

Python for Finance – Quiz Questions

Choose the best answer:

Introduction to Programming with Python

3 Programming explained in 5 Minutes

What skills are required to become good at programming?

- a) good problem-solving skills
- b) well-developed abstract thinking
- c) mechanistic thinking
- d) all of the above

d)

4 Why Python?

Python is one of the most frequently used programming languages today. Which of the following is not one of its advantages?

- a) It is a well-developed low-level language.
- b) Clear and intuitive syntax
- c) Python is an easy-to-learn programming language.
- d) Python can be used in multiple domains.

a)

5 Why Jupyter?

What is "Jupyter"?

- a) A software that transforms Python and some other languages into 1s and 0s
- b) A server-client application
- c) A specific group of language kernels
- d) An environment where language kernels are related to specific hardware parts

b)

7 Jupyter's Interface

Which of the following options cannot be applied to an IPython Notebook file that is currently running?

- a) Rename it
- b) Shut it down
- c) Duplicate it
- d) Delete it

a)

8 Jupyter's Interface – Prerequisites for Coding

Quiz 8.1:

Which type of cell does not exist in Jupyter?

- a) Code
- b) Markdown
- c) Picture
- d) None of the above

c)

Quiz 8.2:

Which is the shortcut combination for deleting a selected cell in a Notebook Document?

- a) "A"
- b) "B"
- c) "D" Twice
- d) "X"

c)

Python Variables and Data Types

10 Variables

The variable "x" has been created and the value of 20 has been assigned to it. Which of the following code will not produce an output of 20?

a) x b) X c) print x d) None of the above.

b)

11 Numbers and Boolean Values

Which of the following values is of Boolean type?

a) 5 b) False c) 5.0 d) =

b)

12 Strings

Quiz 12.1:

Which of the following codes may result in an error?

a) 'Peter' b) print "Peter" c) print Peter d) "Peter"

c)

Quiz 12.2:

You have assigned the string "Joshua" to the variable x. After you type "x" and execute, which output will you get?

a) "Joshua" b) Joshua c) 'Joshua' d) you will get an error message.

c)

Basic Python Syntax

13 Arithmetic Operators

When executed, which of the following will result in an output of 36?

a) 6×6 b) $6 * 6$ c) $6 ** 6$ d) $6 / 6$

b)

14 The Double-Equality Sign

What will result from the following: $100 == 100$?

a) False b) True c) 100 d) an error

b)

15 Reassign values

Initially, you have bound the value of 20 to the variable x. Later, in your code, you have bound the value of 13 to the same variable x. Then you execute $x + 16$. What number will you get?

a) 33 b) 36 c) 29 d) 49

c)

16 Add Comments

Which is the symbol that allows you to leave a comment in a code cell?

a) # b) \$ c) Comments are allowed only in markdown cells. d) \%

a)

18 Indexing Elements

What will be the output of the following command: `print 'Holidays!'[6]` ?

a) s b) 's' c) y d) 'y'

c)

19 Structure Your Code with Indentation

Which keyboard button allows you to indent in Jupyter?

a) Space b) Plus c) Shift d) Tab

d)

More on Operators

20 Comparison Operators

Which of the following operators stands for "not equal to" in Python?

a) == b) != c) =! d) !!

b)

21 Logical and Identity Operators

Which is the correct order of precedence of the logical operators in Python (from highest to lowest)?

a) not-and-or b) and-or-not c) or-and-not d) not-or-and

a)

Conditional Statements

22 Introduction to the IF statement

Choose the correct answer:

An If statement contains the keyword "If" and a conditional statement. What comes after these two components?

a) indentation b) the conditional code c) colon d) semi-colon

c)

25 A Note on Boolean Values

Mark the pair of values that doesn't match Boolean logic.

a) True and False b) 1 and 0 c) Big and Small d) On and Off

c)

Functions

26 Defining a Function in Python

Which is the correct syntax in Python for defining a function?

- a) The def keyword, colon, function's name, parentheses
- b) Function's name, colon, the def keyword, parentheses
- c) Function's name, parentheses, colon, the def keyword
- d) The def keyword, function's name, parentheses, colon

d)

27 Creating a Function with a Parameter

Which of the following statements regarding "print" and "return" is true?

- a) "print" can return a value from a given function only
- b) "print" returns a mere statement
- c) "return" can be used multiple times in a function
- d) "return" and "print" are interchangeable

b)

Sequences

33 Lists

A sequence of which of the following items can be stored in a list?

a) Integers b) Floats c) Strings d) All the above.

d)

34 Help Yourself with Methods

Which is the syntax for invoking a method in Python?

a) Dot operator, name of the object, parentheses, name of the method

b) Name of the method, dot operator, name of the object, parentheses

c) Dot operator, name of the method, parentheses, name of the object

d) Name of the object, dot operator, name of the method, parentheses

d)

37 Dictionaries

Which is the syntax for adding a new value to a dictionary?

a) the new value, dot operator, the name of the dictionary, parentheses

b) the new value, equality sign, new key name, dot operator, the name of the dictionary

c) the name of the dictionary, new key name in quotes and within brackets, equality sign, the new value

d) None of the above

c)

Iteration

38 For Loops

Which of the following will work in Python?

a) for n in object: b) print object, for c) for n in [object] d) for n in (object)

a)

40 Create Lists with the range() Function

Which is the correct order of the parameters in the range function? *The optional parameters are placed between brackets.*

- a) range([step, start], stop)
- b) range([start], stop[, step])
- c) range([start, step,] stop)
- d) range(stop[, start, step])

b)

Calculating and Comparing Rates of Return in Python

60 Considering Both risk and return

How would you comment on the statement “There is absolutely no risk involved when investing in Government bonds”?

- a. Always True
 - b. Sometimes True
 - c. False
 - d. Depends on the level of the expected rate of return.
- c)

62 Calculating a Security’s Rate of Return

Which of the following is correct?

- a. We should always use simple returns and never use logarithmic returns
 - b. It is best to use log returns for calculations when interested in multiple assets over the same timeframe
 - c. Log returns are preferable when you make calculations about a single asset over time
 - d. Simple returns can be applied in all situations. Log returns can be applied only in some specific cases.
- c)

66 What is a portfolio of securities and how to calculate its rate of return?

What do we need to calculate the rate of return of a portfolio?

- a. The weights of the securities
 - b. The average return of each security
 - c. The risk value of each security
 - d. Both the weight and the average return of each security
- d)

70 How do we measure a security's risk

Which of the following sentences is true?

- a. The variance equals the square root of the standard deviation
 - b. The standard deviation equals the square root of the variance
 - c. The variance is the only meaningful statistical measure for measuring risk
 - d. Stock's return and stock's risk are two interchangeable financial terms
- b)

72 The Benefits of Portfolio Diversification

Investing in which two stocks will not exploit fully the benefits of portfolio diversification?

- a. Facebook and LinkedIn
 - b. Facebook and Walmart
 - c. LinkedIn and Walmart
 - d. None of the above
- a)

73 Calculating the Covariance between Securities

Quiz 73.1:

Which of the following situations is supposed to exemplify the behavior of two stocks with a negative covariance?

- a. Their prices are moving in the same positive direction
 - b. Their prices are moving in the same negative direction
 - c. Their prices are moving in the opposite direction
 - d. The two companies have gone bankrupt
- c)

Quiz 73.2:

How should a correlation of 1 be interpreted?

- a. Perfect negative correlation
 - b. Perfect positive correlation
 - c. Independence
 - d. Partial correlation
- b)

78 Understanding Systematic vs. Idiosyncratic risk

Which of the following is false?

- a. Undiversifiable risk is a synonym for systematic risk
 - b. Diversifiable risk is a synonym for unsystematic risk
 - c. Undiversifiable risk is a synonym for unsystematic risk
 - d. Undiversifiable risk cannot be eliminated
- c)

Using Regression for Financial Analysis

80 The Fundamentals of Simple Regression Analysis

Quiz 80.1:

Which of the following is true?

- a. Dependent variable is a synonym of explanatory variable
- b. Explanatory variable is a synonym of independent variable
- c. Simple regressions sometimes use more than one variable
- d. None of the above

b)

Quiz 80.2:

Which of the following values represents the slope of the regression line?

- a. The standard error
- b. Alpha
- c. Beta
- d. R Squared

c)

Markowitz Portfolio Optimization

84 Markowitz Portfolio Theory

According to Harry Markowitz, investments in multiple securities:

- a. Should be studied as a portfolio
- b. Must be analyzed separately
- c. Should be done only by mid- and large-sized companies
- d. Are supposed to increase the expected total return

a)

The Capital Asset Pricing Model

88 The Intuition behind the Capital Asset Pricing Model

In the Capital Asset Pricing Model (CAPM), investors will:

- a. Always buy the risk-free asset
- b. Always buy the market portfolio
- c. Buy more of the risk-free asset or more of the market portfolio, depending on their risk preferences
- d. Buy the portfolio with the lowest risk

c)

89 Understanding and Calculating a Security's Beta

For which value of beta is a stock considered to have no relationship with the market?

- a. $\text{Beta} < 0$
- b. $\text{Beta} = 0$
- c. $\text{Beta} < 1$
- d. $\text{Beta} > 1$

b)

91 The CAPM Formula

According to CAPM, which of the following is not relevant for the calculation of the expected return of a stock?

- a. The variance of the market
- b. The risk-free rate
- c. The risk premium
- d. The variance of the stock

d)

93 Introducing the Sharpe Ratio in Python

Which of the following values is irrelevant for the calculation of Sharpe ratio?

- a. The risk-free rate
- b. The excess return of the stock
- c. The variance of the market
- d. The standard deviation of the stock

c)

95 Measuring Alpha

What does alpha show us?

- a. How to outperform the market
- b. How much return we get without bearing extra risk
- c. How to gain trading know-how
- d. How to compare investments with divergent risk profiles

b)

Multivariate Regression Analysis

96 Multivariable Regression Analysis

- a. A single beta coefficient and multiple variables without a constant
- b. A single beta coefficient and explanatory variable with a constant
- c. Multiple beta coefficients and explanatory variables with a constant
- d. Consistently Higher R squared

c)

Monte Carlo Simulations as a Decision-Making Tool

98 The Essence of Monte Carlo Simulations

Why are Monte Carlo simulations frequently applied in the world of Finance? Mark the wrong answer.

- a. To create a large “fictional” data sets
 - b. To obtain good proxy of different outcomes
 - c. To reduce the level of uncertainty in the Finance markets
 - d. To estimate statistics based on past data
- d)

99 Monte Carlo Applied in a Corporate Finance Context

Monte Carlo would allow us to forecast:

- a. Revenues
 - b. Cogs
 - c. Operating Profit
 - d. All the above
- d)

102 Forecasting Stock Prices with a Monte Carlo Simulation

How many components characterize the formula for Brownian motion?

- a. 1
 - b. 2
 - c. 3
 - d. 4
- b)

106 An Introduction to Derivative Contracts

Which of the following is not a derivative contract?

- a. Forwards
 - b. Options
 - c. Stocks
 - d. Swaps
- c)