Course	
Term	
Week	
Date	
Chapter. Topic	10. Classes and Object-Oriented Programming

Data Encapsulation

Siva R Jasthi

Computer Science and Cybersecurity

Metropolitan State University

Recap

- Objects and Classes: What is the difference?
- Writing Classes
- Creating objects (aka instances)
- Class Variables
- Dunder Methods (double underscore methods) (magic methods)
- Data Encapsulation
  - Putting the data into a capsule
  - Hiding data
- Private variables (two under scores before the variable)
- Public methods (getters and setters)
- Exploring other classes given to you.

Data Encapsulation

- Assume that all my variables are defined using DUNDER __
- That means those are private

	Setter set_variable(self, value) Mutator method	Getter get_variable(self) Accessor method
Can you set a value to the variable? NO Can you get the value of a variable? NO	NO	NO
Can you set a value to the variable? YES Can you get the value of a variable? NO	YES	NO
Can you set a value to the variable? NO Can you get the value of a variable? YES	NO	YES
Can you set a value to the variable? YES Can you get the value of a variable? YES	YES	YES

Data Encapsulation

- Assume that all my variables are defined using DUNDER __
- That means those are private

	Setter	Getter	
Can I read your variables? = NO	NO	NO	Can I write to your variables? = NO
Can I read your variables? = NO	YES	NO	Can I write to your variables? = YES
Can I read your variables? = YES	NO	YES	Can I write to your variables? = NO
Can I read your variables? = YES	YES	YES	Can I write to your variables? = YES

Python Built-in Functions

Python Built-in Functions

		Built-in Functions		
abs()	divmod()	input()	open()	staticmethod()
all()	enumerate()	int()	ord()	str()
any()	eval()	isinstance()	pow()	sum()
basestring()	execfile()	issubclass()	print()	super()
bin()	file()	iter()	property()	tuple()
bool()	filter()	len()	range()	type()
bytearray()	float()	list()	raw_input()	unichr()
callable()	format()	locals()	reduce()	unicode()
chr()	frozenset()	long()	reload()	vars()
classmethod()	getattr()	map()	repr()	xrange()
cmp()	globals()	max()	reversed()	zip()
compile()	hasattr()	memoryview()	round()	__import__()
complex()	hash()	min()	set()	
delattr()	help()	next()	setattr()	
dict()	hex()	object()	slice()	
dir()	id()	oct()	sorted()	