalid literal for int() with base 10: 'true'
```

```
In [64]: print(int(false))
```

```
-----
NameError                                Traceback (most recent call last)
<ipython-input-64-7d56d1b61d97> in <module>
----> 1 print(int(false))

NameError: name 'false' is not defined
```

```
In [62]: print(int("10"))

10
```

```
In [59]: print(int(0B1111))

15
```

```
In [60]: print(int(0B1111))
```

```
-----
ValueError                                Traceback (most recent call last)
<ipython-input-60-d69b2a855e10> in <module>
----> 1 print(int("0B1111"))

ValueError: invalid literal for int() with base 10: '0B1111'
```

```
In [61]: print(int("ten"))
```

```
-----
ValueError                                Traceback (most recent call last)
<ipython-input-61-fe86acc464d3> in <module>
----> 1 print(int("ten"))

ValueError: invalid literal for int() with base 10: 'ten'
```

```
In [63]: print(int("10.5"))
```

```
-----
ValueError                                Traceback (most recent call last)
<ipython-input-63-24a9cbdf48a8> in <module>
----> 1 print(int("10.5"))

ValueError: invalid literal for int() with base 10: '10.5'
```

```
In [65]: print(float(123.957))
```

123.957

In [66]: `print(float("true"))`

```
-----
ValueError                                Traceback (most recent call last)
<ipython-input-66-bf961938bb76> in <module>
----> 1 print(float("true"))

ValueError: could not convert string to float: 'true'
```

In [67]: `print(float(false))`

```
-----
NameError                                Traceback (most recent call last)
<ipython-input-67-6a6dbf8a1110> in <module>
----> 1 print(float(false))

NameError: name 'false' is not defined
```

In [68]: `print(float("10"))`

10.0

In [69]: `print(float(0B1111))`

15.0

In [75]: `print(bool(0))#boolean
print(bool(1))
print(bool(10))
print(bool(0.178))
print(bool("true"))
print(bool("false"))
print(bool(""))
print(str(10))#string
print(str(10.5))
print(str(True))`

```
False
True
True
True
True
True
True
False
10
10.5
True
```

In [79]: `a=20
b=6
c=a/b
e=a//b
print(c)
print(e)`

```
3.3333333333333335
3
```

In [80]: `a=int(input("enter value of A:")) #take value from user
b=int(input("enter value of B:"))
c=a+b`

```

print(c)
d=a-b
print(d)
e=a*b
print(e)
f=a/b
print(f)
g=a//b
print(g)
h=a**b
print(h)

```

```

enter value of A:45
enter value of B:23
68
22
1035
1.9565217391304348
1
105654455657631171893227100372314453125

```

```

In [82]: a=int(input("enter value of A:")) #take value from user
b=int(input("enter value of B:"))
c=a>b
print(c)
d=a<b
print(d)
e=a>=b
print(e)
f=a<=b
print(f)
g=a==b
print(g)
h=a!=b
print(h)

```

```

enter value of A:10
enter value of B:2
True
False
True
False
False
True

```

```

In [89]: a="vishul"
b="vishal"
print(a>b)
print(a<b)

```

```

True
False

```

```

In [91]: print(True<=True)
print(True>False)
print(10>True)
print(10<False)
print(10<20<30>40)

```

```

True
True
True

```

False
False

```
In [94]: print( True and False)#boolean and logical oprator
print(True or False)
print( not True )
print(10 and 20)
print(0 and 20)
print(0 or 20)
print(not 10)
print(not 0)
```

False
True
False
20
0
20
False
True

```
In [99]: a=20
b=30
x=50 if a>b else 60
print(x)
```

60

```
In [107... a=int(input("enter value of A:")) #take value from user #swap a value program
b=int(input("enter value of B:"))
c=a
a=b
b=c
print(a)
print(b)
```

enter value of A:40
enter value of B:10
10
40

```
In [1]: a=int(input("enter value of A:")) #take value from user #swap a value program for 2 var
b=int(input("enter value of B:"))
a=a+b
b=a-b
a=a-b
print()
```

enter value of A:1
enter value of B:2

```
In [2]: x=10 #assignment operator
x+=20
x-=10
x*=5
x/=2
x//=5
x%=3
x**=2
print(x)
```

1.0


```
In [5]: x="Hello,Python is very easy!" # Membership Operator
print("d" not in x)
print("l" in x)
print("python" in x)
```

```
True
True
False
```

```
In [13]: print(3+10*2) #operator precedence
print((3+10)*2)

print(5**3**2*5/True)
print((5**3)**2*5/True)
print("1" in "123" and "False" or True)
print(5 and True or 3/0)
print(7*25/True*False)
print(10/(1*3/6))
```

```
23
26
9765625.0
78125.0
False
True
0.0
20.0
```

```
In [23]: # write a program find the area rectangle
base=int(input("Enter value of base of triangle"))
area=int(input("enter heights of triangle"))
ans=(1/2*base*Height)
print(ans)
```

```
Enter value of base of triangle12
enter heights of triangle12
```

```
-----
NameError                                Traceback (most recent call last)
<ipython-input-23-271fd492a824> in <module>
      2 base=int(input("Enter value of base of triangle"))
      3 area=int(input("enter heights of triangle"))
----> 4 ans=(1/2*base*Height)
      5 print(ans)
```

NameError: name 'Height' is not defined

```
In [21]: #weite a program to convert farheniet to celcius and celcius to farheniet
#c=(f-32)*(5/9)
F=float(input("enter a tempreture of farhenie"))
ans=(F-32)*(5/9)
print("tempreture in celcius is ", ans)

c=float(input("entee a temreture of celcius "))
ans=(9/6)*c+32
print("tempreture in farheniet is ", ans)
```

```
enter a tempreture of farhenie10.0
tempreture in celcius is -12.222222222222223
entee a temreture of celcius 12
tempreture in farheniet is 50.0
```

```
In [20]: #write a python program to convert given base into year/month and days
Days=int(input("Enter number of days:"))
years=Days//365
months=(Days%365)//30
D=(Days%365)%30
print(years,"years",months,"Months",D,"Days")
```

Enter number of days:365
1 years 0 Months 0 Days

```
In [24]: a=20
b=10
c=30
print(a>b and a>c)
print(a>b or a>c)
print(not a>b)
print(not a>c)
```

False
True
False
True

```
In [26]: # write a python program to check given number is positive or nagitive
number=int(input("Enter number"))
print("Number is nagitive" if number < 0 else "enter value is positive")
```

Enter number1
enter value is positive

```
In [1]: #write a python program to find the nu,mber of notes agaist a give amount
amount=int(input("Enter a amount"))
note=amount//500
print("500note",note)
note=(amount%500)//200
print("200note",note)
note=((amount%500)%200)//100
print("100note",note)
note=(amount%500%200%100)//50
print("50note",note)
note=(amount%500%200%100%50)//20
print("20mote",note)
note=(amount%500%200%100%20)//10
print("10note",note)
```

Enter a amount280
500note 0
200note 1
100note 0
50note 1
20mote 1
10note 0

```
In [30]: name=input("enter name:")#chapter:2 #simple if
if name=="arman":
    print("hello arman")
print("thank you!")
```

enter name:vishal
thank you!

```
In [32]: name=input("enter name:")#chapter:2 #simple if else
if name=="arman":
    print("hello arman")
else:
    print("helllo guest!")
print("thank you!")
```

enter name:vishal
helllo guest!
thank you!

```
In [34]: a=int(input("enter value of a")) #find the maximum number from take to user by using el
b=int(input("enter value of b"))
c=int(input("enter value of c"))
if(a>b and a>c):
    print("a is max")
elif(b>a and b>c):
    print("b is max")
else:
    print("c is max")
```

enter value of a10
enter value of b20
enter value of c30
c is max

```
In [3]: x=41
if x>10:
    if x>20:
        print("and also above 20")
    else:
        print("bur not above 10")
```

and also above 20

```
In [17]: #write a python program to check weather give year to ace leep year or not
#the year must be divisible by 4 except for end of century years which must be disible
year=int(input("enter a year"))
if((year%4==0 and year%100!=0))or(year%400==0):
    print("year is leap year")
else:
    print("not a leap year")
```

enter a year2024
year is leap year

```
In [22]: #write a python program to perform airthmatic operation accoding sign given as a choice
a=int(input("enter a value"))
b=int(input("enter b value"))
c=int(input("enter a operation (+,-,*,/,//,%,**)")
if c=='+':
    print("sum is:"a+b)
elif c=='-':
    print("subtraction is:",a-b)
elif c=='*':
    print("multiplication is:",a*b)
elif c=='/':
    print("divion is:",a/b)
elif c=='//':
```

```

        print("flor divion is:",a//b)
    elif c=='%':
        print("module is:",a%b)
    elif c=='**':
        print("power is:",a**b)

```

File "<ipython-input-22-33abc75bcfcb>", line 5

```

    if c=='+':
        ^

```

SyntaxError: invalid syntax

In [21]: *#write a python program to enter 3 subject mark calculate percentage and display a grade*

```

a=int(input("enter a mark"))
b=int(input("enter a mark"))
c=int(input("enter a mark"))
percentage=((a+b+c)/300)*100
print("the percentage is",percentage)
if(percentage>=80):
    print("distinction",percentage)
elif(percentage>=60):
    print("first class:",percentage)
elif(percentage>=35):
    print("second divion",percentage)
elif(percentage>=0):
    print("fail",percentage)

```

```

enter a mark81
enter a mark36
enter a mark36
the percentage is 51.0
second divion 51.0

```

In [23]: *#write to program to chreck whether the last digit of the number entered by user divisil*

```

num=int(input("enter a num"))

b=2367%10
if(b%3==0):
    print("number divisible by 3")
else:
    print("number not divisible by 3")

```

```

enter a num2214
number not divisible by 3

```

In [30]: *#write the program to calculate electricity bill accept number of unit from user*

```

unit=int(input("enter a unit:"))
amt=0
if unit<=100:
    amt=0
elif (unit>100 and unit<=200):
    amt=(unit-100)*5
elif(unit>200):
    amt=500+(unit-200)*100
print("enter bill is:",amt)

```

```

enter a unit:101
enter bill is: 5

```

In [37]: *#write the program to accept cost price of by and calcualate road tax to be paid also d*
#>100000 #>50000 and <=100000 #<=50000

```

price=int(input("enter a pricre"))
if price>100000:
    roadtex=100000*0.15
elif price>500000 and price<=100000:
    roadtex=50000*0.10
elif price<=50000:
    roadtex=50000*0.5
print("the price is ",roadtex)
print("the final price is",price+roadtex)

```

```

enter a pricre100000
the price is  25000.0
the final price is 125000.0

```

In [40]:

```

num=int(input("enter a number:"))
count=0
for i in str(num):
    count+=1
print("lenght is :",count)

```

```

enter a number:145236789
lenght is : 9

```

In [46]:

```

#write to program to check whether number enter is 3 digit or not if the number 3 digit:
num=str(input("enter a number:"))
count=0
for i in num:
    count+=1
if(count==3):
    print("the middle digits of num ",num[1])
else:
    print("enter 3 digits number only")

```

```

enter a number:786
the middle digits of num  8

```