

In [1]:

```

d={
    "key1" : "value1"
}
d.update({"name":"alekhya"})
d.update({"branch":"cse"})
d.update({"section":"ai&ml"})

for i in d:
    print(i)

```

```

key1
name
branch
section

```

In [2]:

```

d={
    "key1" : "value1"
}
d.update({"name":"alekhya"})
d.update({"branch":"cse"})
d.update({"section":"ai&ml"})

for i in d:
    print(d[i])

```

```

value1
alekhya
cse
ai&ml

```

In [3]:

```

d={
    20 : "value"
}
d.update({"name":"alekhya"})
d.update({"branch":"cse"})
d.update({"section":"ai&ml"})

for i in d:
    print(type(i))

```

```

<class 'int'>
<class 'str'>
<class 'str'>
<class 'str'>

```

In [5]:

```

d={}
for i in range(2):
    d.update({
        "key1": input("enter key 1:"),
        "key2": input("enter key 2:")
    })
print(d)

```

```

enter key 1:10
enter key 2:20
enter key 1:30
enter key 2:40
{'key1': '30', 'key2': '40'}

```

In [6]:

```

l=[]
d={}
for i in range(2):
    d.update({
        "key1": input("enter key 1:"),
        "key2": input("enter key 2:")
    })
    l.append(d)
print(l)

```

```

enter key 1:10
enter key 2:20
enter key 1:30
enter key 2:40
[{'key1': '30', 'key2': '40'}, {'key1': '30', 'key2': '40'}]

```

In [2]:

```
db=[
    {"123@gmail.com":"123"},
    {"abc@gmail.com":"abc"},
    {"xyz@gmail.com":"xyz"},
    {"456@gmail.com":"456"}
]
print(db)
username=input("Enter username:")
password=input("Enter password:")
for i in db:
    print(i)
```

```
[{'123@gmail.com': '123'}, {'abc@gmail.com': 'abc'}, {'xyz@gmail.com': 'xyz'}, {'456@gmail.com': '456'}]
Enter username:123@gmail.com
Enter password:123
{'123@gmail.com': '123'}
{'abc@gmail.com': 'abc'}
{'xyz@gmail.com': 'xyz'}
{'456@gmail.com': '456'}
```

In [3]:

```
db=[
    {"123@gmail.com":"123"},
    {"abc@gmail.com":"abc"},
    {"xyz@gmail.com":"xyz"},
    {"456@gmail.com":"456"}
]
print(db)
for i in db:
    print(i.keys())
    print(i.values())
    print(i.items())
```

```
[{'123@gmail.com': '123'}, {'abc@gmail.com': 'abc'}, {'xyz@gmail.com': 'xyz'}, {'456@gmail.com': '456'}]
dict_keys(['123@gmail.com'])
dict_values(['123'])
dict_items([('123@gmail.com', '123')])
dict_keys(['abc@gmail.com'])
dict_values(['abc'])
dict_items([('abc@gmail.com', 'abc')])
dict_keys(['xyz@gmail.com'])
dict_values(['xyz'])
dict_items([('xyz@gmail.com', 'xyz')])
dict_keys(['456@gmail.com'])
dict_values(['456'])
dict_items([('456@gmail.com', '456')])
```

In [4]:

```
db=[
    {"123@gmail.com":"123"},
    {"abc@gmail.com":"abc"},
    {"xyz@gmail.com":"xyz"},
    {"456@gmail.com":"456"}
]
print(db)
username=input("Enter username:")
password=input("Enter password:")
temp={
    username:password
}
if temp in db:
    print("found")
else:
    print("not found")
```

```
[{'123@gmail.com': '123'}, {'abc@gmail.com': 'abc'}, {'xyz@gmail.com': 'xyz'}, {'456@gmail.com': '456'}]
Enter username:123@gmail.com
Enter password:123
found
```

In [7]:

```

row=3
col=3
arr=[]
for i in range(row):
    element=[]
    for j in range(col):
        element.append(int(input("enter a element:")))
    arr.append(element)
print(arr)

```

```

enter a element:1
enter a element:2
enter a element:3
enter a element:4
enter a element:5
enter a element:6
enter a element:7
enter a element:8
enter a element:9
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]

```

In [9]:

```

row=3
col=3
arr1=[]
arr2=[]
for i in range(row):
    element=[]
    for j in range(col):
        element.append(int(input("enter a element:")))
    arr1.append(element)
print(arr1)
for i in range(row):
    element=[]
    for j in range(col):
        element.append(int(input("enter a element:")))
    arr2.append(element)
print(arr2)
arr3=arr1+arr2
print(arr3)

```

```

enter a element:1
enter a element:2
enter a element:3
enter a element:4
enter a element:5
enter a element:6
enter a element:7
enter a element:8
enter a element:9
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]
enter a element:1
enter a element:2
enter a element:3
enter a element:4
enter a element:5
enter a element:6
enter a element:7
enter a element:8
enter a element:9
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]
[[1, 2, 3], [4, 5, 6], [7, 8, 9], [1, 2, 3], [4, 5, 6], [7, 8, 9]]

```

In [13]:

```

#taking user input in array
row=3
col=4
new_arr=[]
for i in range(row):
    a=input("enter elements:").split(' ')
    #print(a)
    b=list(map(int,a))
    #print(b)
    new_arr.append(b)
print(new_arr)

```

```

enter elements:1 2 3
enter elements:4 5 6
enter elements:7 8 9
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]

```

In [12]:

```
row=3
col=4
new_arr=[]
for i in range(row):
    b=list(map(int,input("enter elements:").split(' ')))
    new_arr.append(b)
print(new_arr)
```

```
enter elements:1 2 3
enter elements:4 5 6
enter elements:7 8 9
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]
```

slicing

In [15]:

```
a=[1,2,3,4,5,6,7,8]
print(a[0])
print(a[1:5])
print(a[1:7:2])
print(a[-1])
print(a[7:1:-1])
```

```
1
[2, 3, 4, 5]
[2, 4, 6]
8
[8, 7, 6, 5, 4, 3]
```

string methods

In [10]:

```
s="hello world"
print(s)
print(s.capitalize())
res=s.split()
print(res)
print("-".join(s))
print("-".join(res))
print(s.title())
```

```
hello world
Hello world
['hello', 'world']
h-e-l-l-o- -w-o-r-l-d
hello-world
Hello World
```

In [4]:

```
s="hello@world"
print(s)
print(s.capitalize())
print(s.split('@'))
```

```
hello@world
Hello@world
['hello', 'world']
```

In [13]:

```
s="hello world"
print(s)
print(s.capitalize())
res=s.split()
print(res)
print("-".join(res))
print(s.title())
print(s.upper())
print(s.lower())
print(s.count("l"))
```

```
hello world
Hello world
['hello', 'world']
hello-world
Hello World
HELLO WORLD
hello world
3
```

In [18]:

```
s1="Hello123"
s2="123"
print(s1.isalnum())
print(s2.isdigit())
print(s2.isdecimal())
print(s1.isalpha())
print(s1.isalnum())
print(s1.swapcase())
```

```
True
True
True
False
True
hELLO123
```

string formatting

In [26]:

```
first="Mr.X is "
age=20
last=" years old"
print(first+str(age)+last)
print("Mr.X is {} years old".format(age))
```

```
Mr.X is 20 years old
Mr.X is 20 years old
```

In [39]:

```
num=12.46
print("square of {} is {:.3f}".format(num,num*num))
```

```
square of 12.46 is 155.252
```

In [40]:

```
num=12
print("square of {} is {:.4f}".format(num,num*num))
```

```
square of 12 is 144.0000
```

In [41]:

```
num=12
print(f"square of {num} is {num*num}")
```

```
square of 12 is 144
```

In [42]:

```
num=12
print(f"square of {num} is {num*num:.5f}")
```

```
square of 12 is 144.00000
```

In [53]:

```
a=int(input("enter a number:"))
b=int(input("enter b number:"))
add=a+b
sub=a-b
mul=a*b

print(add,sub,mul)
try:
    print(a/b)
except:
    print("do not divide with zero")
```

```
enter a number:4
enter b number:0
4 4 0
do not divide with zero
```

In [67]:

```
a,b,c,d,e=[int(a) for a in input().split(' ')]
print(a,b,c,d,e)
```

```
1 2 3 4 5
1 2 3 4 5
```

In [71]:

```
try:
    arr=list(map(int,input().split(' ')))
    print(arr)
except:
    print("enter an integer")
```

```
10,000
enter an integer
```

In [72]:

```
print(eval("1+3/5+9")) #eval()
```

```
10.6
```

functions

In [73]:

```
#regular functions or userdefined functions
def addition(num1,num2):
    res=num1+num2
    return res
print(addition(10,20))
```

```
30
```

In [77]:

```
num=23
#method1
for i in range(1,num+1): #23 iterations
    pass
#method2
for i in range(2,num): #21
    pass
#method3
for i in range(2,num//2): #10
    pass
#method4
for i in range(2,int(num**0.5)+1): #3
    pass
```

In [79]:

```
#default argument functions
def add(num1,num2=1):
    return num1+num2
a=10
b=10
res=add(10,10)
print(res)
```

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In [80]:

```
#keyword argument functions
def add(num1,num2):
    print("num1:",num1)
    print("num2:",num2)
add(10,20)
```

```
num1: 10
num2: 20
```

In [81]:

```
def add(num1,num2):
    print("num1:",num1)
    print("num2:",num2)
add(num2=10,num1=20)
```

```
num1: 20
num2: 10
```

In [83]:

```
def dis(a,b,c,d):
    print(a,b,c,d)
dis(1,2,3,4)
```

1 2 3 4

In [89]:

```
def dis(a,b,c,d):
    print(a,b,c,d)
dis(1,2,3,d=4)
```

1 2 3 4

In [91]:

```
#variable length functions
def add(*abc):
    print(abc)
add(1,20,"hello",[4,5,6],2)
```

(1, 20, 'hello', [4, 5, 6], 2)

In [95]:

```
def add(a,b,*abc):
    print(a)
    print(b)
    print(*abc)
add(1,2,3,4,5)
```

```
1
2
3 4 5
```

In [94]:

```
def add(a,b,*abc):
    print(a)
    print(b)
    print(*abc)
print(add(1,2,3,4,5))
```

```
1
2
3 4 5
None
```

In []:

