```
arithematic operators
print(3+2)
print(3-2)
print(3*2)
print(3/2)
print(3//2)
print(3**2)
print(3%2)
```

```
5
1
6
1.5
1
9
1
```

```
#data types
print(type(10))#int
print(type(3.14))#float
print(type(1+3j))#com
print(type('hello'))#str
print(type([1,2,3]))#list
print(type({'name':'senapati'}))#dict
print(type({9.8,3.14,2.7}))#set
print(type((9.8,3.14,2.7)))#tuple
print(type(3==3))#bool
print(type(3>=3))#bool
```

```
<class 'int'>
<class 'float'>
<class 'complex'>
<class 'str'>
<class 'list'>
<class 'dict'>
<class 'set'>
<class 'tuple'>
<class 'bool'>
<class 'bool'>
```

```
#single line comment
letter='p'
print(letter)
print(len(letter))
greeting='hello,world!'
print(greeting)
print(len(greeting))
sentence="hii python"
```

```
print(sentence)
```

```
p
1
hello,world!
12
hii python
```

```
#multi line string
a=''' iam a student and enjoy classes.
i am learning data science & generative ai course.
this is my python programs'''
print(a)
```

```
 iam a student and enjoy classes.
i am learning data science & generative ai course.
this is my python programs
```

```
#multi line string
b=""" iam a student and enjoy classes.
i am learning data science & generative ai course.
this is my python programs"""
print(b)
```

```
 iam a student and enjoy classes.
i am learning data science & generative ai course.
this is my python programs
```

```
#string concatenation
first_name="vasantha"
last_name="reddy"
space='  '
full_name=first_name + space + last_name
print(full_name)
```

```
vasantha  reddy
```

```
#len
print(len(first_name))
print(len(last_name))
print(len(first_name)>len(last_name))
print(len(full_name))
```

```
8
5
True
15
```

```
##unpacking characters
language='python'
u,v,w,x,y,z=language
```

```
print(u)
print(v)
print(w)
print(x)
print(y)
print(z)
```

```
p
y
t
h
o
n
```

```
#accessing characters in strings in strings by index
word='welcome'
first_letter=word[0]
print(first_letter)
```

```
w
```

```
second_letter=word[1]
print(second_letter)
```

```
e
```

```
last_index=len(word)-1
last_letter=word[last_index]
print(last_letter)
```

```
e
```

```
last_letter=word[-1]
print(last_letter)
```

```
e
```

```
second_last=word[-2]
print(second_last)
```

```
m
```

```
# Slicing
letter = 'vasantha'
first_three = letter[0:3]
last_three = letter[3:6]
print(last_three)
# Another way
last_three = letter[-3:]
print(last_three)
last_three = letter[3:]
print(last_three)
```

```
ant
tha
antha
```

```
#skipping character while splitting strings
cat="barking"
pto=cat[0:6:2]
print(pto)
```

```
bri
```

```
#escape sequence
print('I hope every one enjoying the python challenge.\nDo you ?')
print('Days\tTopics\tExercises')
print('Day 1\t3\t5')
print('Day 2\t3\t5')
print('Day 3\t3\t5')
print('Day 4\t3\t5')
print('This is a back slash  symbol (\\)')
print('In every programming language it starts with \"Hello, World!\"')
```

```
I hope every one enjoying the python challenge.
Do you ?
Days Topics Exercises
Day 1 3 5
Day 2 3 5
Day 3 3 5
Day 4 3 5
This is a back slash  symbol (\)
In every programming language it starts with "Hello, World!"
```

```
#string methods
challenge="thirty days of python"
print(challenge.capitalize())
```

```
Thirty days of python
```

```
challenge="thirsty days of python"
print(challenge.count('y'))
print(challenge.count('y',7,14))
print(challenge.count('y',7,14))
print(challenge.count('th'))
```

```
3
1
1
2
```

```
#endswith=checks the string if it ends with specified ending
challenge='thirty days of python'
```

```
print(challenge.endswith('on'))
print(challenge.endswith('tion'))
```

```
True
False
```

```
#expandtabs:means exand the spaces,default tab size is 8.it takes tab size arugement
challenge='hello\t this is\t python\t program'

print(challenge.expandtabs())
print(challenge.expandtabs(10))
```

```
hello    this is         python  program
hello      this is   python    program
```

```
#find():returns the index first occurrence of substring
challenge='hello this is python'
print(challenge.find('y'))
print(challenge.find('th'))
```

```
15
6
```

```
#format():formats strings into nice output
f_l='vasantha'
l_l='reddy'
job='student'
country='india'
sentance='iam {} {}.iam a {}.iam from {}'.format(f_l,l_l,job,country)
print(sentance)
```

```
iam vasantha reddy.iam a student.iam from india
```

```
radius=10
pi=3.14
area=pi
result='the area of circle with radius {} is {}'.format(str(radius),str(area))
print(result)
```

```
the area of circle with radius 10 is 3.14
```

```
#index():returns the index of substring
challenge='hello this is python'
print(challenge.index('y'))
print(challenge.index('th'))
```

```
15
6
```

```
#isalnum():checks the alphanumeric character
challenge='hellothisispython'
print(challenge.isalnum())
```

```
True
```

```
challenge='hello this is python'
print(challenge.isalnum())
```

```
False
```

```
challenge='30days python'
print(challenge.isalnum())
```

```
False
```

```
challenge='30dayspython'
print(challenge.isalnum())
```

```
True
```

```
#isalpha():checks the all characters are alphabets
v='abcd'
print(v.isalpha())
b='20'
print(b.isalpha())
```

```
True
False
```

```
#isdecimal():checks decimal characters
v='hii'
print(v.isdecimal())
```

```
False
```

```
v='123'
print(v.isdecimal())
```

```
True
```

```
v='123.0'
print(v.isdecimal())
```

```
False
```

```
#isidentifier():Checks for valid identifier means it check if a string is a valid variable n
challenge = 'hello'
print(challenge.isidentifier())
challenge = 'python12'
print(challenge.isidentifier())
challenge = '3python12'
print(challenge.isidentifier())
```

```
True
True
False
```

```python
# islower():Checks if all alphabets in a string are lowercase
challenge ='monkey'
print(challenge.islower())
challenge = ' python'
print(challenge.islower())
challenge = ' HI python'
print(challenge.islower())
```

```
True
True
False
```

```python
# isupper(): returns if all characters are uppercase characters
v= ' python'
print(v.isupper())
challenge = ' PYTHON'
print(challenge.isupper())
```

```
False
True
```

```python
# isnumeric():Checks numeric characters
num = '10'
print(num.isnumeric())
th='ten'
print(th.isnumeric())
```

```
True
False
```

```python
# join(): Returns a concatenated string
web_tech = ['HTML', 'CSS', 'JavaScript', 'React']
result = '#, '.join(web_tech)
print(result)
```

```
HTML#, CSS#, JavaScript#, React
```

```python
# strip(): Removes both leading and trailing characters
challenge =" hello "
print(challenge.strip('y'))
print(challenge)
```

```
 hello
 hello
```

```python
#replace():replaces substrings inside
v="hello , python"
print(v.replace('hello','welcome to'))
```

```
welcome to , python
```

```python
#split():splits string from left
h='hi this is python'
print(h.split())
```

```
['hi', 'this', 'is', 'python']
```

```python
#title():returns a title cased string
v = 'welcome to python'
print(v.title())
```

```
Welcome To Python
```

```python
# swapcase(): Checks if String Starts with the Specified String
h = 'thirty days of python'
print(h.swapcase())
challenge = 'Thirty Days Of Python'
print(h.swapcase())
```

```
THIRTY DAYS OF PYTHON
THIRTY DAYS OF PYTHON
```

```python
# startswith(): Checks if String Starts with the Specified String
n = 'thirty days of python'
print(n.startswith('thirty'))
challenge = '30 days of python'
print(n.startswith('thirty'))
```

```
True
True
```

```python
# Variables in Python
first_name = 'PRAKASH'
last_name = 'SENAPATI'
country = 'HYD'
city = 'TELENGANA'
age = 40087
is_married = True
skills = ['HTML', 'CSS', 'JS', 'React', 'Python']
person_info = {
    'firstname':'Asabeneh',
    'lastname':'Yetayeh',
    'country':'Finland',
    'city':'Helsinki'
    }

# Printing the values stored in the variables
print('First name:', first_name)
print('First name length:', len(first_name))
print('Last name: ', last_name)
print('Last name length: ', len(last_name))
```

```
print('Country: ', country)
print('City: ', city)
print('Age: ', age)
print('Married: ', is_married)
print('Skills: ', skills)
print('Person information: ', person_info)
```

```
First name: PRAKASH
First name length: 7
Last name:  SENAPATI
Last name length:  8
Country:  HYD
City:  TELENGANA
Age:  40087
Married:  True
Skills:  ['HTML', 'CSS', 'JS', 'React', 'Python']
Person information:  {'firstname': 'Asabeneh', 'lastname': 'Yetayeh', 'country': 'Finland',
```

```
# Declaring multiple variables in one line
first_name, last_name, country, age, is_married = 'Asabeneh', 'Yetayeh', 'Helsink', 250, Tru
print(first_name, last_name, country, age, is_married)
print('First name:', first_name)
print('Last name: ', last_name)
print('Country: ', country)
print('Age: ', age)
print('Married: ', is_married)
```

```
Asabeneh Yetayeh Helsink 250 True
First name: Asabeneh
Last name:  Yetayeh
Country:  Helsink
Age:  250
Married:  True
```