

WAP to input a string and its length

```
In [2]: s=input("Type something :")
print(s)
print("The length of your string is ",len(s))

Type something :12336
12336
The length of your string is  5
```

WAP to input 2 numbers and their sum and diff

```
In [4]: a=int(input("Enter a:"))
b=int(input("Enter b:"))
s=a+b
print("sum is:",s)
d=a-b
print("diff is:",d)

Enter a:8
Enter b:7
sum is: 15
diff is: 1
```

WAP to input a string s and a number n. Print the string n times on the screen, each should appear in a separate line

```
In [24]: s=input("Type something :")
print(s)
n=int(input("Enter a number"))
print(n)
sp=(s+"\n")*n
print(sp)

Type something :Akriti
Akriti
Enter a number:5
5
Akriti
Akriti
Akriti
Akriti
Akriti
```

```
In [30]: s1='AKRITI'
print(len(s1))
s2='akritigupta02@gmail.com'
print(len(s2))
s3=s1+"\n"+s2
print(len(s3))
print(type(s3))

File  "<ipython-input-30-bb980e1860be>", line 3
    s2='akritigupta02@gmail.com'
    ^
SyntaxError: invalid syntax
```

Find the name of function to find the square root. (see all the options available in dir() of math)

```
In [9]: import math
a=int(input("Enter any number :"))
print(math.sqrt(a))

Enter any number :4
2.0
```

WAP to input 4 numbers from user and print their average

```
In [16]: a=int(input("enter numbers :"))
s=0
for i in range(a):
    b=int(input("enter num one by one "))
    s+=b

print("sum is ",s)
avg=s/a
print("avearge of numbers is:",avg)

enter numbers :3
enter num one by one 5
enter num one by one 5
enter num one by one 5
sum is 15
avearge of numbers is: 5.0
```

Variable (name)

```
In [ ] : __name__ #inbuilt special variable , it is python module.

In [20]: def mul(a,b):
        return a*b
print(mul(2,3))
print(__name__) #here mul function comes in main
if __name__=="__main__":
    print(mul(2,3))
    print(__name__)

6
__main__
6
__main__

In [21]: if __name__=="__main__":
        print(mul(2,3))
        print(__name__)

6
__main__

In [25]: print(__name__)
print(__builtins__.__name__)
print(int.__name__)
print(__builtins__)

__main__
builtins
int
<module 'builtins' (built-in)>
```

Assignment 2

```
In [33]: s='Python is object oriented'

print(s)

print(s[-1])

print(s[::1])

print(s[1:1])
print("**")
print(s[4:10])

Python is object oriented
```

What error do you see for following statements:

```
s=" print(s[1])
```

```
In [34]: s=''
print(s[1]) # it is giving indexerror because there is no elements in the string

-----
IndexError                                Traceback (most recent call last)
<ipython-input-34-0f0be3dd2508> in <module>
      1 s=''
----> 2 print(s[1])

IndexError: string index out of range
```

Find output of the following:

```
In [35]: s='a b cd'
print(len(s))
print(s[1:2])
print(len(s[1:2]))

6
abc
3
```

```
In [41]: s='a#b#c#d#'
print(s.split())
print(s.split('#'))
l=s.split('#') ## a#b#c#d#
s='@'.join(l)
print(s)

['a#b#c#d#']
['a', 'b', 'c', 'd', '']
a#b#c#d#
```

```
In [44]: s='abcba'
s.upper()
print(s)
print(s.count('A'), end = ',')
print(s.count('a', 2,4) , end = ',')
print(s.count('a', 2,4) , end = ',')

abcba
0,
0,0,
```

WAP to input a string and remove all spaces from it.

```
In [5]: s="Python is object oriented"
print(s)
print(s.replace(" ",""))

Python is object oriented
Pythonisobjectoriented
```

WAP to input a string and replace all space with new lines (\n) and print again.

```
In [25]: s="python is object oriented "
print(s)
print(s.replace(" ","\n"))

python is object oriented
python
is
object
oriented
```

WAP to input complete name(first and last name separated by space) and print first and last name separately along with their length in upper case

```
In [3]: f=input("Enter First name :")
print(f)
l=input("Enter last :")
print(l)
fl=f+" "+l
print(fl)
print(fl.upper(),"\n ", "Length is : " ,len(fl))

Enter First name :akku
akku
Enter last :ghu
ghu
akku ghu
AKKU GHU
Length is : 8
```

WAP to input a string and split it into 2 halves. The string can be of any length

```
In [24]: s=input("Enter any string :")
print(s)
print(len(s))
s1=s[:len(s)//2]
s2=s[len(s)//2:]

print(s1)
print(s2)

Enter any string :akzhjh
akzhjh
6
akr
hjh
```

Input temperature in Fahrenheit in print in Celsius.

```
In [29]: f=float(input("Enter temperature in fehrenheit :"))
c=(f-32)*5/9
print("Temperature in celsius :",c)

Enter temperature in fehrenheit :85
Temperature in celsius : 29.444444444444443
```

Write a program to input a number and print its square and cube.

```
In [33]: a=int(input("Enter any number :"))
sq=pow(a,2)
print("Square of the number is " , sq)
cb=pow(a,3)
print("Cube of the number is " , cb)

Enter any number :6
Square of the number is 36
Cube of the number is 216
```

WAP to input a number n and a number m and print the result of following

n2+m2

```
In [38]: n=int(input("Enetr a number :"))
n2=pow(n,2)
m=int(input("Enter second number :"))
m2=pow(m,2)
sum=n2+m2
#s=n2+m2
print("sum of 2 numbers after squaring it ",sum)

Enetr a number :5
Enter second number :6
sum of 2 numbers after squaring it 61
```

WAP to input a numbers M and N and print result of MN

. (use both ** and pow)

```
In [40]: m=int(input("Enter m: "))
n=int(input("Enter n: "))
s=m**n
print(" 1st result is :",s)
print("2nd result is :",pow(m,n))

Enter m: 2
Enter n: 2
1st result is : 4
2nd result is : 4
```

WAP to print sum of first n natural numbers. (n needs to be taken as input).

```
In [ ] : n=input("Enter number :")
n=int(i)
sum=0
for i in range(0,n+1,1):
    sum=sum+i
    print(sum)

In [1]: for i in range(1,10):
        sum+=1
        print(sum)

-----
TypeError                                Traceback (most recent call last)
<ipython-input-1-270e55206439> in <module>
      1 for i in range(1,10):
----> 2     sum+=1
      3     print(sum)

TypeError: unsupported operand type(s) for +=: 'builtin_function_or_method' and 'int'
```

Input Principal, Rate, Time and print Compound Interest and Amount.

```
In [3]: p=int(input("Enter principal :"))
r=int(input("Enter rate :"))
t=int(input("Enter time :"))
print("p=",p,"r=",t,"t=",t)
si=(p*t*t)/100
print("Simple interest is :",si)
s=s+p
print("Amount is :",a)
ci=p*(1+r/100)**t
print("Compound interest is :",ci)

Enter principal :1000
Enter rate :5
Enter time :3
p= 1000 r= 3 t= 5
Simple interest is 150.0
Amount is : 1150.0
1157.6250000000002
```

WAP to print sum of first n natural numbers.

```
In [11]: n=int(input("Enter number :"))
s=0
for i in range(1,n+1):
    s=s+i
print("Sum of numbers is :",s)

Enter number :6
Sum of numbers is : 21
```

WAP to input 2 numbers and swap them

```
In [18]: a=int(input("Enter number "))
print("a=",a)
b=int(input("Enter second number "))
print("b=",b)
# temp=a
# a=b
# b=temp
a,b=b,a # another way to swap
print("After swapping :",a,"a","a","n","b",b)

Enter number 5
a= 5
Enter second number 6
b= 6
After swapping : a 6
b 5
```

WAP to print ascii value of all white-space characters present in python.

```
In [31]: print("Ascii value for space is :",ord(" "))
print("Ascii value for new line is :",ord("\n"))
print("Ascii value for tab is :",ord("\t"))
print("Ascii value for carriage return is :",ord("\r"))

This is a string
This is a string
9
5
32
10
9
13
```

. Input a single character and print its ascii values.

```
In [32]: s=input("Enter a single character :")
print(s)
print("its ascii value is :",ord(s))

Enter a single character :j
j
106
```

WAP that takes area of a circle and gives back the radius and circumference.

```
In [37]: import math
a=int(input("Enter area of circle "))
r=(a/math.pi)**0.5
print("Radius of circle is :",r)
c=2*math.pi*r
print("Circumference is :",c)

Enter area of circle 79
Radius of circle is : 5.014626706796775
Circumference is : 31.50782884513585
```

```
In [39]: a=int(input("Enter area of circle "))
r=(a/3.14)**0.5
print("Radius of circle is :",r)
c=2*3.14*r

print("Circumference is :",c)

Enter area of circle 79
Radius of circle is : 5.015898291312316
Circumference is : 31.499841269441344
```

We need to input marks in 5 subjects out of 100 and print percentage.

```
In [1]: s=print("Exam result :")
sub1=int(input())
print("subject english :",sub1)
sub2=int(input())
print("subject math :",sub2)
sub3=int(input())
print("subject physics :",sub3)
sub4=int(input())
print("subject chemistry :",sub4)
sub5=int(input())
print("subject lab:",sub5)
percentage = ((sub1+sub2+sub3+sub4+sub5)/500)*100
print("percentage :",percentage)

Exam result :
80
subject english : 80
80
subject math : 80
80
```