

Introduction to Python

Pre-Assessment

Question 1

What kind of data typing does Python support?

- A. Static type
- B. Dynamic type
- C. Optional type

Answer: B

In static typing, you define a variable with data type before first use. Python does not require this. Python allows us to assign values directly and interprets the data type based on the value assigned at runtime. The type of a variable can change throughout the program execution. There is nothing called optional type in Python.

Question 2

What would `(2 ** 100000)` print in python?

- A. Stack Overflow
- B. Displays a message that it cannot calculate the value
- C. Prints the result

Answer: C

Python prints the result.

Question 3

Python:

- A. Is free and open source
- B. Needs licenses to be purchased
- C. Is commercial
- D. None of these

Answer: A

Python is free and open source. Python is an example of a free/libre/open-source software (FLOSS). In simple terms, you can freely distribute copies of this software, read its source code, make changes to it, and use pieces of it in new free programs. FLOSS is based on the concept of a community which shares knowledge.

Question 4

What platforms are supported by Python?

- A. Windows
- B. Mac OS X
- C. Unix variants
- D. None of these

Answer: A, B, and C

Due to its open-source nature, Python has been ported to many platforms. All Python programs can work on any of these platforms without requiring any changes at all if you are careful enough to avoid any system-dependent features. It can work on Windows, Mac OS X, and Unix variants.

Question 5

Which of the interfaces does Python Database API (DB-API) ODBC support?

- A. mxODBC
- B. pyodbc
- C. ODBTPAPI
- D. PyPyODBC

Answer: A, B, C, and D

Python supports all the above interfaces.

Chapter 1 Quiz

Question 1

What is true about Python?

- A. Context sensitive
- B. Procedural
- C. Object-oriented scripting
- D. None of these

Answer: A, B, and C

Python is a general purpose programming language. It is context sensitive. It is procedure oriented. It is an object-oriented scripting language.

Question 2

Which of the following is/are true about Python?

- A. It is interpreted
- B. It is interactive
- C. It is an open source language
- D. None of these

Answer: A, B, and C

Python is interpreted; the code is not compiled. Python is interactive. Python is licensed but open source. You can get it free.

Question 3

What are the advantages of functions in Python?

- A. Reducing duplication of code
- B. Decomposing complex problems into simpler pieces
- C. Improving clarity of code
- D. Reusing of code
- E. Hiding information

Answer: A, B, C, D, and E

Functions enable us to reuse code which reduces the duplication of code. Functions bring modularity to code and makes it simple to maintain. Functions improve readability of code as we have smaller pieces of code in each, with a specific functionality assigned. Functions enable us to reuse code. You can hide what is not required outside of a function.

Final

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- C. The result

Correct answer is : C
Python would print the result.

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Question 6

Which function can be used to convert strings into a numeric value?

- A. float()
- B. format()
- C. int()
- D. repr()
- E. str()

Answer: A and C
To perform mathematical calculations, strings first have to be converted into a numeric value using a function such as int() or float(). Float converts a string to float. Int converts a string to integer.

Question 7

Which function can be used to convert non-string value into a string representation?

- A. format()
- B. repr()
- C. str()
- D. None of these

Answer: A, B, and C
Non-string values can be converted into a string representation by using the str(), repr(), or format() functions.

Question 8

What data type is the following object?

`obj = [100, 92.75, 'Python', 0]`

- A. list
- B. dictionary
- C. array
- D. tuple

Answer: A

List data types can store any values within it.

Question 9

What data type is the following object?

`obj = (100, 50, 'Programming')`

- A. list
- B. dictionary
- C. array
- D. tuple

Answer: D

Python tuples are enclosed in parentheses and cannot be updated. Tuples can be thought of as “read-only lists.”

Question 10

From what language sources can Python import code?

- A. A. C
- B. B. C++
- C. C. Java

Answer: A, B, and C

We can write modules in C, C++, or Java to extend the Python interpreter with new modules. Python allows imports of code written in other languages.

Question 11

Identifiers are:

- A. Case-sensitive
- B. Case-insensitive

Answer: A

An identifier is a name used to identify variables, functions, classes, modules, and other objects. Identifiers are case-sensitive.

Question 12

How do we represent a slice operator?

- A. `obj[start:end]`
- B. `obj[start:]`
- C. `obj[:end]`
- D. `obj[:]`

Answer: A, B, C, and D

Subsets of strings can be taken using the slice operator (`[]` and `[:]`) with indexes starting at 0 in the beginning of the string and working their way from -1 at the end.

Question 13

Python is often compared to other interpreted languages, such as

- A. Perl
- B. Java
- C. Tcl
- D. Smalltalk

Answer: A, B, C, and D

Python is often compared to other interpreted languages such as Java, JavaScript, Perl, Tcl, or Smalltalk. Comparisons to C++, Common Lisp, and Scheme can also be enlightening.

Question 14

Python allows you to use data interchange format called JavaScript Object Notation.

True

False

Answer: True

Python allows you to use the data interchange format called JSON (JavaScript Object Notation). JSON is a text format that facilitates structured data interchange between all programming languages. JSON is a syntax of braces, brackets, colons, and commas that is useful in many contexts, profiles, and applications.

Question 15

What are the two types of functions?

- A. Custom function
- B. Built-in function
- C. User-defined function
- D. System function

Answer: B and C

The built-in functions are part of the Python language. The user-defined functions are functions created with the def keyword.

Question 16

Which of the following is a lightweight disk-based relational database?

- A. mSQL
- B. sqlite3
- C. MySQL
- D. Oracle

Answer: B

The DB-API is a specification for a common interface to relational databases. The current version of the specification is version 2.0. The interface based on ndbm is dbm. The GDBM database is GNU's reinterpretation of dbm.

Question 17

Python database API supports:

- A. mSQL
- B. MySQL
- C. PostgreSQL
- D. Oracle
- E. Sybase

Answer: A, B, C, D, and E

The Python standard for database interfaces is the Python DB-API. Most Python database interfaces adhere to this standard.

You can choose the right database for your application. Python Database API supports a wide range of database servers:

GadFly, mSQL, MySQL, PostgreSQL, Microsoft SQL Server 2000, Informix, Interbase, Oracle, and Sybase.

Question 18

What is the current version of CGI?

- A. 1
- B. 1.1
- C. 1.2
- D. 1.3

Answer: B

The Common Gateway Interface, or CGI, is a set of standards that define how information is exchanged between the web server and a custom script. The current version is CGI/1.1. The upcoming version is CGI/1.2.

Question 19

In order to store values in terms of key and value we use what core datatype?

- A. List
- B. Tuple
- C. Set
- D. Dictionary

Answer: D

Dictionary stores values in terms of keys and values.