

PYTHON -OOPS

BY AMAR PANCHAL

Creating Classes

```
class ClassName:  
    'Optional class documentation string'  
    class_suite
```

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Creating Instance Objects

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Accessing Attributes

- ▶ The `getattr(obj, name[, default])` – to access the attribute of object.
- ▶ The `hasattr(obj,name)` – to check if an attribute exists or not.
- ▶ The `setattr(obj,name,value)` – to set an attribute. If attribute does not exist, then it would be created.
- ▶ The `delattr(obj, name)` – to delete an attribute.

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Importing

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Built-In Class Attributes

- ▶ `__dict__` - Dictionary containing the class's namespace.
- ▶ `__doc__` - Class documentation string or none, if undefined.
- ▶ `__name__` - Class name.
- ▶ `__module__` - Module name in which the class is defined. This attribute is "`__main__`" in interactive mode.
- ▶ `__bases__` - A possibly empty tuple containing the base classes, in the order of their occurrence in the base class list.

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Class Inheritance

```
class SubClassName (ParentClass1[, ParentClass2, ...]):  
    'Optional class documentation string'  
    class_suite
```

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check a relationships

- ▶ The **issubclass(sub, sup)** boolean function returns True, if the given subclass **sub** is indeed a subclass of the superclass **sup**.
- ▶ The **isinstance(obj, Class)** boolean function returns True, if *obj* is an instance of class *Class* or is an instance of a subclass of *Class*

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Overriding Methods

S.No.	Method, Description & Sample Call
1	__init__ (self [,args...]) Constructor (with any optional arguments) Sample Call : <code>obj = className(args)</code>
2	__del__(self) Destructor, deletes an object Sample Call : <code>del obj</code>
3	__repr__(self) Evaluatable string representation Sample Call : <code>repr(obj)</code>
4	__str__(self) Printable string representation Sample Call : <code>str(obj)</code>
5	__cmp__ (self, x) Object comparison Sample Call : <code>cmp(obj, x)</code>

Data Hiding

- ▶ The __ sign

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