1_0_datatype_example

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1 string

```
In [ ]: lang = 'python programming learning'

In [ ]: lang[7]

In [ ]: lang[1:8]

In [ ]: lang[1:9:2]

In [ ]: lang[:5]

In [ ]: lang[7:]

In [ ]: lang[-2]

In [ ]: lang[:-2]

In [ ]: lang[3] =k

In [ ]: a = 'hello'
        b = 'world'

In [ ]: a + b

In [ ]: a + ' ' + b

In [ ]: a *3

In [ ]: 'r' in lang

In [ ]: len(lang)

In [ ]: lang.upper()

In [ ]: lang.lower()

In [ ]: lang.title()

In [ ]: lang.count('r')
```

In [ ]:
```
lang.find('r')
```

In [ ]:
```
idx=[]
i = 1
while i:
    i = lang.find('r', i)
    if i > 0:
        print(i)
        i += 1
    else:
        break
```

In [ ]:
```
lang.split()
```

In [ ]:
```
'='.join(lang.split())
```

In [ ]:
```
lang.replace('python', 'Java')
```

In [ ]:
```
'name : {}, phone : {}'.format('alice', '010-1111-1111')
```

In [ ]:
```
'{} has a {}'.format('alice', 'message')
```

In [ ]:

In [ ]:
```
'abcdabcd'.rfind('cd')
```

In [ ]:
```
'abcdabcd'.index('cd')
```

In [ ]:
```
fruit = 'apple banana grapes,orange,tomato,melon,lemon,watermelon'
```

In [ ]:
```
fruit.split()
```

In [ ]:
```
fruit.split(',')
```

In [ ]:
```
fruit.split(',', 2)
```

In [ ]:
```
fruit.split(',', 3)
```

In [ ]:
```
fruit.rsplit(',',2)
```

In [ ]:
```
'hello world\n hi world\n hello land\n'.splitlines()
```

In [ ]:
```
'hello'.zfill(10)
```

In [ ]:
```
alist = ['hello', 'hi']
```

In [ ]:
```
''.join(alist)
```

In [ ]:
```
' '.join(alist)
```

In [ ]:
```
'--'.join(alist)
```

In [ ]:
```
sorted('hello world')
```

In [ ]:
```
sorted('hello world', reverse=True)
```

In [ ]:

In [ ]:

2 List

```
In [ ]: score = [80,34,56,78,34,34,5,6,7,8]

In [ ]: score[1:4]

In [ ]: score[:5]

In [ ]: score[6:]

In [ ]: score[2:7:2]

In [ ]: score[2:7:3]

In [ ]: sum(score)

In [ ]: max(score)

In [ ]: len(score)

In [ ]: score.max()

In [ ]: score.append(100)
        score

In [ ]: score.insert(1, 50)
        score

In [ ]: score.count(100)

In [ ]: score.count(34)

In [ ]: score.sort()

In [ ]: score

In [ ]: score.reverse()
        score

In [ ]: sorted(score)

In [ ]: score

In [ ]: score.remove(100)
        score

In [ ]: score.pop()

In [ ]: score.pop()

In [ ]: score.extend([100,200])
        score
```

```
In [ ]: score.clear()
        score

In [ ]: id(score)

In [ ]: score1 = score.copy()

In [ ]: score1

In [ ]: id(score)

In [ ]: id(score1)

In [ ]: del score

In [ ]: score

In [ ]:

In [ ]:
```

3 Tuple

```
In [ ]: T = (3,6,4,8,6,4,2,3,5,6,8,5,4)

In [ ]: T.count(6)

In [ ]: T.index(6)

In [ ]: T.count(6)

In [ ]: tuple(T)

In [ ]: j =0
        T_index = []
        for i in range(T.count(6)):
            k = T.index(6,j )
            T_index.append(k)
            j=k+1
        print(T_index)



In [ ]: ttt = (100,200,300)

In [ ]: T+ttt

In [ ]: ttt*3

In [ ]: 100 in ttt
```

```
In [ ]: a =1; b=2; c =4
        print(a, b,c)

In [ ]: a,b,c = 4,5,6
        print(a,b)

In [ ]: T = (4,5,6,7)

In [ ]: e,f,g,k = T
        print(e,f,g,k)

In [ ]: T = (1)
        type(T)

In [ ]: T = (1,)
        type(T)

In [ ]:

In [ ]:
```

4 Set

```
In [ ]: t = {1,2,5}

In [ ]: t.remove(3)

In [ ]: t.discard(3)

In [ ]: t.add(3)
        t

In [ ]: type(t)

In [ ]: t.remove(2)
        t

In [ ]: t.clear()
        t

In [ ]: t

In [ ]: 7 in t

In [ ]: 7 not in t

In [ ]: t

In [ ]: t.discard(5)
        t
```

```
In [ ]: t.discard(3)

In [ ]: t.pop()

In [ ]: t

In [ ]: tt = t.copy()
        tt

In [ ]: ttt = t
        ttt

In [ ]: id(t)

In [ ]: id(tt)

In [ ]: id(ttt)

In [ ]: del t, tt,ttt

In [ ]: t = {1,2,3,4}
        tt = {3,4,7,8,9, 10}

In [ ]: t.union(tt)

In [ ]: t.intersection(tt)

In [ ]: t.difference(tt)

In [ ]: t.symmetric_difference(tt)

In [ ]: t.isdisjoint(tt)

In [ ]: ttt = {11,12,13}
        t.isdisjoint(ttt)

In [ ]: tttt = {3,4}
        tttt.issubset(t)

In [ ]: t.issuperset(tttt)

In [ ]: f_set = frozenset(tt)

In [ ]: f_set.add(100)

In [ ]:
```

5 Dictionary

```
In [ ]: d = {'one': 1, 'two':2, 'three':3}
        d

In [ ]: d['one']

In [ ]: d['four']=4
        d

In [ ]: del d['four']
        d

In [ ]: len(d)

In [ ]: 'one' in d

In [ ]: 'two' not in d

In [ ]: d2 = d.copy()
        d2

In [ ]: d.clear()
        d

In [ ]: a = range(1, 6)

        b2 = 'two'
        x = dict.fromkeys(a, b2)
        x

In [ ]: a = range(1, 6)

        x = dict.fromkeys(a)
        x

In [ ]: x[3] = 25

In [ ]: x

In [ ]: x.popitem()

In [ ]: color = {'red': 1, 'blue': 3}

In [ ]: color['red']

In [ ]: color.get('red')

In [ ]: color.get('pink', 5)

In [ ]: color.items()
```

```
In [ ]: color.keys()

In [ ]: color.values()

In [ ]: color['yellow'] = 5
        color

In [ ]: color.pop('yellow')

In [ ]: color

In [ ]: color.popitem()

In [ ]: color

In [ ]: color['blue'] = 3
        color['green'] = 4
        color

In [ ]: color.setdefault('black', 5)
        color

In [ ]: color.setdefault('pink', 4)

In [ ]: color.setdefault('red', 4)

In [ ]: color

In [ ]: color1 = {'gray':7}

In [ ]: color.update(color1)
        color

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:
```