

Machine Learning Bootcamp

Lecture 1: Python Essentials

What is programming?



I ARE PROGRAMMER



**I MAKE COMPUTER BEEP BOOP
BEEP BEEP BOOP**

What if I tell you



**Programming is not
using only java**

**Programming isn't about what you know;
it's about what you can figure out.**

**The only way to learn a new
programming language is by writing
programs in it**

Formal Definition

Writing a set of instructions that a computer uses to perform a specific function.

- A computer program is like a computer's recipe.
- It contains a list of ingredients (called variables, which can represent numeric data, text, or images)
- A list of directions (called statements) that tell the computer how to execute a specific task.

Python

Why python?

Python is a very high-level programming language, yet it is effortless to learn.

- Robust Standard Library
- Interpreted
- Object-Oriented and Procedure-Oriented

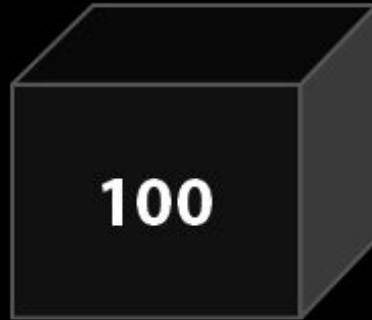
Where to Run python?

Google Colab

<https://colab.research.google.com/>

Variable

x



Variable Assignment

Assignment operator

Variable name

Value to be assigned

X

=

10



Question 1

Question: Which of the following is a valid variable declaration in Python?

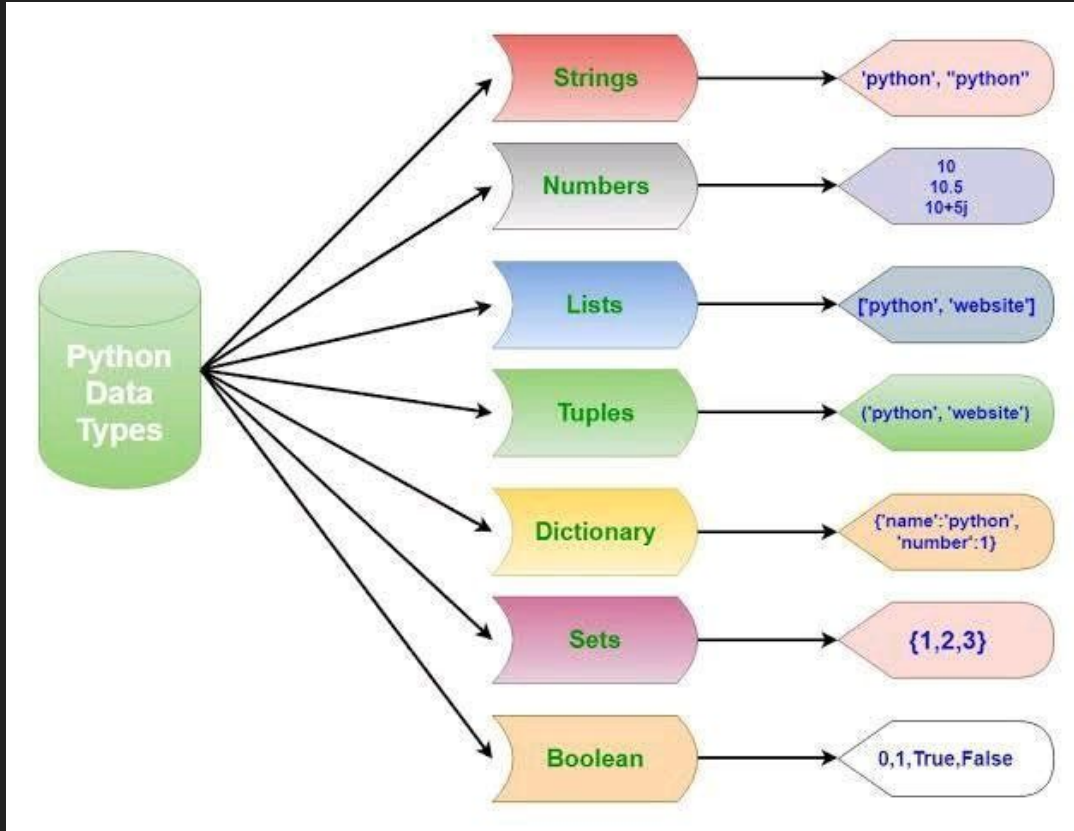
a) 1variable = 10

b) _variable = 10

c) variable@ = 10

d) variable-name = 10

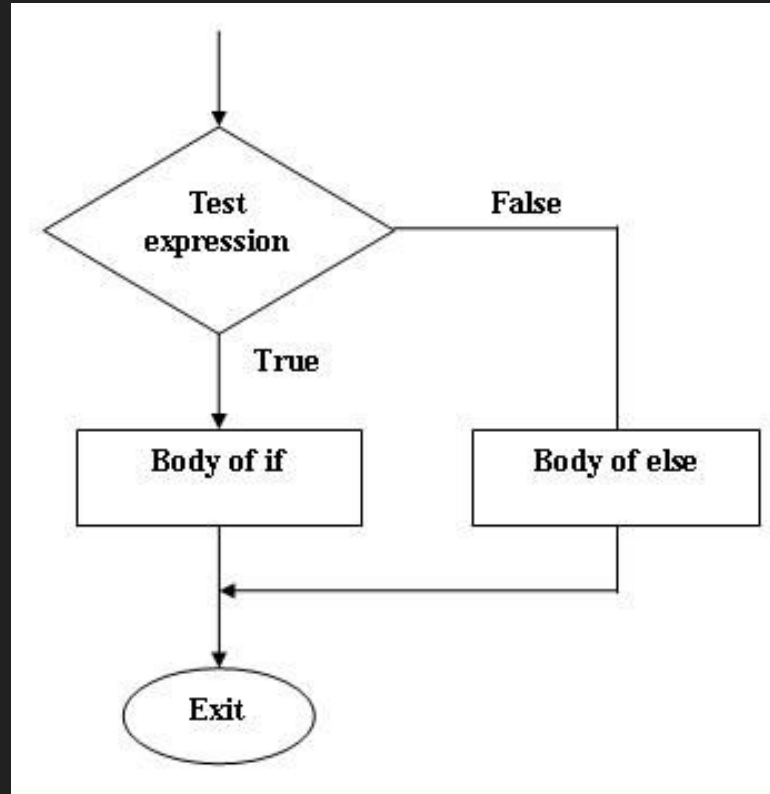
Data Types



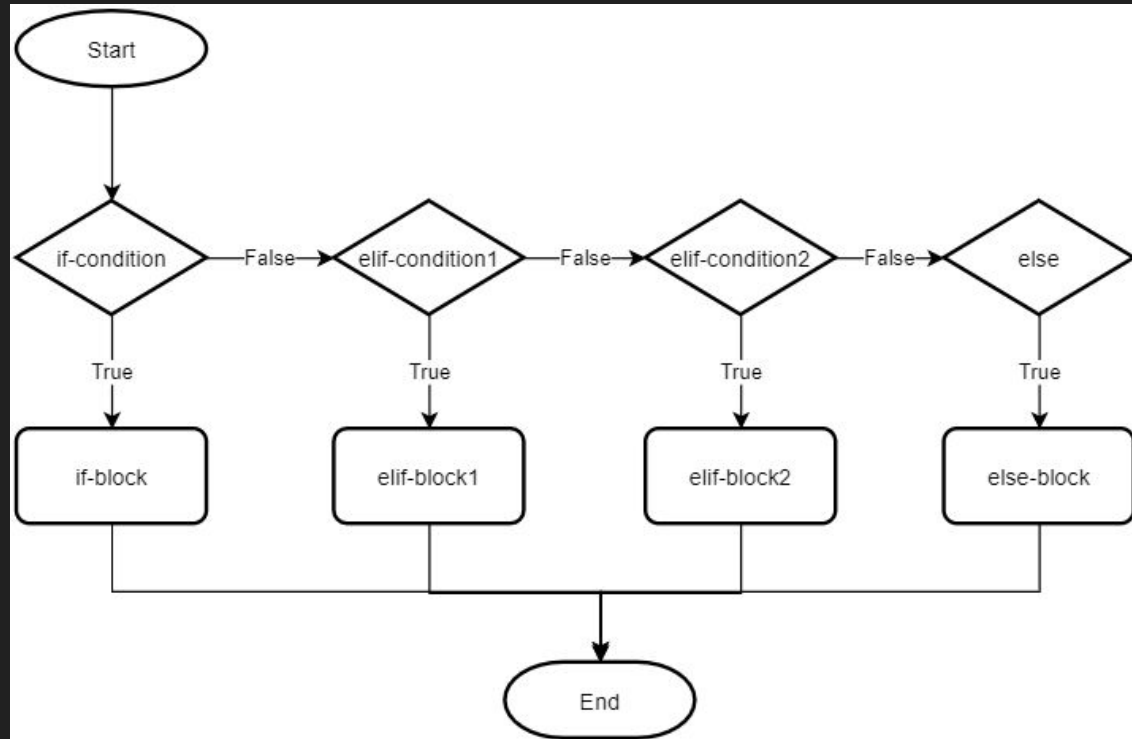
Operators

Operator	Description	
()	Parentheses (grouping)	Highest Lowest
**	Exponentiation	
~x	Bitwise nor	
+x,-x	Positive , negative (unary +,-)	
*,./,/,%	Multiplication , division , floor division , remainder	
+, -	Addition , subtraction	
&	Bitwise and	
^	Bitwise XOR	
	Bitwise OR	
<,<=,>,>=,<>,! ,== ,is,isnot	Comparisons (Relational operators),identity operators	
not x	Boolean NOT	
And	Boolean AND	
or	Boolean OR	

If and else



If, elif and else

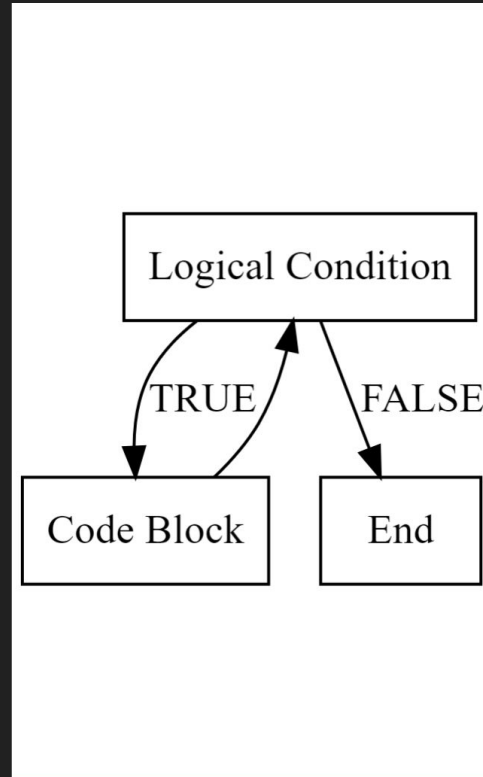
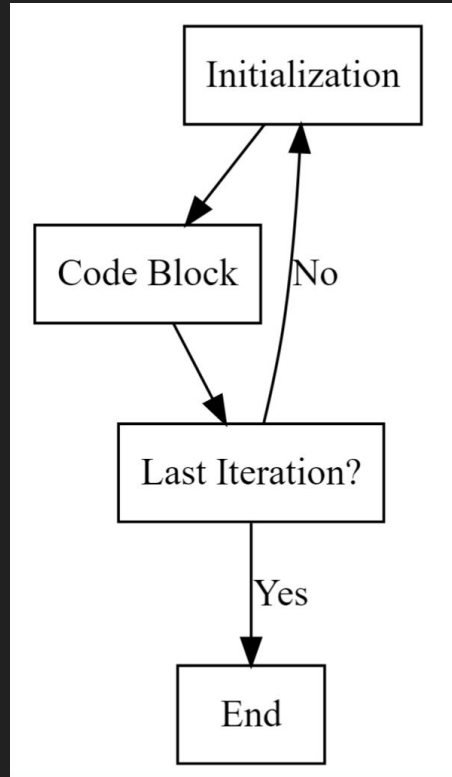


Question 2

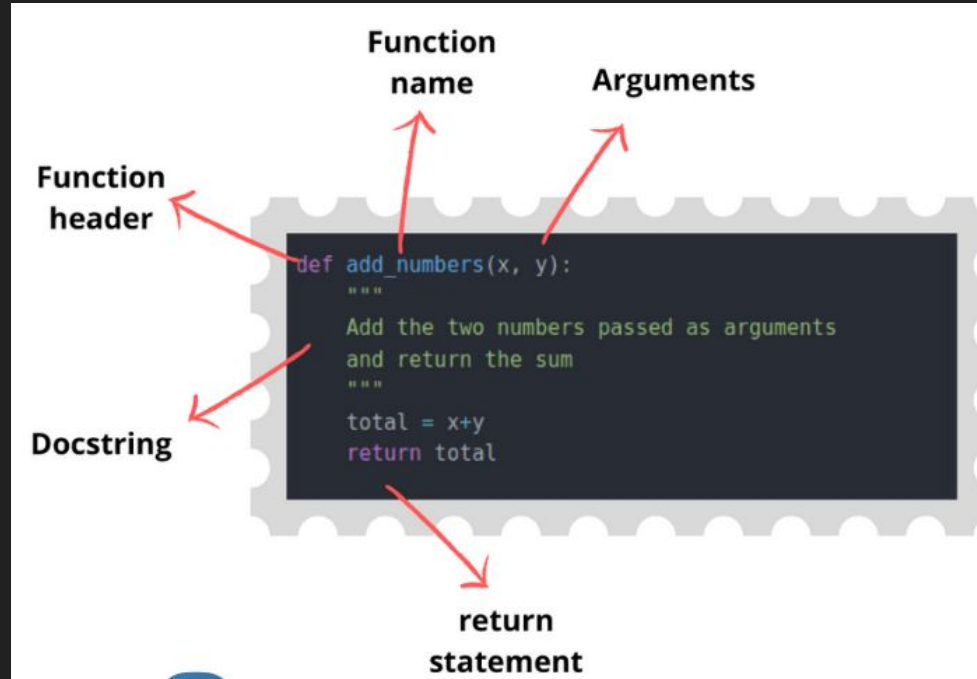
What is the purpose of the "elif" statement in Python?

- a) It is used to specify the default condition if all previous conditions are False.
- b) It is used to execute a block of code only if a specific condition is True.
- c) It is used to terminate the loop and resume execution from the next statement.
- d) It is used to check the syntax of the code and raise errors if necessary.

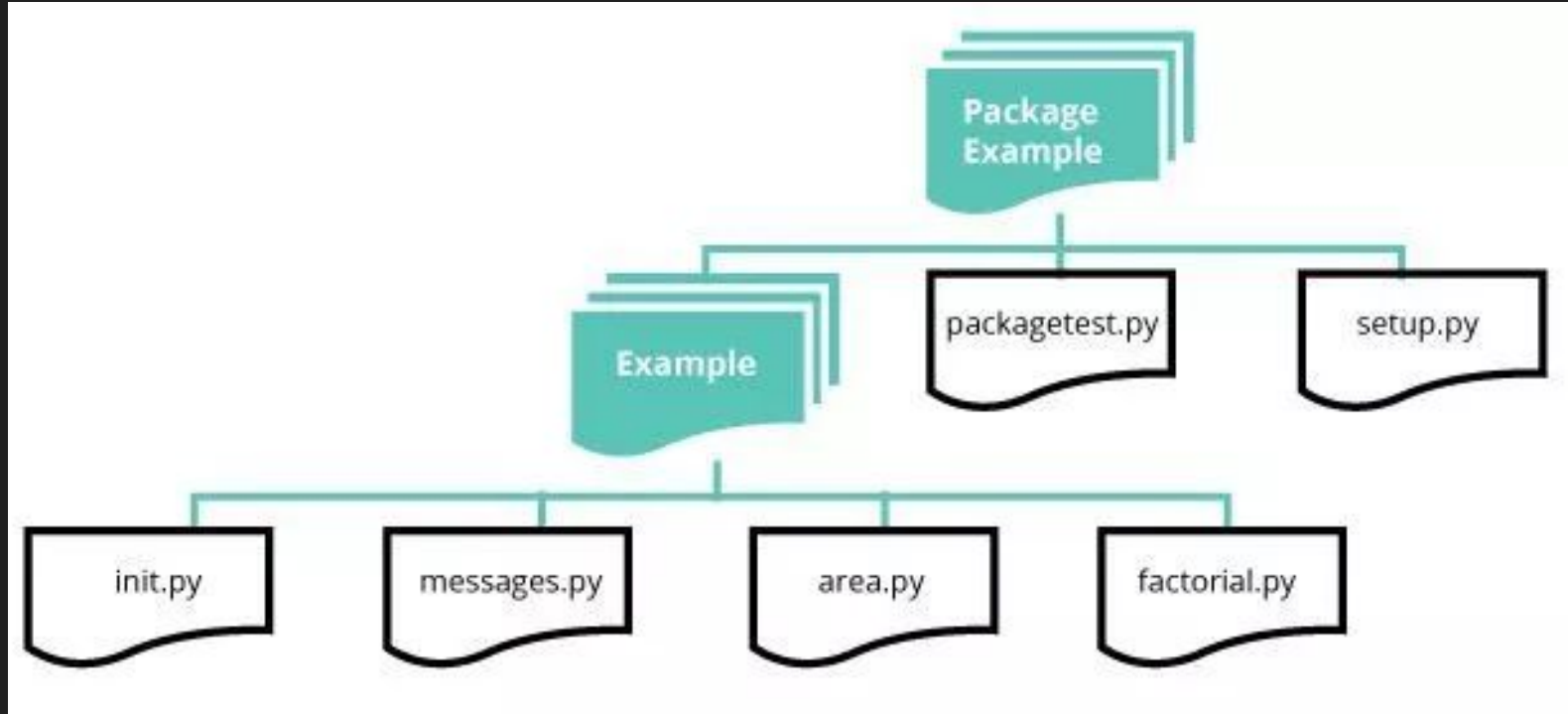
Loop



Function



Packages



Question 3

Which of the following statements is true about Python packages?

- a) A package is a collection of Python modules.
- b) A package is a built-in data type in Python.
- c) A package is a reserved keyword in Python.
- d) A package can only contain functions and cannot have variables.

Resources

- Slides
- Video Recordings
- <https://github.com/owais4321/mlbootcamp>

Assignment

- <https://github.com/owais4321/mlbootcamp>
- Due before next class
- Submission on google forms