

Glossary terms from week 4

Terms and definitions from Course 2, Week 4

agg() A pandas groupby method that allows the user to apply multiple calculations to groups of data

Aliasing A process that allows the user to assign an alternate name—or alias—to something

append() A method that adds an element to the end of a list

Boolean masking A filtering technique that overlays a Boolean grid onto a dataframe in order to select only the values in the dataframe that align with the True values of the grid

concat() A pandas function that combines data either by adding it horizontally as new columns for existing rows or vertically as new rows for existing columns

CSV file A plaintext file that uses commas to separate distinct values from one another; Stands for "comma-separated values"

Data structure A collection of data values or objects that contain different data types

Dataframe A two-dimensional, labeled data structure with rows and columns

dict() A function used to create a dictionary

Dictionary A data structure that consists of a collection of key-value pairs

difference() A function that finds the elements present in one set but not the other

dtype A NumPy attribute used to check the data type of the contents of an array

Global variable A variable that can be accessed from anywhere in a program or script

groupby() A pandas Dataframe method that groups rows of the dataframe together based on their values at one or more columns, which allows further analysis of the groups

iloc[] A type of notation in pandas that indicates when the user wants to select by integer-location-based position

Immutability The concept that a data structure or element's values can never be altered or updated

Import statement A statement that uses the import keyword to load an external library, package, module, or function into the computing environment

Inner join A way of combining data such that only the keys that are in both dataframes get included in the merge

insert() A function that takes an index as the first parameter and an element as the second parameter, then inserts the element into a list at the given index

intersection() A function that finds the elements that two sets have in common

items() A dictionary method to retrieve both the dictionary's keys and values

Keys The shared points of reference between different dataframes

keys() A dictionary method to retrieve only the dictionary's keys

Left join A way of combining data such that all of the keys in the left dataframe are included, even if they aren't in the right dataframe

Library A reusable collection of code, also referred to as a "package"

List A data structure that helps store and manipulate an ordered collection of items

List comprehension Formulaic creation of a new list based on the values in an existing list

loc[] Notation that is used to select pandas rows and columns by name

matplotlib A library for creating static, animated, and interactive visualizations in Python

merge() A pandas function that joins two dataframes together; it only combines data by extending along axis one horizontally

Module A simple Python file containing a collection of functions and global variables

Mutability The ability to change the internal state of a data structure

N-dimensional array The core data object of NumPy, also referred to as "ndarray"

NaN How null values are represented in pandas; stands for "not a number"

ndim A NumPy attribute used to check the number of dimensions of an array

Nested loop A loop inside of another loop

NumPy An essential library that contains multidimensional array and matrix data structures and functions to manipulate them

Outer join A way of combining data such that all of the keys from both dataframes get included in the merge

pandas A powerful library built on top of NumPy that's used to manipulate and analyze tabular data

pop() A method that extracts an element from a list by removing it at a given index

remove() A method that removes an element from a list

reshape() A NumPy method used to change the shape of an array

Right join A way of combining data such that all the keys in the right dataframe are included—even if they aren't in the left dataframe

Seaborn A visualization library based on matplotlib that provides a simpler interface for working with common plots and graphs

Sequence A positionally ordered collection of items

Series A one-dimensional, labeled array where the data type must be the same for all the data in a given series

Set A data structure in Python that contains only unordered, non-interchangeable elements

set() A function that takes an iterable as an argument and returns a new set object

shape A NumPy attribute used to check the shape of an array

symmetric_difference() A function that finds elements from both sets that are mutually not present in the other

Tabular data Data that is in the form of a table, with rows and columns

Tuple An immutable sequence that can contain elements of any data type

tuple() A function that transforms input into tuples

type() A function used to identify the type of data in a list

union() A function that finds all the elements from both sets

values() A dictionary method to retrieve only the dictionary's values

Vectorization A process that enables operations to be performed on multiple components of a data object at the same time

Terms and definitions from previous weeks

A

Algorithm A set of instructions for solving a problem or accomplishing a task

Argument Information given to a function in its parentheses

Assignment The process of storing a value in a variable

Attribute A value associated with an object or class which is referenced by name using dot notation

B

Boolean A data type that has only two possible values, usually true or false

Branching The ability of a program to alter its execution sequence

break A keyword that lets a user escape a loop without triggering any ELSE statement that follows it in the loop

C

Cells The modular code input and output fields into which Jupyter Notebooks are partitioned

Class An object's data type that bundles data and functionality together

Comparator An operator that compares two values and produces Boolean values (True/False)

Computer programming The process of giving instructions to a computer to perform an action or set of actions

Concatenate To link or join together

D

Data type An attribute that describes a piece of data based on its values, its programming language, or the operations it can perform

def A keyword that defines a function at the start of the function block

Decorating A string at the beginning of a function's body that summarizes the function's behavior and explains its arguments and return values

Dot notation How to access the methods and attributes that belong to an instance of a class

Dynamic typing Variables that can point to objects of any data type

E

elif A reserved keyword that executes subsequent conditions when the previous conditions are not true

else A reserved keyword that executes when preceding conditions evaluate as False

Escape character A character that changes the typical behavior of the characters that follow it

Explicit conversion The process of converting a data type of an object to a required data type

Expression A combination of numbers, symbols, or other variables that produce a result when evaluated

F

Float A data type that represents numbers that contain decimals

For loop A piece of code that iterates over a sequence of values

format() A string method that formats and inserts specific substrings into designated places within a larger string

Function A body of reusable code for performing specific processes or tasks

I

if A reserved keyword that sets up a condition in Python

Immutable data type A data type in which the values can never be altered or updated

Implicit conversion The process Python uses to automatically convert one data type to another without user involvement

index() A string method that outputs the index number of a character in a string

Indexing A way to refer to the individual items within an iterable by their relative position

Integer A data type used to represent whole numbers without fractions

Iterable An object that's looped, or iterated, over

Iteration The repeated execution of a set of statements, where one iteration is the single execution of a block of code

J

Jupyter Notebook An open-source web application for creating and sharing documents containing live code, mathematical formulas, visualizations, and text

K

Keyword A special word in a programming language that is reserved for a specific purpose and that can only be used for that purpose

L

Logical operator An operator that connects multiple statements together and performs complex comparisons

Loop A block of code used to carry out iterations

M

Markdown A markup language that lets the user write formatted text in a coding environment or plain-text editor

Method A function that belongs to a class and typically performs an action or operation

Modularity The ability to write code in separate components that work together and that can be reused for other programs

Module An operator that returns the remainder when one number is divided by another

N

Naming conventions Consistent guidelines that describe the content, creation date, and version of a file in its name

Naming restrictions Rules built into the syntax of the language itself that must be followed

O

Object An instance of a class, a fundamental building block of Python

Object-oriented programming A programming system that is based around objects which can contain both data and code that manipulates that data

P

Programming languages The words and symbols used to write instructions for computers to follow

R

range() A Python function that returns a sequence of numbers starting from zero, increments by 1 by default, and stops before the given number

Refactoring The process of restructuring code while maintaining its original functionality

return A reserved keyword in Python that makes a function produce new results which are saved for later use

Reusability The capability to define code once and use it many times without having to rewrite it

S

Self-documenting code Code written in a way that is readable and makes its purpose clear

String A sequence of characters and punctuation that contains textual information

String slice A portion of a string that can contain more than one character, also referred to as a substring

Syntax The structure of code words, symbols, placement, and punctuation

V

Variable A named container which stores values in a reserved location in the computer's memory

W

While loop A loop that instructs the computer to continuously execute the code based on the value of a condition

Mark as completed