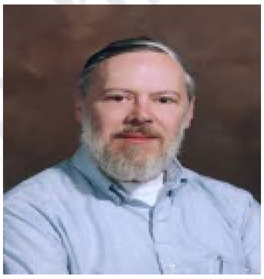
Python

Assignment 01: 29 Jan 2023

1. Who developed Python Programming Language?
2. Which type of Programming does Python support?
3. Is Python case sensitive when dealing with identifiers?
4. What is the correct extension of the Python file?
5. Is Python code compiled or interpreted?
6. Name a few blocks of code used to define in Python language?
7. State a character used to give single-line comments in Python?
8. Mention functions which can help us to find the version of python that we are currently working on?
9. Python supports the creation of anonymous functions at runtime, using a construct called
10. What does pip stand for python?
11. Mention a few built-in functions in python?
12. What is the maximum possible length of an identifier in Python?
13. What are the benefits of using Python?
14. How is memory managed in Python?
15. How to install Python on Windows and set path variables?
16. Is indentation required in python?

1. Who developed Python Programming Language?

Ans: Guido van Rossum in 1991



2. Which type of Programming does Python support?

Ans: Python is a multi-paradigm programming language. Object-oriented programming and structured programming are fully supported, and many of their features support functional programming and aspect-oriented programming (including metaprogramming and metaobjects).

3. Is Python case sensitive when dealing with identifiers?

Ans: Yes

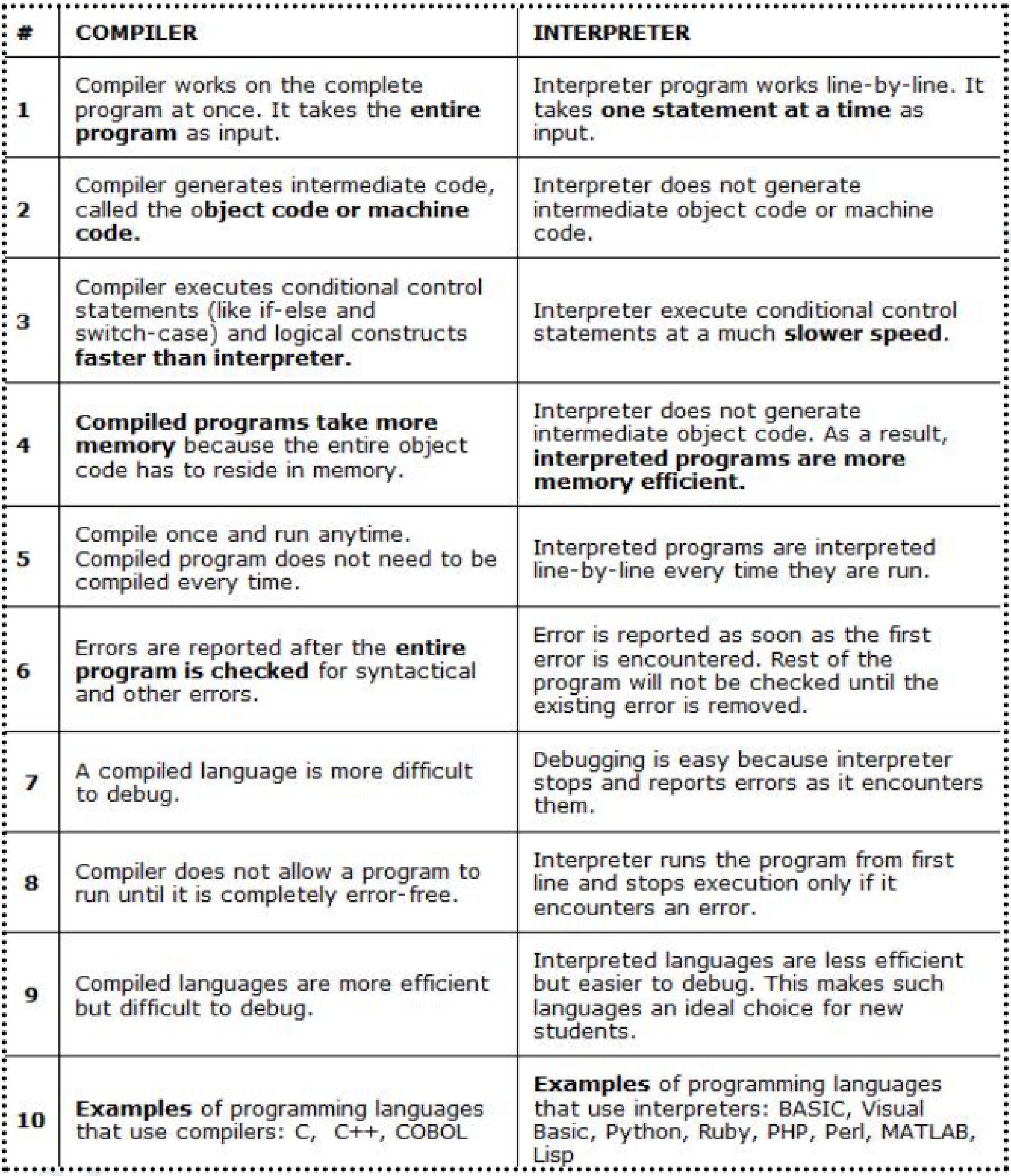
4. What is the correct extension of the Python file?

Ans: .py

5. Is Python code compiled or interpreted?

Ans: Python is an interpreted language, which means the source code of a Python program is converted into bytecode that is then executed by the Python virtual machine.

NOTE:



#	COMPILER	INTERPRETER
1	Compiler works on the complete program at once. It takes the **entire program** as input.	Interpreter program works line-by-line. It takes **one statement at a time** as input.
2	Compiler generates intermediate code, called the **object code or machine code.**	Interpreter does not generate intermediate object code or machine code.
3	Compiler executes conditional control statements (like if-else and switch-case) and logical constructs **faster than interpreter.**	Interpreter execute conditional control statements at a much **slower speed.**
4	**Compiled programs take more memory** because the entire object code has to reside in memory.	Interpreter does not generate intermediate object code. As a result, **interpreted programs are more memory efficient.**
5	Compile once and run anytime. Compiled program does not need to be compiled every time.	Interpreted programs are interpreted line-by-line every time they are run.
6	Errors are reported after the **entire program is checked** for syntactical and other errors.	Error is reported as soon as the first error is encountered. Rest of the program will not be checked until the existing error is removed.
7	A compiled language is more difficult to debug.	Debugging is easy because interpreter stops and reports errors as it encounters them.
8	Compiler does not allow a program to run until it is completely error-free.	Interpreter runs the program from first line and stops execution only if it encounters an error.
9	Compiled languages are more efficient but difficult to debug.	Interpreted languages are less efficient but easier to debug. This makes such languages an ideal choice for new students.
10	**Examples** of programming languages that use compilers: C, C++, COBOL	**Examples** of programming languages that use interpreters: BASIC, Visual Basic, Python, Ruby, PHP, Perl, MATLAB, Lisp

Java can be considered both a compiled and an interpreted language because its source code is first compiled into a binary byte-code. This byte-code runs on the Java Virtual Machine (JVM), which is usually a software-based interpreter.

6. Name a few blocks of code used to define in Python language?

Ans: A block is a piece of Python program text that is executed as a unit. The following are blocks: **a module, a function body, and a class definition**. Each command typed interactively is a block. While writing the code, indentation is maintained compulsory..

7. State a character used to give single-line comments in Python?

Ans: We can write a single-line comment by adding a **single # character** before any statement or line of code.

8. Mention functions which can help us to find the version of python that we are currently working on?

Ans: The function **sys. version** can help us to find the version of python that we are currently working on.

9. Python supports the creation of anonymous functions at runtime, using a construct called ……………. ?

Ans: lambda

10. What does pip stand for python?

Ans: preferred installer program

11. Mention a few built-in functions in python?

Ans: Few built-in functions in python are
print( ) ,type( ) ,input( ) ,abs( ) ,pow( ) ,dir( ) ,sorted( ) ,max( ) ,round( ) ,divmod( ) ,id( ) ,ord( ) ,len( ) ,sum( ) ,help( ) etc.

12. What is the maximum possible length of an identifier in Python?

Ans: An identifier can have a maximum length of **79 characters** in Python.

13. What are the benefits of using Python?

Ans: Top Reasons to Learn Python

- Data science
- Scientific and mathematical computing
- Web development
- Finance and trading
- System automation and administration
- Computer graphics
- Basic game development
- Security and penetration testing
- General and application-specific scripting
- Mapping and geography (GIS software)

14. How is memory managed in Python?

Ans: Memory management in Python **involves a private heap containing all Python objects and data structures**. The management of this private heap is ensured internally by the Python memory manager.

15. How to install Python on Windows and set path variables?

Ans: For this two steps involve i.e given below

Step 1

1. Download python from this link https://www.python.org/downloads/
2. then, install it on your PC.

Step 2

The complete path of **python.exe** can be added by:

1. Right-clicking This PC and going to **Properties**.
2. Clicking on the **Advanced system settings** in the menu on the left.
3. Clicking on the **Environment Variables** button on the bottom right.
4. In the **System variables** section, selecting the **Path variable** and clicking on **Edit**. The next screen will show all the directories that are currently a part of the PATH variable.
5. Clicking on **New** and entering **Python's install directory/location**

16. Is indentation required in python?

Ans: Yes