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Dictionary & Sets

dictionary is a collection of Keys value pairs

```
marks = {
    "Vidh" : 100,
    "Kriti" : 95,
    "Vini" : 90
    }
Print (marks, type (marks))
Print (marks ["Vidhi"])
```

output
'Vidhi': 100, 'Kriti': 90, 'Vini': 90

output
100

dictionary ~~methods~~ Properties

- it is unordered
- it is mutable
- it is indexed
- Can not contain duplicate Keys

dictionary methods

- Print (marks. items ()) → ('vidhi', 100), ('Kriti', 95) ('Vini', 90)
- Print (marks. Key ()) → ('Vidh', 'Kriti', Vini')
- Print (marks. values ()) → (100, 95, 90)
- marks. update ({"Vidhi": 99}) >> ('Vidhi': 99, 'Kriti': 95, 'Vini': 90)
  Print (marks)
- Print (mark. get ("Vidh")) > # both give same output
  Print (marks ["Vidhi"]) 100
- Print (marks. get ("Vidhi 2")) > # difference is if the key is different
  Print (marks ["Vidhi 2")) . get give = None but other give error

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Sets

Set is a collection of well defined object.

S = {1, 5, 32} # this is set use { }

S = Set ( ) # this is how emty set are made
do not use { } use this ( )

S = {1, 5, 32, 5, 5} # {1, 5, 32} don't Print duplicate
Print (S)

Set methods

S = {1, 5, 32, 54, 5, 5, 5, "Harry"}

S.add (566)
Print (S)

output
{32, 1, 5, 54, 566, 'Harry'}

Properties of set

Set are unordered
Set are unindexed
There is no way to change item in sets.
Set cannot contain duplicate value.

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operation set

sd = {4, 3, 1, 8}

len (d) # length batata hai

sd. remove (1) # 1 no. gayab // output {4, 3, 8}

sd. pop # random value ko gayab karega

s. clear # set ko empty kar dega.

s. Union # 2 set ko ka sath Print karata ~~Common~~ value 1 bar hi leta

Example of s. Union

S1 = {1, 45, 6}

S2 = {7, 8, 1, 78}

Union ✡ Print (S1. Union (S2)) # output {1, 45, 6, 7, 8, 1, 78}

intersection ✡ Print (S1. intersection (S2)) # 1 S.S/ common ko print

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Practice set

Q1 Write a program to create a dictionary of Hindi word with values as their English translation. Provide user with an Option to look it up

output
Enter the word you want meaning of : billi
cat

✡ words = {"madad": "Help",
"billi": "cat",
"Kagaj": "Paper"}

Word = input ("Enter the word you want meaning of : ")
Print (words [word])

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Q2 Write a program to input ~~eight~~ third numbers from the user and display all the unique number (once)

```
s = set ( )
n = input ("enter number:")
s.add (int (n))
n = input ("enter number:")
s. add (int (n))
n = input ("enter number:")
s. add (int (n))
Print (s)
```

output
Enter number : 2
Enter number : 1
Enter number : 2

{1, 2}

Q3 How we have a set with 18 (int) and '18' (Str) as value in it?

```
s = set ( )
s. add (18)
s. add ("18")
print (s)
```

output
{'18', 18}

Q4 What will be the length of following set s:

```
s = set ( )
s. add (20)
s. add (20.0)
s. add ('20')
Print (len (s))
```

length is 2 because (20) is int, 20.0 is float, '20' is String

but int 20 and float 20.0 value are equal Python don't care about datatype in this.

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Q5 s = { }
What is the type of 's' ?

A it distionary <'dict'> # why because it uses { } curly brakets which used in distionary.

Q5 Create an empty dictonary. Allow 3 friend to enter their favorite langugy as value and use key as their names. Assume that the name are Unique.

A d = { }

```
name = input("enter friend name:")
lang = input("enter langugy name:")
d.update({name: lang})
```

→ Copy Paste for 2 times same.

```
Print(d)
```

output
enter friend name: Vidhi
enter langugy name: Python
enter friend name: Kriti
enter langugy name: Java
enter friend name: Vini
enter langugy name: C

{'Vidhi': 'Python', 'Kriti': 'Java', 'Vini': 'C'}