In [2]:
```python
print('hello world')
```

```
hello world
```

In [4]:
```python
#           0     1     2     3     4
list1 = ['a', 'c', 'd', 'e', 'f']
#          -5    -4    -3    -2    -1
print(list1[-5:3:1])
```

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

In [6]:
```python
#           0     1     2     3     4
list1 = ['a', 'c', 'd', 'e', 'f']
#          -5    -4    -3    -2    -1
print(list1[0:3:1])
# -5 -4 -3 -2 -1 0 1 2
```

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

In [8]:
```python
#           0     1     2     3     4
list1 = ['a', 'c', 'd', 'e', 'f']
#          -5    -4    -3    -2    -1
print(list1[0:3:-1])
# -5 -4 -3 -2 -1 0 1 2
```

```
[]
```

In [10]:
```python
for i in range (1,11):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
```

In [13]:
```python
for i in range (1,11):
    for j in range(1,5):
        print(i, j)
```

```
1 1
1 2
1 3
1 4
2 1
2 2
2 3
2 4
3 1
3 2
3 3
3 4
4 1
4 2
4 3
4 4
5 1
5 2
5 3
5 4
6 1
6 2
6 3
6 4
7 1
7 2
7 3
7 4
8 1
8 2
8 3
8 4
9 1
9 2
9 3
9 4
10 1
10 2
10 3
10 4
```

In [15]:
```python
for i in range (1,11):
    #i = 1
    for j in range(1,5):
        #j = 2
        print(i, j)
```

```
1 1
1 2
1 3
1 4
2 1
2 2
2 3
2 4
3 1
3 2
3 3
3 4
4 1
4 2
4 3
4 4
5 1
5 2
5 3
5 4
6 1
6 2
6 3
6 4
7 1
7 2
7 3
7 4
8 1
8 2
8 3
8 4
9 1
9 2
9 3
9 4
10 1
10 2
10 3
10 4
```

In [17]:
```python
for i in range (1,11):
    #i = 2
     for j in range(1,5):
            #j = 1
        print(i, j)
```

```
1 1
1 2
1 3
1 4
2 1
2 2
2 3
2 4
3 1
3 2
3 3
3 4
4 1
4 2
4 3
4 4
5 1
5 2
5 3
5 4
6 1
6 2
6 3
6 4
7 1
7 2
7 3
7 4
8 1
8 2
8 3
8 4
9 1
9 2
9 3
9 4
10 1
10 2
10 3
10 4
```

In [19]:
```python
for i in range (1,11):
    #i = 2
     for j in range(1,5):
            #j = 2
        print(i, j)
```

```
1 1
1 2
1 3
1 4
2 1
2 2
2 3
2 4
3 1
3 2
3 3
3 4
4 1
4 2
4 3
4 4
5 1
5 2
5 3
5 4
6 1
6 2
6 3
6 4
7 1
7 2
7 3
7 4
8 1
8 2
8 3
8 4
9 1
9 2
9 3
9 4
10 1
10 2
10 3
10 4
```

```
In [ ]:  # While Loop
         # if <some condition>:
         #     print('Some Action')

         # while <some condition>:
         # print('Some Action')

         i = 0
         while i<10:
             print(i)
             i+=1
```

```
In [ ]:  ali = 50
         nasir = 70
```

```
In [ ]:  marks = [50, 70, 90, 82, 76]
```

```
In [ ]:  marks = [
             ["Ali", 50, 21],
             ["Nasir, 70, 22"],
             ["Kamran", 90, 45],
             ["jibran", 82, 30],
         ]
```

```
In [ ]:  marks[2]
```

```
In [ ]:  {
             "name" : "Imran",
             "marks" : 85,
             "age" : 21,
             "class" : 8,
         }
```

```
In [2]:  data["age"]
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-2-7bfd8367c3bc> in <module>
----> 1 data["age"]

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

```
In [1]:  {
             "name" : "Imran",
             "marks" : 85,
             "age" : 21,
             "class" : 8,
         }
```

```
Out[1]:  {'name': 'Imran', 'marks': 85, 'age': 21, 'class': 8}
```

In [4]:
```python
list
```

Out[4]: list

In [6]:
```python
data.clear()
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-6-ec439057cea4> in <module>
----> 1 data.clear()

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

In [9]:
```python
{'name': 'Imran', 'marks': 85, 'age': 21, 'class': 8}
```

Out[9]: {'name': 'Imran', 'marks': 85, 'age': 21, 'class': 8}

In [10]:
```python
data["school"] = "Islamabad"
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-10-65e32a102abf> in <module>
----> 1 data["school"] = "Islamabad"

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

In [14]:
```python
data = input("enter your name:")
```

```
enter your name:Imran
```

In [16]:
```python
type(name)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-16-8584777fc013> in <module>
----> 1 type(name)

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

```
In [19]: marks = input ("enter your marks:")
         print(Marks/100)
```

enter your marks:100

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-19-d40637fe8246> in <module>
      1 marks = input ("enter your marks:")
----> 2 print(Marks/100)

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

```
In [ ]:
```

```
In [21]: data = {'marks': 85, 'age' : 21, 'class': 9}
```

```
In [23]: name = input("enter your age")
```

enter your age21

```
In [25]: data["name"] = name
         data
```

Out[25]: {'marks': 85, 'age': 21, 'class': 9, 'name': '21'}

```
In [ ]: name = input()
        age = input()
```

```
In [1]: name = input("enter name:")
        age = input("enter age:")
        data["name"] = name
        data["age"] = age

        data
```

enter name:Imran
enter age:21

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-1-2eac6c60b0fd> in <module>
      1 name = input("enter name:")
      2 age = input("enter age:")
----> 3 data["name"] = name
      4 data["age"] = age
      5

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

In [2]:
```python
skills = input("enter your skills: ")
```

enter your skills: Jave, phython, Cell #

In [5]:
```python
skills.split(",")
```

Out[5]: ['Jave', ' phython', ' Cell #']

In [6]:
```python
data = {}
```

In [7]:
```python
{
    "name"
    "age"

}
```

Out[7]: {'nameage'}

In [9]:
```python
data.fromkeys(["name", "age", "class"])
```

Out[9]: {'name': None, 'age': None, 'class': None}

In [11]:
```python
data["name"] = "Imran"
```

In [13]:
```python
data.fromkeys(["name", "age", "class"])
```

Out[13]: {'name': None, 'age': None, 'class': None}

In [14]:
```python
keys = input("enter your keys:")
```

enter your keys:Input

In [1]:
```python
skills.split(",")
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-1-a972d94dfccd> in <module>
----> 1 skills.split(",")

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

In [3]:
```python
keys = input("enter your keys: ")
```

enter your keys: a,b,c

```
In [5]: keys = keys.split(",")
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-5-380589986549> in <module>
----> 1 keys = keys.split(",")

AttributeError: 'list' object has no attribute 'split'
```

```
In [7]: data.fromkeys(keys)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-7-7975eabac8cc> in <module>
----> 1 data.fromkeys(keys)

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

```
In [9]: data["a"] = 1
        data["b"] = 2
        data["c"] = 3
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-9-2282db01ab6c> in <module>
----> 1 data["a"] = 1
        2 data["b"] = 2
        3 data["c"] = 3

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

```
In [11]: {'a':1,
          'b':2,
          'c':3}
```

```
Out[11]: {'a': 1, 'b': 2, 'c': 3}
```

```
In [13]: data["c"]
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-13-04c2be3b60d5> in <module>
----> 1 data["c"]

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

In [18]:
```python
val = data.get("a", "no value exists")
print(val)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-18-65a6b8d62817> in <module>
----> 1 val = data.get("a", "no value exists")
      2 print(val)

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

In [20]:
```python
data.items()
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-20-a04a2ccda89a> in <module>
----> 1 data.items()

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

In [23]:
```python
data.values()
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-23-4b7ba670122a> in <module>
----> 1 data.values()

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

In [25]:
```python
{'a': 1, 'b' : 2, 'c' : 3, 'd': 4}
print(value)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-25-b9c8bb97460b> in <module>
      1 {'a': 1, 'b' : 2, 'c' : 3, 'd': 4}
----> 2 print(value)

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

In [27]:
```python
data.pop("pop")
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-27-d03560f4ab3e> in <module>
----> 1 data.pop("pop")

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

In [29]:
```python
data.popitem()
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-29-21ff53bf6924> in <module>
----> 1 data.popitem()

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

In [31]:
```python
data = {'a': 1, 'b': 2, 'c' : 3}
```

In [32]:
```python
data.pop
```

Out[32]: `<function dict.pop>`

In [34]:
```python
data.setdefault("d")
```

In [36]:
```python
data
```

Out[36]: `{'a': 1, 'b': 2, 'c': 3, 'd': None}`

In [38]:
```python
data.update([d,])
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-38-702d1dcbca3a> in <module>
----> 1 data.update([d,])

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

In [40]:
```python
data.values()
```

Out[40]: `dict_values([1, 2, 3, None])`

In [42]:
```python
dataNew = data.copy()
```

In [44]:
```python
dataNew
```

Out[44]: `{'a': 1, 'b': 2, 'c': 3, 'd': None}`

In [ ]: