FUNCTIONS – block of codes.

SRP - Single Responsibility Principle…. One of the main features of function. For ease of maintenance of programme

Also helps your code to remain DRY – Don’t Repeat Yourself. Recursive

Functions are reused unlike what we have been writing.

In-built functions:

E,g print, input

Call function happens once while create function happen many times.

Class has many functions called method

Random.choice: random is a class while choice is a method. Methods under class cannot stand alone,

**Part of Function:**

1. def – definition
2. arguments – parameters

positional argument / keyword argument

1. the return statement
2. docstring (e.g, help()) ‘’’…..’’’

def function()

‘’’………………..’’’

function are called with ().

Abstraction – run a programme without knowing what goes behind the scene.

help(list) …. To see how list are used.

18-Feb-18

Assignment: write a code that accept dictionary with list and tuple as input and print the content of the dictionary.

String, dict, tuple & list = cache ………… we also have integer and float.

The act of calling a function inside it is called recursion.

Recursive functions.

Hangman Game

Ezechukwuji

TKinter – GUI environment for python.

Jango, Pyramid for buidung website with python

Algorithm For Hangman

1. Read from file
2. Manipulated content
3. Evaluate user guesses
4. Present result
5. Score user

Assignment

1. Include the play function
2. Include a scoring function

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If Z==y:

return x

else

return k

*#better way is*

def type():

if z==y:

return x

return k

Opposite of split is .join.

String\_literal()

Strings are indexed.

Project euler.

dict2.update(dict1) ………….to merge dictionary.

Functions are branches – branching.

25FEB2018

Object Oriented Programming (OOP)

* Classes (instance/objects/ **Instantiation – creating object from a class)**
* Inheritance (killer feature in OOP)\*\*\*\* - can be inherited by other users or for other programs.
* Abstraction – behind the scene actions that you do not have full grasp of…e.g. random.choice.
* Polymorphism – exist in different forms
* Methods (class methods / instance methods/static method/magic method) – they are functions written inside classes.

Everything in OOP is an object. OPP is a methodology where things are build into blocks…. They can be likened to prototype.

An object is an instant of a class.

\_init\_

(self)

Class ClassName ():

def \_ \_init\_ \_(self):

…………………………….

def function (self, other argument):

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def function (self, other argument):

ClassObj=(ClassName)

START

[www.hackerrank.com](http://www.hackerrank.com)

3-Mar-18

OOP – a concept or philosophy that helps you put things together.

Classes are like senior colleagues to functions. Classes adopt single responsibility principle.

**Assignment** – write code with different functions under it --- calculate area of a shape function.

Everything Python is an object…. E.g. type(“str”)=obj…. an object is an instance of a class.

Class attributes:

- self

- init

def \_ \_init\_ \_(self,name):

self.name=name

def sef\_balance(self,balance):

self.balance=balance

return Noe

def deposit(self,amount):

self.balance+=amount

return self.balance

def withdraw(self,amount):

if not amount>self.balance:

self.balance-=amount

else:

raise RuntimeError(“insufficient balance”)

return self.balance

def get\_balance(self):

return self.balance

You can inherit multiple class.

Package(library).

IMPORTING Class / Files

from foldername.filename import classname as SC

assignment:

Convert a hangman game to class --- drawup a schemer or flowchart.

STEPS (OOP)

1. Creat class using the class keyword
2. Instantiate the cass i.e create an object from the class
3. Perform action on the object created such as calling the methods defined in the class

Laravera, Jango – frameworks that you can build on.

API (Application Programming Interface), pimpy, pandas, scipy, mathplot

Getattr(file, function)

isinstance (function used to test if an object belongs to a class.

@classmethod (called decorator – come on top of a method you want to call without instantiations) using from game.file import FileAction as FA.pickword

>>>dir(list) to unmask hidden content.

Jupyter:

Series / Data Frames

Yahoo finance / google finance