

Dictionaries

They're a lot of fun!

What is a Dictionary in Python?

Similar to a dictionary you might use to make your English essay sound fancy, python dictionaries store data inside a named key. “Dictionaries are used to store data values in key:value pairs. Dictionaries are written with curly brackets, and have keys and values:”

But what does this mean, and how do I use them?

Creating a dictionary

```
1 my_dict = {  
2  
3 }
```

As seen here, dictionaries are initialized using curly braces {}, and often are separated by lines where you store information

Adding Info

As mentioned before, dictionaries store data in key:value pairs, separated by a “:”

```
1 my_dict = {  
2     "number":5,  
3     "word":"penguin",  
4     "decimal":6.4  
5 }
```

Pairs are separated by commas. A dictionary can hold multiple different data types in it(strings, ints, floats, booleans, etc.)

Accessing and Appending data

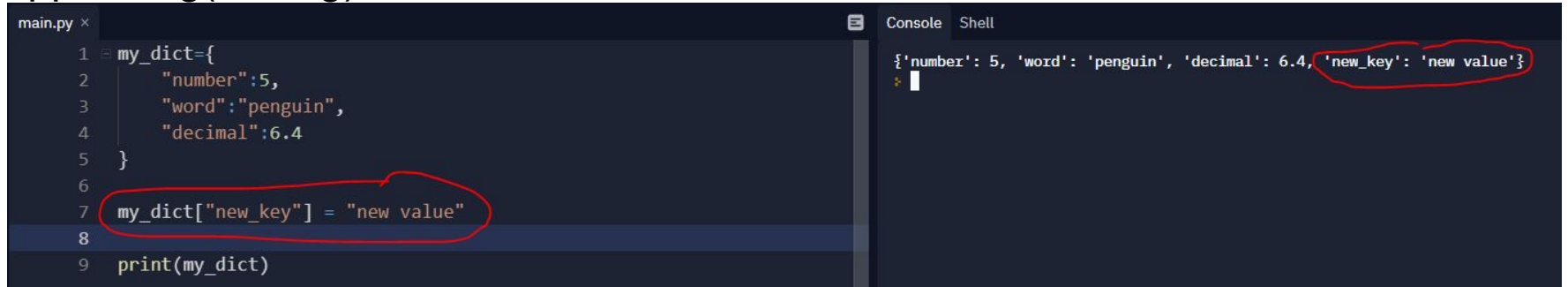
As with lists, you can access and add data to your dictionary. Accessing:

```
1 my_dict={
2     "number":5,
3     "word":"penguin",
4     "decimal":6.4
5 }
6 print(my_dict["number"])
```



Appending(adding):

```
main.py x
1 my_dict={
2     "number":5,
3     "word":"penguin",
4     "decimal":6.4
5 }
6
7 my_dict["new_key"] = "new value"
8
9 print(my_dict)
```



```
{'number': 5, 'word': 'penguin', 'decimal': 6.4, 'new_key': 'new value'}
```

Can I access all the data?

Yes! Just like with lists, we can loop through a dictionary to access individual data pairs, and manipulate the data however we like using `dictionary.items()`:

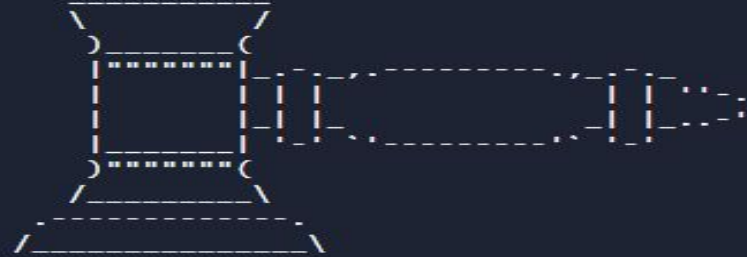
```
1 my_dict={
2     "number":5,
3     "word":"penguin",
4     "decimal":6.4
5 }
6
7 my_dict["new_key"] = "new value"
8
9 for (key, value) in my_dict.items():
10     print(key, value)
```

```
number 5
word penguin
decimal 6.4
new_key new value
>
```

Lab : Auction

For this lab, you will be holding an auction in which the user can input the names and bids of as many bidders as the user would like. Save the names and bids into a dictionary. Once the user is done inputting bidders and bid amounts, display the winner, and how much money they bid. There are several possible solutions, so don't feel discouraged if yours is different from another group members or your group leaders.

Lab Output 1



```
Welcome to the Silent Auction Program
Please enter the bidder's name:
Nate
Please enter the bid:
$5
Are there any more bidders? Type 'yes' or 'no':
yes
Please enter the bidder's name:
Aditya
Please enter the bid:
$2
Are there any more bidders? Type 'yes' or 'no':
yes
Please enter the bidder's name:
Ryo
Please enter the bid:
$78172487
Are there any more bidders? Type 'yes' or 'no':
yes
Please enter the bidder's name:
Danny
Please enter the bid:
$4
Are there any more bidders? Type 'yes' or 'no':
no
The highest bid goes to Ryo. They bid $78172487.0
```


Lab Output 2(Optional)

Utilize replits “clear()” function for a tidier result:

```
1 from replit import clear
```

1

```
Welcome to the Silent Auction Program
Please enter the bidder's name:
Nate
Please enter the bid:
$5
Are there any more bidders? Type 'yes' or 'no':
yes
```

2

```
Please enter the bidder's name:
Aditya
Please enter the bid:
$7
Are there any more bidders? Type 'yes' or 'no':
no
```

3

```
The highest bid goes to Aditya. They bid $7.0
```

Clear console between steps