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)