Introduction to Python Glossary

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1. Python language -- Python is a programming language that does not use a compiler, but an interpreter. It is also a high level language like Java. It is easy to use and learn and has high readability, efficient code and vast amount of code libraries and functions. Mostly used for web and app development.

2. Data types -- The data types of Python are: numbers, strings, lists and tuples. As well as dictionaries. Data types in general are spaces in memory for when you make variables. Each data type can only hold their type of data. For example a String data type only holds strings, not numbers or anything else. Number types only hold numbers, not strings and so on.

3. Modules -- A category of a bunch of code, methods, classes etc that are used to do one type of thing. Usually stored in a file and used as an object.
It's like import libraries in Java. You want to use math, you import the math library. You want user input, import the Scanner or JOptionPane libraries, and so on.

4. Scripts -- A script is a program that does a number of tasks that you can run in a command line or by running it as an executable. Mostly used in shell scripting (using the bash language) or Python, although it can be used in a variety of languages.

5. Statements -- There are 3 statements in programming. If, While/Do while and For.

6. Functions -- A function is a group of pieces of code that does one task.

7. Dictionaries -- A dictionary is a collection of items that are unordered.

8. Lists -- A list data type is something you will only find in Python. It is similar to an array, but a bit more free since arrays in general only allow for 1 type of data while lists allow for multiple types of data and even other lists.

9. If statement -- Conditional statement. If a condition is met then do an action. If a condition is not met then either prompt the user for an action or do a different action.

10. While loop -- Another statement. The while loop or statement checks for a condition and while that condition is not met, do an action or a number of actions.

11. For loop -- A for loop is used for loop a piece of code or a group of pieces of code. Useful for repetitive lines that need to be done a specific number of times. Instead of doing them all manually you use a for loop to do them for you.

12. Truth tables -- In logic a truth table is made of 1s and 0s or the values true and false. It is used in math to find out whether a statement is true or false.

13. Logic gates -- There are 3 main logic gates, AND, OR and NOT. From these a variety of other types of gates and calculations can be made.

14. Boolean logic -- The logic used in math, to make truth tables with logic gates. Consists of just 2 values, true and false, or 1 and 0 and 3 operators, And, Or and Not.

15. Variables -- A variable is a container or box where you store information for use at a later date. For example to add/subtract/whatever other operation you can think of you need 3 variables. 1 for the first argument or number, 1 for the second and 1 to store the result.

16. Classes -- A class is a collection of code methods and variables that can be stored in a separate file. It is often used as a template to make objects that can be used by other such classes or parts of a project.

17. Python shell -- The python shell is where you can run code instantly like a command line IDE but you can't make whole programs in it, just run separate lines of code.

18. Compiler -- A compiler takes the code that you wrote in whatever environment or program that you used and transforms it into binary data for it to run. A program by itself can't run unless it's compiled because a computer can only understand binary.

19. Interpreter -- An interpreter takes the code one line at a time. It doesn't translate the whole program into binary. Unlike a compiler who only reports errors after compiling the whole code, an interpreter only translates the code until it finds an error, making debugging easier compared to compiler languages.

20. Def -- Used to define a function that is not already present in Python, known as a user defined function.

21. Break -- Used in loops and statements to break out of said loop. Mostly used in switch statements, but can be used in other statements.

22. IDLE -- IDLE is the Integrated Development Environment that the Python language uses.

23. PEP 8 -- A style guide on how to write Python code in a way that it's easy to read and understand

24. PEP 20 -- PEP 20 is called the Zen of Python. They are the guiding principles behind the the Python language and it's development.

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