

Class Information

Schools:

Curitiba, BR
Colegio SESC São Jose
Colegio Bom Jesus Centro
Colegio Bom Jesus Lourdes

Dates:

7 Weeks
July 30 to September 14

Teachers:

Sabri Eyuboglu
eyuboglu@stanford.edu

Geoffrey Angus

gangus@stanford.edu

About:

CS106R is a pioneer, introductory computer science course designed for high-schoolers with no prior computer science experience. Students will learn much of the same material as Stanford's introductory computer science class, *CS106A*. However, we have tailored the notes, exercises and projects for those who speak English as a second language.

Weeks 6 & 7

Review and Conclusion

Notes

Class Functions (Optional)

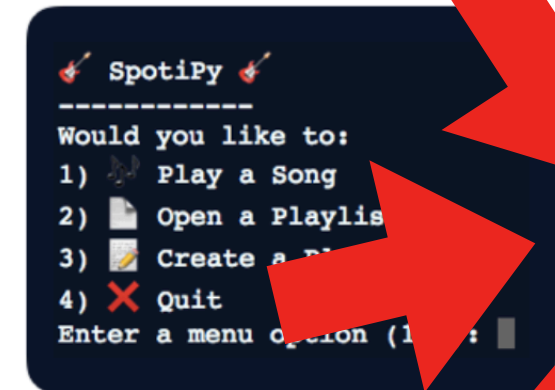
Lists (Optional)

Dictionaries (Optional)

Moving Forward

Final Project (Optional)

SpotiPy



Finish your exercises and enjoy the rest of the class! :)

Important links:

- [Attendance \(Week 6\)](#)
- [The Python Standard Library](#)

[Slides](#)[Q & A](#)

Week 6

CS106R

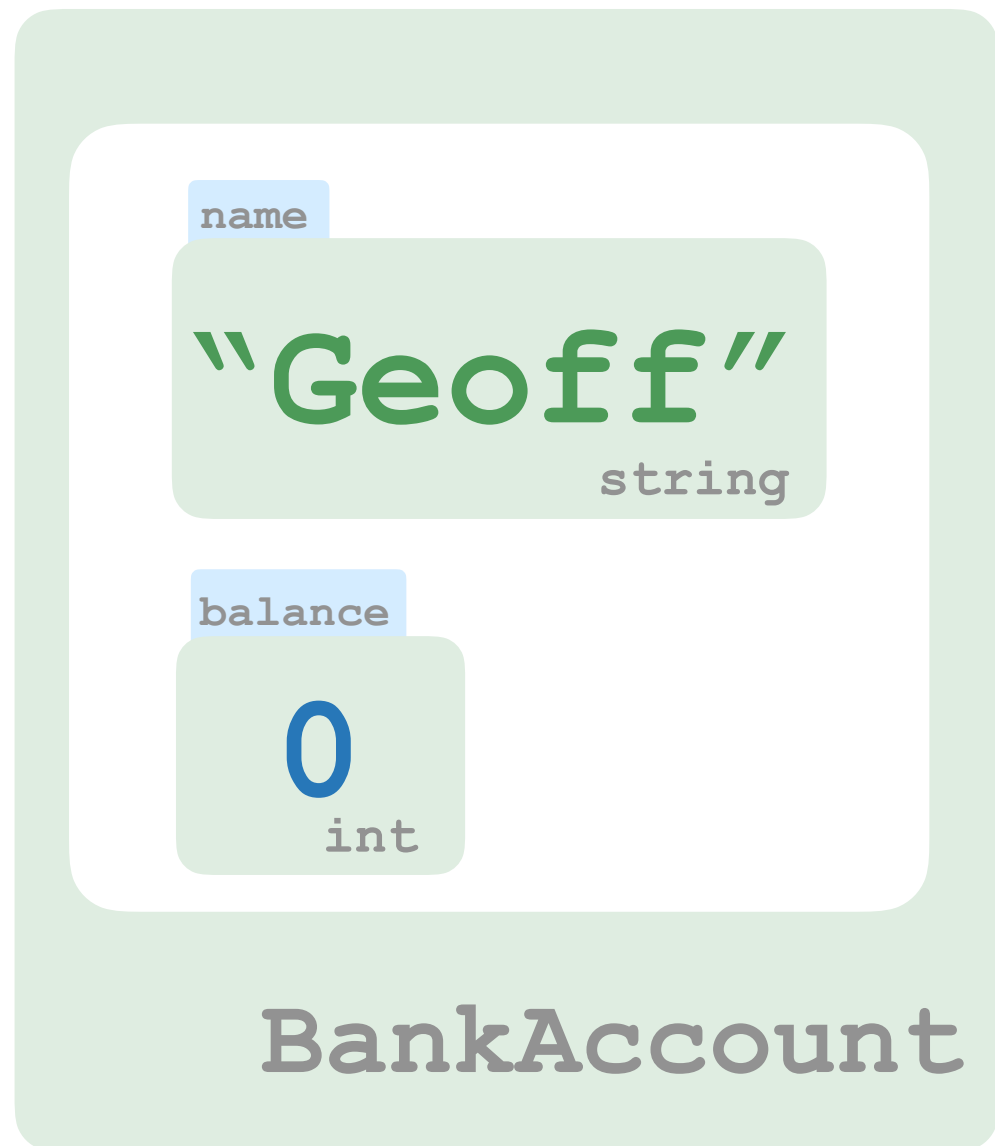
Sabri **Eyuboglu** & Geoffrey **Angus**

Last week on CS106R...

Last week on CS106R...

Complex Objects

BankAccount class



```
account_1 = BankAccount("Geoff")
```



```
account_1 = BankAccount("Geoff")
```

```
account_1.balance = 100
```

This week on CS106R...

This week on CS106R...

Object Functions

Object Functions

Use and modify attributes

```
bot = Bot("Geoff")
```

```
bot.go_to_store()
```

```
bot.buy_guarana()
```

Revisiting the `Bot` class

```
geoff_bot = Bot("GeoffBot")
```

Code

```
bot = Bot("Geoff")
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

100

float

guaranas

0

int

Bot

Code

```
bot = Bot("Geoff")
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

100

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")
```

```
bot
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

100

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")
```

```
bot.
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

100

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")
```

```
bot.go_to_store()
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

100

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")
```

```
bot.go_to_store()
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

90

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")
```

```
bot.go_to_store()
```

```
if
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

90

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")  
bot.go_to_store()  
if bot.
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

90

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")  
bot.go_to_store()  
if bot.has_guarana():
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

90

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")  
bot.go_to_store()  
if bot.has_guarana():  
    bot.
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

90

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")  
bot.go_to_store()  
  
if bot.has_guarana():  
    bot.buy_guaranas(num)
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

90

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")  
bot.go_to_store()  
  
if bot.has_guarana():  
    bot.buy_guaranas(10)
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

90

float

guaranas

0

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Code

```
bot = Bot("Geoff")  
bot.go_to_store()  
  
if bot.has_guarana():  
    bot.buy_guaranas(10)
```

bot

Attributes

name

"Geoff"

string

age

0

int

Charge

85

float

guaranas

10

int

Functions

go_to_store()

has_guarana()

buy_guarana()

buy_guaranas(num)

Bot

Object Functions

Use and modify attributes

```
bot = Bot("Geoff")
```

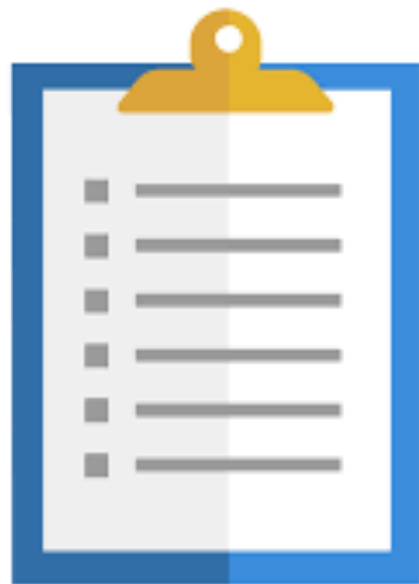
```
bot.go_to_store()
```

```
bot.buy_guarana()
```

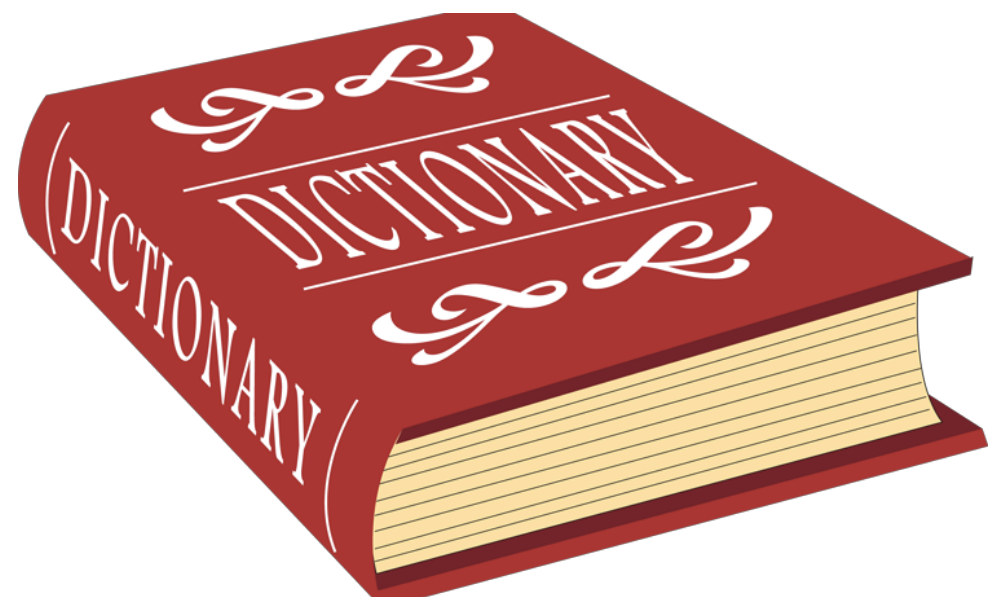
Next:

Collection Classes

List

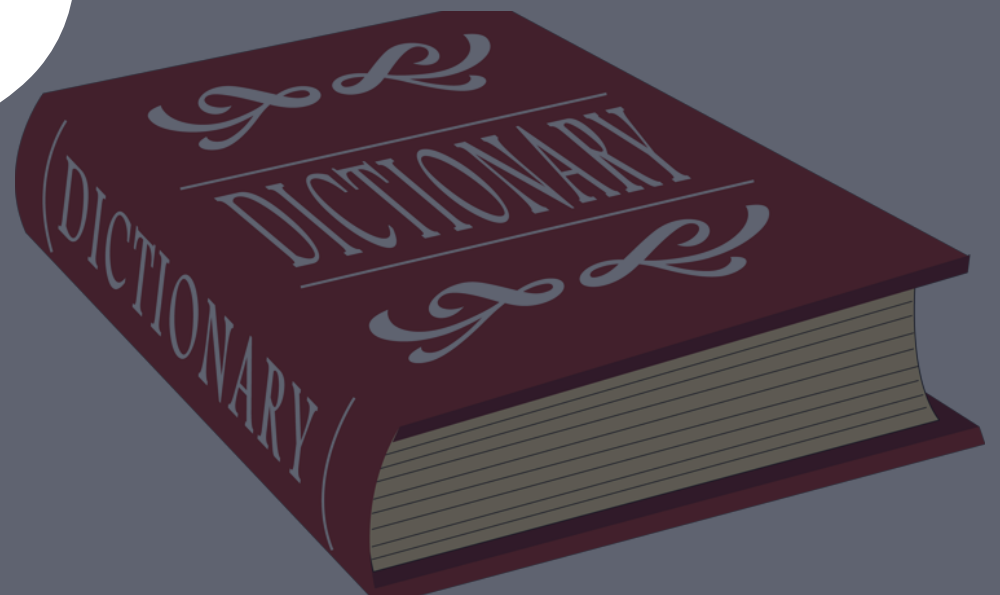
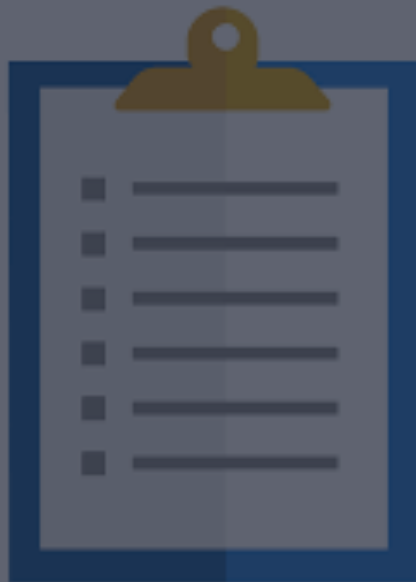


Dict

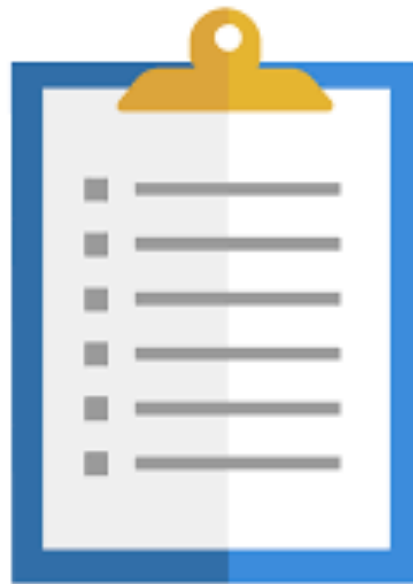


List

Dict



List



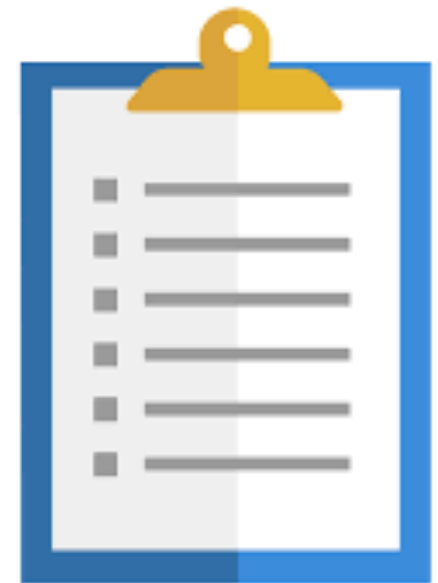
List

Instagram Followers

Contact List

Playlists

Online Shopping Carts



List

Code

```
shopping_list = List()
```

shopping_list

Attributes

length

0

int

items

Index

Items

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
```

```
shopping_list
```

shopping_list

Attributes

length

0

int

items

Index

Items

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.
```

shopping_list

Attributes

length

0

int

items

Index

Items

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.add(obj)
```

shopping_list

Attributes

length

0

int

items

Index

Items

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.add("Guarana")
```

shopping_list

Attributes

length

0

int

items

Index

Items

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.add("Guarana")
```

shopping_list

Attributes

length

1

int

items

Index

0

Items

"Guarana"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.add("Guarana")  
shopping_list.
```

shopping_list

Attributes

length

1

int

items

Index

0

Items

"Guarana"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.add("Guarana")  
shopping_list.add(obj)
```

shopping_list

Attributes

length

1

int

items

Index

0

Items

"Guarana"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.add("Guarana")  
shopping_list.add("Bread")
```

shopping_list

Attributes

length

1

int

items

Index

0

Items

"Guarana"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
```

shopping_list

Attributes

length

2

int

items

Index

0

Items

"Guarana"
string

1

"Bread"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()  
shopping_list.add("Guarana")  
shopping_list.add("Bread")  
shopping_list.add("Pasta")  
shopping_list.add("Paçoca")
```

shopping_list

Attributes

length

2

int

items

Index

0

1

Items

"Guarana"
string

"Bread"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")
```

shopping_list

Attributes

length

4

int

items

Index

Items

0

"Guarana"
string

1

"Bread"
string

2

"Pasta"
string

3

"Paçoca"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")
fav = shopping_list
```

shopping_list

Attributes

length

4

int

items

Index

0

Items

"Guarana"
string

1

"Bread"
string

2

"Pasta"
string

3

"Paçoca"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")
fav = shopping_list.get(2)
```

shopping_list

Attributes

length

4

int

items

Index

Items

0

"Guarana"
string

1

"Bread"
string

2

"Pasta"
string

3

"Paçoca"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")
fav = shopping_list.get(2)
print(fav)
```

shopping_list

Attributes

length

4

int

items

Index

0

Items

"Guarana"
string

1

"Bread"
string

2

"Pasta"
string

3

"Paçoca"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")
fav = shopping_list.get(2)
print(fav)
```



Pasta

shopping_list

Attributes

length

4

int

items

Index

0

Items

"Guarana"
string

1

"Bread"
string

2

"Pasta"
string

3

"Paçoca"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")

for food in shopping_list:
```

shopping_list

Attributes

length

4

int

items

Index

0

1

2

3

Items

"Guarana"
string

"Bread"
string

"Pasta"
string

"Paçoca"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")

for food in shopping_list:
    print(food)
```

shopping_list

Attributes

length

4

int

items

Index

Items

0

"Guarana"
string

1

"Bread"
string

2

"Pasta"
string

3

"Paçoca"
string

list

Functions

add(obj)

get(index)

delete(index)

Bot

List

Code

```
shopping_list = List()
shopping_list.add("Guarana")
shopping_list.add("Bread")
shopping_list.add("Pasta")
shopping_list.add("Paçoca")

for food in shopping_list:
    print(food)
```

```
Guarana
Bread
Pasta
Paçoca
```

shopping_list

Attributes

length

4

int

items

Index

0

"Guarana"

string

1

"Bread"

string

2

"Pasta"

string

3

"Paçoca"

string

list

Functions

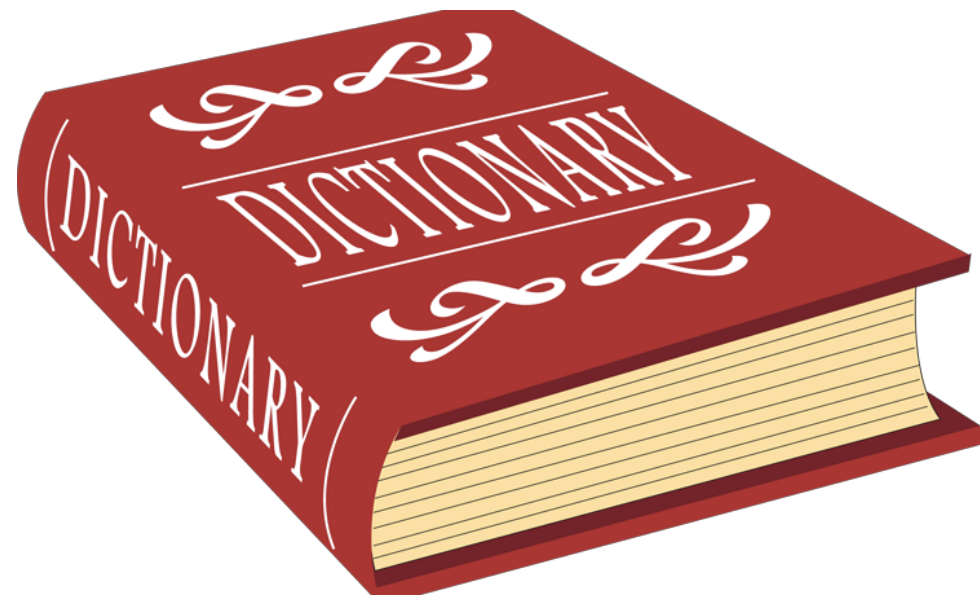
add(obj)

get(index)

delete(index)

Bot

Dict



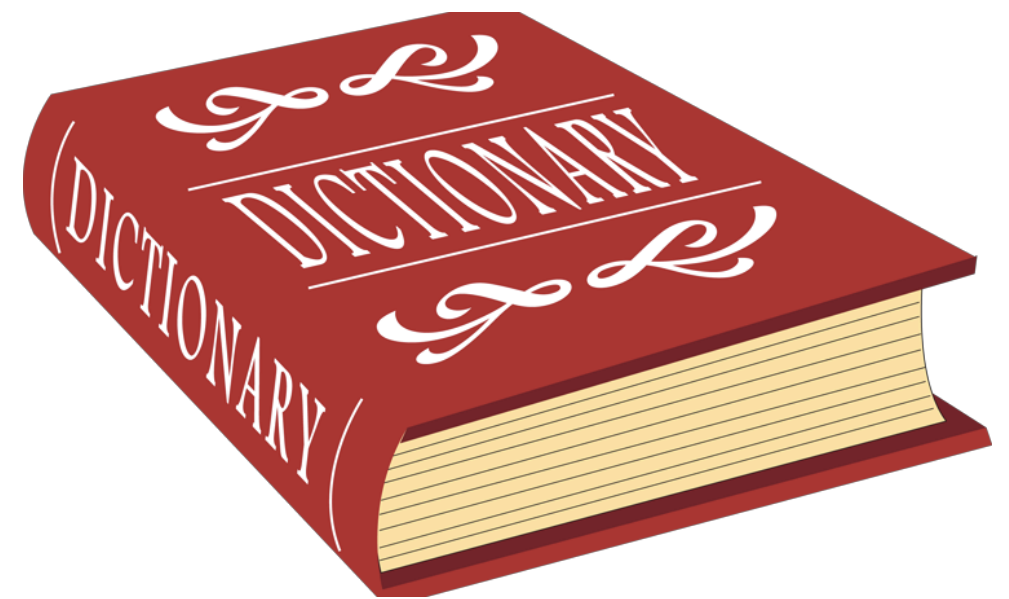
Dict

Hospital Records

Identity Confirmation

Flight Information

File Storage



Dict

Code

```
birthdays = Dict()
```

birthdays

Attributes

length

0

int

items

Key

Value

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()  
birthdays.add("Geoff", 22)
```

birthdays

Attributes

length

0

int

items

Key

Value

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()  
birthdays.add("Geoff", 22)
```

birthdays

Attributes

length

1

int

items

Key

Value

"Geoff"
string

22
int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()  
birthdays.add("Geoff", 22)  
birthdays.add("Sabri", 22)
```

birthdays

Attributes

length

1

int

items

Key

Value

"Geoff"
string

22
int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()
```

```
birthdays.add("Geoff", 22)
```

```
birthdays.add("Sabri", 22)
```

birthdays

Attributes

length

2

int

items

Key

Value

"Geoff"
string

22
int

"Sabri"
string

22
int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()  
birthdays.add("Geoff", 22)  
birthdays.add("Sabri", 22)  
birthdays.add("Drake", 31)
```

birthdays

Attributes

length

2

int

items

Key

Value

"Geoff"
string

22
int

"Sabri"
string

22
int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()  
birthdays.add("Geoff", 22)  
birthdays.add("Sabri", 22)  
birthdays.add("Drake", 31)
```

birthdays

Attributes

length

3

int

items

Key

Value

"Geoff"

string

22

int

"Sabri"

string

22

int

"Drake"

string

31

int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()
birthdays.add("Geoff", 22)
birthdays.add("Sabri", 22)
birthdays.add("Drake", 31)
print(birthdays.get("Drake"))
```

birthdays

Attributes

length

3

int

items

Key

Value

"Geoff"

string

22

int

"Sabri"

string

22

int

"Drake"

string

31

int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()  
birthdays.add("Geoff", 22)  
birthdays.add("Sabri", 22)  
birthdays.add("Drake", 31)  
print(31)
```

birthdays

Attributes

length

3

int

items

Key	Value
"Geoff" string	22 int
"Sabri" string	22 int
"Drake" string	31 int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()
birthdays.add("Geoff", 22)
birthdays.add("Sabri", 22)
birthdays.add("Drake", 31)
print(birthdays.get("Drake"))
```

birthdays

Attributes

length

3

int

items

Key	Value
"Geoff" string	22 int
"Sabri" string	22 int
"Drake" string	31 int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()
birthdays.add("Geoff", 22)
birthdays.add("Sabri", 22)
birthdays.add("Drake", 31)
print(birthdays.get("Drake"))
birthdays.delete("Drake")
```

birthdays

Attributes

length

3

int

items

Key	Value
"Geoff" string	22 int
"Sabri" string	22 int
"Drake" string	31 int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

Dict

Code

```
birthdays = Dict()
birthdays.add("Geoff", 22)
birthdays.add("Sabri", 22)
birthdays.add("Drake", 31)
print(birthdays.get("Drake"))
birthdays.delete("Drake")
```

birthdays

Attributes

length

2

int

items

Key

Value

"Geoff"
string

22
int

"Sabri"
string

22
int

dict

Functions

add(key, value)

get(key)

delete(key)

Dict

title

"Just Dance"

string

artist

"Lady Gaga"

string

time

"4:07"

string

link

"www.youtube.com/watch?v=2Abk1jAONjw"

string

Song