

Dictionary in Python

Dictionaries are used to store data values in **key:value** pairs

They are unordered, mutable(changeable) & don't allow duplicate keys

```
dict = {  
    "name" : "shradha",  
    "cgpa" : 9.6,  
    "marks" : [98, 97, 95],  
}
```

"key" : value

dict["name"], dict["cgpa"], dict["marks"]

dict["key"] = "value" *#to assign or add new*

Dictionary in Python

Nested Dictionaries

```
student = {  
    "name": "shradha",  
    "score": {  
        "chem": 98,  
        "phy": 97,  
        "math": 95  
    }  
}
```

```
student["score"]["math"]
```

Dictionary **Methods**

myDict.**keys**() #returns all keys

myDict.**values**() #returns all values

myDict.**items**() #returns all (key, val) pairs as tuples

myDict.**get**("key") #returns the key according to value

myDict.**update**(newDict) #inserts the specified items to the dictionary

Set in Python

Set is the collection of the unordered items.

Each element in the set must be unique & immutable.

```
nums = { 1, 2, 3, 4 }
```

```
set2 = { 1, 2, 2, 2 }
```

#repeated elements stored only once, so it resolved to {1, 2}

```
null_set = set( )      #empty set syntax
```

Set Methods

set.**add**(el) #adds an element

set.**remove**(el) #removes the elem an

set.**clear**() #empties the set

set.**pop**() #removes a random value

Set Methods

set.**union**(set2) #combines both set values & returns new

set.**intersection**(set2) #combines common values & returns new

Let's Practice

Store following word meanings in a python dictionary :

table : "a piece of furniture", "list of facts & figures"

cat : "a small animal"

You are given a list of subjects for students. Assume one classroom is required for 1 subject. How many classrooms are needed by all students.

*"python", "java", "C++", "python", "javascript",
"java", "python", "java", "C++", "C"*

Let's Practice

WAP to enter marks of 3 subjects from the user and store them in a dictionary. Start with an empty dictionary & add one by one. Use subject name as key & marks as value.

**Figure out a way to store 9 & 9.0 as separate values in the set.
(You can take help of built-in data types)**