



# Python Discord Bot






DAY 06

Learn about database

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## Exercise 01: Create, Delete & List

	Difficulty:	★ ★
	Objectives:	<p>Using the Repl.it Database:</p> <ol style="list-style-type: none"> <li>1) Create 3 keys and assign them with value</li> <li>2) List all the available keys in database</li> <li>3) Delete one of the keys in database</li> <li>4) List the remaining keys</li> </ol>
	Skills required:	<ul style="list-style-type: none"> <li>➤ Repl.it Database</li> <li>➤ Key-value database</li> <li>➤ Adding data to database (Set a key to a value)</li> <li>➤ Access to database (Get a key's value)</li> <li>➤ Delete data in database (Delete a key)</li> <li>➤ List the database (List all keys)</li> </ul>
	Resources:	<ul style="list-style-type: none"> <li>➤ <a href="#">Using the Replit database</a></li> <li>➤ <a href="#">How does a Key-Value Work?</a></li> </ul>
	Search keywords:	<ul style="list-style-type: none"> <li>➤ A database for every replit</li> <li>➤ Key-value in database</li> </ul>



#### Code snippet:

```
from replit import db

# create 3 keys in database
# named them with "fruit", "dessert" & "food"
...

print(f"fruit = [your code here]")
print(f"dessert= [your code here]")
print(f"food = [your code here]")

# list all the available keys in database
list_all = [your code here]
print(list_all)

# delete the key named "food"
...






# list the remaining keys
list_remaining = [your code here]
print(list_remaining)
```



#### Output example:

```
fruit = ['banana']
dessert = ['cake']
food = ['spaghetti']
{'fruit', 'dessert', 'food'}
{'fruit', 'dessert'}
```

## Exercise 02: Add, Delete & List

	Difficulty:	★ ★
	Objectives:	Using the Repl.it Database: (Continue with Exercise 01) 1) Add one element in fruit 2) Add two elements in dessert 3) Delete one of the elements in dessert 4) List and show all the keys and values available
	Skills required:	<ul style="list-style-type: none"><li>➤ Repl.it Database</li><li>➤ Adding data to database (Set a key to a value)</li><li>➤ Access to database (Get a key's value)</li><li>➤ List the database (List all keys)</li><li>➤ Python List append() Method</li><li>➤ Python del Keyword</li></ul>
	Resources:	<ul style="list-style-type: none"><li>➤ <a href="#">Using the Replit database</a></li><li>➤ <a href="#">Python List append() Method</a></li><li>➤ <a href="#">Python del Keyword</a></li></ul>
	Search keywords:	<ul style="list-style-type: none"><li>➤ A database for every replit</li></ul>



#### Code snippet:

```
from replit import db

# Add one element in fruit
if "fruit" in db.keys():
...

print(f"fruit = [your code here]")

# Add two elements in dessert
if "dessert" in db.keys():
...

print(f"dessert = [your code here]")

# Delete one of the elements in list_2
...






# List and show all the values available
print(f"dessert = [your code here]")
```



#### Output example:

```
fruit = ['banana', 'apple']
dessert = ['cake', 'ice cream', 'souffle']
dessert = ['cake', 'ice cream']
```

## Exercise 03: Create & List using If...Else

	Difficulty:	★ ★
	Objectives:	Using the Repl.it Database: 1) Create a new key in database using if-else statement 2) Add "Good Luck" as a value in the key 3) List and show the value available
	Skills required:	<ul style="list-style-type: none"><li>➤ Repl.it Database</li><li>➤ Adding data to database (Set a key to a value)</li><li>➤ Access to database (Get a key's value)</li><li>➤ Python List append() Method</li><li>➤ Python If ... Else Statement</li></ul>
	Resources:	<ul style="list-style-type: none"><li>➤ <a href="#">Using the Replit database</a></li><li>➤ <a href="#">Python List append() Method</a></li><li>➤ <a href="#">Python IF...ELIF...ELSE Statements</a></li></ul>
	Search keywords:	<ul style="list-style-type: none"><li>➤ A database for every replit</li><li>➤ Python if else statement</li></ul>



#### Code snippet:

```
from replit import db

# Create a new key in database using if-else statement
# Add "Good Luck" as a value in the key

send = "Good Luck"

if "message" in db.keys():
    ...

else:
    ...

# List and show the value available
print(f"message = [your code here]")
```









#### Output example:

```
message = ['Good Luck']
```



## Exercise 04: \$new

	Difficulty:	★ ★ ★
	Objectives:	Use a command to instruct the discord bot to add message to the database.
	Skills required:	<ul style="list-style-type: none"><li>➤ String split or String slice</li><li>➤ Repl.it Database</li><li>➤ Adding data to database (Set a key to a value)</li></ul>
	Resources:	<a href="#">Using the Replit database</a>
	Search keywords:	<ul style="list-style-type: none"><li>➤ Python string split method</li><li>➤ Python slice string</li><li>➤ A database for every replit</li></ul>
	Command required:	<b>\$new [message]</b>



### Code snippet:

```
from replit import db

def update_encouragements(encouraging_message):
    if "encouragements" in db.keys():
```









### Output example:



**Code4Teens** BOT Today at 19:29  
New encouraging message added.

## Exercise 05: \$list

	Difficulty:	★ ★ ★
	Objectives:	Use a command to instruct the discord bot to list all messages stored in database.
	Skills required:	<ul style="list-style-type: none"><li>➤ Repl.it Database</li><li>➤ Read data in database (Get a key's value)</li><li>➤ Python list</li></ul> <p><u>Only if you faced "ObservedList" problem in Replit</u></p> <ul style="list-style-type: none"><li>➤ Type function in Python</li></ul>
	Resources:	<a href="#">Using the Replit database</a>
	Search keywords:	➤ A database for every replit
	Command required:	<b>\$list</b>



### Code snippet:

```
from replit import db
```









### Output example:



Code4Teens **BOT** Today at 19:38  
['Good Luck!', 'Cheer Up!', "Don't give up!"]

## Exercise 06: \$delete

	Difficulty:	★ ★ ★
	Objectives:	Use a command to instruct the discord bot to delete specific message from database.
	Skills required:	<ul style="list-style-type: none"><li>➤ String split or String slice</li><li>➤ Repl.it Database</li><li>➤ Access list item in Python</li><li>➤ Deleting data from database (Delete a key)</li></ul>
	Resources:	<a href="#">Using the Replit database</a>
	Search keywords:	<ul style="list-style-type: none"><li>➤ Python string split method</li><li>➤ Python slice string</li><li>➤ A database for every replit</li></ul>
	Command required:	<b>\$delete [integer]</b>



### Code snippet:

```
from replit import db

def delete_encouragement(index):
```









### Output example:



**Code4Teens** BOT Today at 19:29  
Encouraging message deleted.

## Exercise 07: \$del\_list

	Difficulty:	★ ★ ★ ★
	Objectives:	Use a command to instruct the discord bot to delete specific message from database and show the updated list of messages.
	Skills required:	<ul style="list-style-type: none"><li>➤ String split or String slice</li><li>➤ Repl.it Database</li><li>➤ Access list item in Python</li><li>➤ Deleting data from database (Delete a key)</li><li>➤ Read data in database (Get a key's value)</li></ul> <u>Only if you faced "ObservedList" problem in Replit</u> <ul style="list-style-type: none"><li>➤ Type function in Python</li></ul>
	Resources:	<a href="#">Using the Replit database</a>
	Search keywords:	<ul style="list-style-type: none"><li>➤ Python string split method</li><li>➤ Python slice string</li><li>➤ A database for every replit</li></ul>
	Command required:	<b>\$del_list [integer]</b>



### Code snippet:

```
From replit import db
```



### Output example:



**Code4Teens** BOT Today at 19:24

Encouraging message deleted.

Updating the list:

['Good Luck!', 'Cheer Up!']