

Courseware **Course Info** **Progress** **Discussion**

EXAM 1 (100 points possible)

1. True or False: Pandas users can access thousands of panel data series from the World Bank database.

☐ True

☐ False

2. We can import data from Federal Reserve Economic Data (FRED) using pandas.io.data.

☐ True

☐ False

3. Pandas can only be used to import data from Yahoo Finance, Google Finance and FRED.

☐ True

☐ False

4. We can use linear models in finance.

☐ True

☐ False

5. Yield curve is known as the term structure of interest rates.

☐ True

☐ False

6. Liquidity Preference Theory suggests market participants demand a premium for long-term investments in bonds compared to short term loans to the government.

☐ True

☐ False

7. Yield curves can be normal or inverted.

☐ True

☐ False

8. A stochastic process is stationary if it has a unit root.

- ☐ True
- ☐ False

9. A linear regression can be implemented in a Matplotlib module.

- ☐ True
- ☐ False

10. A t-test is used to check if residuals are normally distributed.

- ☐ True
- ☐ False

11. Durbin-Watson and Jarque-Bera tests are used to check the autocorrelation assumption.

- ☐ True
- ☐ False

12. U.S. potential output can be determined using a Hodrick-Prescott filter.

- ☐ True
- ☐ False

13. The Federal Funds Rate indicated by the Taylor rule is not sensitive to the specification of the potential GDP and the equilibrium interest rate.

- ☐ True
- ☐ False

14. If the Durbin-Watson d statistic is 2, there is autocorrelation.

- ☐ True
- ☐ False

15. Outliers are usually identified visually via a graph.

- ☐ True
- ☐ False

16. What influences an asset return? (Choose all that apply)

- ☐ Investors' confidence
- ☐ Inflation
- ☐ Interest rate changes
- ☐ Exchange rates

17. What problems can occur with data? (Choose all that apply)

- ☐ Errors
- ☐ Selection bias
- ☐ Doesn't measure what we want
- ☐ Cannot be imported into Python

18. Normal distribution is used in which of the following? (Choose all that apply)

- ☐ Value-at-Risk measurements
- ☐ Pricing options
- ☐ Portfolio allocation models
- ☐ Selection bias

19. Which of the following is a symmetrical, bell-shaped distribution similar to the standard normal curve where, the higher the degrees of freedom, the closer the curve is to resembling the standard normal distribution with mean zero and standard deviation of one?

- ☐ Log normal distribution
- ☐ Chi-squared distribution
- ☐ t distribution
- ☐ F distribution

20. Which of the following is the distribution of the sum of squared standard normal deviates?

- ☐ Log normal distribution
- ☐ Chi-squared distribution
- ☐ t distribution
- ☐ F distribution

21. Which of the following sentences is false?

- ☐ Skewness is an indicator for flatness and peakness.
- ☐ Skewness can be positive, negative or zero.
- ☐ The skewness equation is called the third moment around the mean.

22. Which of the following are assumptions of the Arbitrage Pricing Theory (APT)? (Choose all that apply)

- ☐ Security returns are a function of a number of factors.
- ☐ There are sufficient securities so that firm-specific (idiosyncratic) risk can be diversified away
- ☐ Well-functioning security markets do not allow for persistent arbitrage opportunities

23. Which of the following sentences regarding the French-Fama model is false?

- ☐ The French-Fama model is an extension of CAPM.
- ☐ The French-Fama model started with the observation that two classes of stocks have tended to do better than the market as a whole.
- ☐ The French-Fama model is an extension of APT.
- ☐ The parameters of the French-Fama model can be estimated using a linear regression.

24. Which of the following rules are not true?

- ☐ The variance of a constant is zero.
- ☐ Adding a constant value, c , to a random variable does not change the variance, because the expectation (mean) increases by the same amount.
- ☐ The covariance of two constants, c and k , is zero.
- ☐ All of the above rules are true.

25. Which of the following statements true? (Choose all that apply)

- ☐ The expectation of a constant, c , is the constant.
- ☐ Multiplying a random variable by a constant value, c , multiplies the expected value or mean by the squared constant.
- ☐ The expected value or mean of the sum of two random variables is the sum of the means.
- ☐ The covariance of two independent random variables is zero.

26. Volatility is measured using which of the following?

- ☐ Mean
- ☐ Standard deviation
- ☐ Histogram
- ☐ Geometric mean

27. The Augmented Dickey-Fuller (ADF) test is used for what?

- ☐ Testing the existence of a unit root
- ☐ Forecasting
- ☐ Seasonal adjustment
- ☐ Testing cointegration

28. The Augmented Dickey-Fuller (ADF) test is implemented in Python using what module?

- ☐ Scikit learn
- ☐ Pandas
- ☐ Statsmodels
- ☐ Numpy

29. The independent variable in a regression is also known as what?

- ☐ explanatory variable, regressor, predictor or error term
- ☐ explanatory variable, regressor, predictor or exogenous
- ☐ endogenous, predicted, response or outcome
- ☐ stimulus, exogenous, covariate or disturbance

30. A two-variable regression model can be implemented in which of the following programs?

- ☐ Python, Excel
- ☐ Python, Word
- ☐ Python, PowerPoint
- ☐ Excel, Notepad

31. Which of the following statements are correct? (Choose all that apply)

- ☐ Regression means a linear relation between the dependent and the independent variables
- ☐ Regressions do not have residuals
- ☐ Regression analysis requires a database
- ☐ Regression analysis is used in finance

32. The linear relation between GDP and money supply can be implemented in which of the following?

- ☐ A two-variable regression
- ☐ A mean
- ☐ A variance
- ☐ A geometric mean

33. A regression can be estimated using which of the following methods? (Choose all that apply)

- ☐ Ordinary Least Squares (OLS) Method
- ☐ Maximum Likelihood Estimation (MLE)
- ☐ Generalized Method of Moments (GMM)

34. An assumption is that the residuals from a regression follow a:

- ☐ Chi-squared distribution
- ☐ Lognormal distribution
- ☐ Poisson distribution
- ☐ Normal distribution

35. The Stats.linregress function from the Scipy module implements what?

- ☐ A linear regression estimated by Principal Components Analysis
- ☐ A linear regression estimated by Bayesian techniques
- ☐ A linear regression estimated by Ordinary Least Squares (OLS) method

36. The Taylor rule established a linear connection between Federal Funds Rate and which of the following? (Choose all that apply)

- ☐ The output gap
- ☐ Dow Jones
- ☐ The difference between the registered inflation and the desired inflation
- ☐ Interest rate spread

37. The output gap represents which of the following?

- ☐ The difference between the registered inflation and the desired inflation.
- ☐ The difference between the registered unemployment rate and the desired unemployment rate.
- ☐ The difference between GDP and potential GDP.
- ☐ The difference between the nominal interest rate and the equilibrium interest rate.

38. A monetary policy rule that stipulates how much the central bank should change the nominal interest rate in response to changes in inflation, output, or other economic conditions is known as what?

- ☐ Granger causality
- ☐ Potential output
- ☐ Taylor rule
- ☐ Equilibrium interest rate

39. Which of the following describes multicollinearity?

- ☐ Autocorrelation of residuals
- ☐ Constant variance
- ☐ Independent variables that are strongly correlated with each other
- ☐ Dependent variables

40. Multicollinearity can be observed in which of the following situations? (Choose all that apply)

- ☐ Small changes in the data cause wide swings in the parameter estimates
- ☐ Coefficients may have very high standard errors and low significance levels
- ☐ Coefficients may have the “wrong” sign or implausible magnitude

Final Check

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