

Forecasting



1. Tupperware lone uses both qualitative and quantitative prediction techniques. climaxing in a concluding prognosis that is the consensus of all take parting directors. False (Global company profile: Tupperware Corporation. centrist)
2. The prediction clip skyline and the prediction techniques used tend to change over the life rhythm of a merchandise. True (What is calculating? centrist)
3. Gross saless prognosiss are an input to fiscal planning. while demand prognosiss impact human resource determinations. True (Types of prognosiss. centrist)
4. Prognosiss of single merchandises tend to be more accurate than prognosiss of merchandise households. False (Seven stairss in the prediction system. centrist)
5. Most calculating techniques assume that there is some implicit in stableness in the system. True (Seven stairss in the prediction system. centrist)
6. The gross revenues force composite prediction method relies on salespersons' estimations of expected gross revenues. True (Forecasting attacks. easy)
7. A time-series theoretical account uses a series of past informations points to do the prognosis. True (Forecasting attacks. centrist)

8. The quarterly “ make meeting” of Lexus traders is an illustration of a gross revenues force composite prognosis. True (Forecasting attacks. easy)

9. Cycles and random fluctuations are both constituents of clip series. True (Time-series prediction. easy)

10. A naif prognosis for September gross revenues of a merchandise would be equal to the gross revenues in August. True (Time-series prediction. easy)

11. One advantage of exponential smoothing is the limited sum of record maintaining involved. True (Time-series prediction. centrist)

12. The larger the figure of periods in the simple moving mean prediction method. the greater the method’s reactivity to alterations in demand. False (Time-series prediction. centrist)

13. Forecast including tendency is an exponential smoothing technique that utilizes two smoothing invariables: one for the mean degree of the prognosis and one for its tendency. True (Time-series prediction. easy)

14. Mean Squared Error and Coefficient of Correlation are two steps of the overall mistake of a prediction theoretical account. False (Time-series prediction. easy)

15. In tendency projection. the tendency constituent is the incline of the arrested development equation. True (Time-series prediction. easy)

16. In tendency projection. a negative arrested development incline is mathematically impossible. False (Time-series prediction. centrist)

17. Seasonal indexes adjust natural informations for forms that repeat at regular clip intervals. True (Time-series prediction. centrist)
18. If a quarterly seasonal index has been calculated at 1. 55 for the October-December one-fourth. so natural informations for that one-fourth must be multiplied by 1. 55 so that the one-fourth can be reasonably compared to other quarters. False (Time-series prediction: Seasonal fluctuation in informations. centrist)
19. The best manner to calculate a concern rhythm is by happening a taking variable. True (Time-series prediction. centrist)
20. Linear-regression analysis is a straight-line mathematical theoretical account to depict the functional relationships between independent and dependent variables. True (Associative prediction methods: Arrested development and correlativityanalysis. easy)
21. The larger the standard mistake of the estimation. the more accurate the prediction theoretical account. False (Associative prediction methods: Arrested development and correlativity analysis. easy)
22. A tendency projection equation with a incline of 0. 78 agencies that there is a 0. 78 unit rise in Y for every unit of clip that passes. True (Time-series prediction: Trend projections. centrist)
23. In a arrested development equation where Y is demand and X is publicizing. a coefficient of finding (R^2) of. 70 agencies that 70 % of the discrepancy in advertisement is explained by demand. False (Associative

prediction methods: Arrested development and correlativity analysis. centrist)

24. Tracking bounds should be within ± 8 MADs for low-volume stock points. True (Monitoring and commanding prognosiss. centrist)

25. If a prognosis is systematically greater than (or less than) existent values. the prognosis is said to be biased. True (Monitoring and commanding prognosiss. centrist)

26. Focus calculating attempts a assortment of computing machine theoretical accounts and selects the best 1 for a peculiar application. True (Monitoring and commanding prognosiss. centrist)

27. Many service houses use point-of-sale computing machines to roll up elaborate records needed for accurate short-run prognosiss. True (Forecasting in the service sector. moderate) MULTIPLE CHOICE

28. Tupperware's usage of predictiona. involves merely a few statistical toolsb. dressed ores on the low-level trader. and is non aggregated at the company degreec. relies on the fact that all of its merchandises are in the adulthood stage of the life rhythmd. is a major beginning of its competency border over its challengerse. takes inputs from gross revenues. selling. and finance. but non from productionvitamin D (Global company profile. centrist)

29. Which of the undermentioned statements sing Tupperware's prediction is false? a. Tupperware's 50 net income centres generate the basic set of projections. b. Tupperware uses at least three quantitative calculating

<https://assignbuster.com/forecasting/>

techniques. c. Tupperware uses merely quantitative prediction techniques. d. "Sales per active dealer" is one of three cardinal calculating variables (factors) . e. " Jury of executive opinion" is the ultimate prediction tool used at Tupperware. degree Celsius (Global company profile. centrist)

30. Prognosis. go more accurate with longer clip skylines. b. are seldom perfect. c. are more accurate for single points than for groups of points. d. all of the above. e. none of the above. B (What is calculating? centrist)

31. One usage of short-range prognosis is to find. a. production planning. b. stock list budgets. c. research and development programs. d. installation location. e. occupation assignments. vitamin E (What is calculating? centrist)

32. Prognosis are normally classified by clip skyline into three classes. a. short-range. medium-range. and long-range. b. finance/accounting. selling. and operations. c. strategic. tactical. and operational. d. exponential smoothing. arrested development. and clip series. e. departmental. organisational. and industrial. a (What is calculating? easy)

33. A prognosis with a clip skyline of about 3 months to 3 old ages is typically called. a. long-range prognosis. b. medium-range prognosis. c. short-range prognosis. d. conditions prognosis. e. strategic prognosis. B (What is calculating? centrist)

34. Prognosis used for new merchandise planning. capital outgo. installation location or enlargement. and R & A ; D typically utilize. a. short-range clip skyline. b. medium-range clip skyline. c. long-range clip skyline. d. naif method. because there is no information history. e. all of the above. degree Celsius (What is calculating? centrist)

35. The three major types of prognosis used by concern organisations are:
 a. strategic, tactical, and operational
 b. economic, technological, and demand
 c. exponential smoothing, Delphi, and arrested development
 d. causal, time-series, and seasonal
 e. departmental, organisational, and territorial
 B (Types of prognosis, centrist)

36. Which of the following is non a measure in the prediction procedure?
 a. Determine the usage of the prognosis.
 B. Extinguish any premises.
 c. Determine the clip skyline.
 d. Select prediction theoretical account.
 e. Validate and implement the consequences.
 B (The strategic importance of prediction, centrist)

37. The two general attacks to prediction are:
 a. qualitative and quantitative
 b. mathematical and statistical
 c. judgmental and qualitative
 d. historical and associatory
 e. judgmental and associatory
 a (Forecasting attacks, easy)

38. Which of the undermentioned utilizations three types of participants:
 a. determination shapers, staff forces, and respondents
 b. executive sentiments, gross revenues force complex, the Delphi method
 c. consumer studies, clip series analysis, degree Celsius
 d. (Forecasting attacks, centrist)

39. The prediction theoretical account that pools the sentiments of a group of experts or directors is known as the:
 a. gross revenues force composing theoretical account
 b. multiple arrested development
 c. jury of executive sentiment theoretical account
 d. consumer market study theoretical account
 e. direction coefficients theoretical account
 degree Celsius
 (Forecasting attacks, centrist)

40. Which of the following is non a type of

qualitative prediction? a. executive sentiments b. gross revenues force complex c. consumer studies d. the Delphi method e. traveling norm vitamin E (Forecasting attacks. centrist)

41. Which of the following techniques uses variables such as monetary value and promotional outgos. which are related to merchandise demand. to foretell demand? a. associatory theoretical accounts b. exponential smoothing c. weighted moving norm d. simple traveling norme. clip series a (Forecasting attacks. centrist)

42. Which of the undermentioned statements about clip series prediction is true? a. It is based on the premise that future demand will be the same as past demand. B. It makes extended usage of the informations collected in the qualitative attack. c. The analysis of past demand helps predict future demand. d. Because it accounts for tendencies. rhythms. and seasonal forms. it is more powerful than causal prediction. e. All of the above are true. degree Celsius (Time-series prediction. centrist)

43. Time series informations may exhibit which of the undermentioned behaviours? a. tendency b. random fluctuations c. seasonality d. rhythm e. They may exhibit all of the above. vitamin E (Time-series prediction. centrist)

44. Gradual. long-run motion in clip series informations is called a. seasonal fluctuation b. rhythm c. tendencies d. exponential fluctuation e. random fluctuation degree Celsius (Time-series prediction. centrist)

45. Which of the following is not present in a time series? a. seasonality b. operational fluctuations c. trend d. rhythm e. random fluctuations B (Time-series prediction. centrist)

46. The cardinal difference between rhythms and seasonality is the a. continuance of the repetition form b. magnitude of the fluctuation c. ability to impute the form to a cause d. all of the above e. none of the above a (Time-series prediction. centrist)

47. In time series, which of the following can not be predicted? a. big additions in demand b. technological trends c. seasonal fluctuations d. random fluctuations e. big lessening in demand a (Time-series prediction. centrist)

48. What is the approximate prognosis for May utilizing a four-month moving average?

49. Which time series theoretical account below assumes that demand in the following period will be equal to the most recent period's demand? a. naïf attack b. traveling mean attack c. weighted traveling mean attack d. exponential smoothing attack e. none of the above a (Time-series prediction. easy)

50. Which of the following is not a feature of simple traveling averages? a. It smoothes random fluctuations in the information. b. It has minimal information storage demands. c. It weights each historical value equally. d. It lags alterations in the information. e. It smoothes existent fluctuations in the information. B (Time-series prediction. centrist)

51. A six-month moving mean prognosis is better than a three-month moving mean prognosis if demand is instead stable, has been altering due to recent promotional attempts, follows a downward tendency, follows a seasonal form that repeats itself twice a twelve-month period, follows an upward tendency (Time-series prediction, centrism)

52. Increasing the figure of periods in a moving mean will carry through greater smoothing, but at the disbursement of accuracy, understanding, truth, stability, reactivity to alteration, etc. All of the above are diminished when the figure of periods increases. (Time-series prediction, centrism)

53. Which of the undermentioned statements comparing the leaden moving mean technique and exponential smoothing is true? a. Exponential smoothing is more easily used in combination with the Delphi method. b. More accent can be placed on recent values utilizing the leaden moving mean. c. Exponential smoothing is well more hard to implement on a computing machine. d. Exponential smoothing typically requires less record maintaining of past informations. e. Exponential smoothing allows one to develop prognosis for multiple periods, whereas weighted traveling norms does not. (Time-series prediction, centrism)

54. Which time series theoretical account uses past prognosis and past demand informations to bring forth a new prognosis? a. naive b. traveling norm c. weighted moving norm d. exponential smoothing e. arrested development analysis (Time-series prediction, centrism)

55. Which is not a feature of exponential smoothing? a. smoothes random fluctuations in the information b. easily altered burdening strategy c. weights

each historical value every bitd. has minimal informations storage demandse. none of the above ; they are all features of exponential smoothingdegree Celsius (Time-series prediction. centrist)

56. Which of the following smoothing invariables would do an exponential smoothing prognosis equivalent to a naif prognosis? a. 0B. 1 divided by the figure of periodsc. 0. 5d. 1. 0e. can non be determinedvitamin D (Time-series prediction. centrist)

57. Given an existent demand of 103. a old prognosis value of 99. and an alpha of. 4. the exponential smoothing prognosis for the following period would be a. 94. 6B. 97. 4c. 100. 6d. 101. 6e. 103. 0degree Celsius (Time-series prediction. centrist)

58. A prognosis based on the old prognosis plus a per centum of the prognosis mistake is a (N)a. qualitative prognosisb. naif prognosisc. traveling mean prognosisd. weighted traveling mean prognosise. exponentially smoothed prognosisvitamin E (Time-series prediction. centrist)

59. Given an existent demand of 61. a old prognosis of 58. and an of. 3. what would the prognosis for the following period be utilizing simple exponential smoothing? a. 45. 5B. 57. 1c. 58. 9d. 61. 0e. 65. 5degree Celsius (Time-series prediction. centrist)

60. Which of the following values of alpha would do exponential smoothing to react the most easy to calculate mistakes? a. 0. 10B. 0. 20c. 0. 40d. 0. 80e. can non be determineda (Time-series prediction. centrist)

61. A prediction method has produced the followers over the past five months. What is the average absolute divergence?

62. The primary intent of the average absolute divergence (MAD) in prediction is to a. estimate the tendency line b. extinguish forecast mistakes c. step prognosis truth d. seasonally adjust the prognosise. all of the above degree Celsius (Time-series prediction. centrist)

63. Given forecast mistakes of -1, 4, 8, and -3, what is the average absolute divergence? a. 2 b. 3 c. 4 d. 8 e. 16 degree Celsius (Time-series prediction. centrist)

64. The last four months of gross revenues were 8, 10, 15, and 9 units. The last four prognosises were 5, 6, 11, and 12 units. The Mean Absolute Deviation (MAD) is a. 2 b. -10 c. 3 d. 9 e. 10. 5 degree Celsius (Time-series prediction. centrist)

65. A clip series tendency equation is $25.3 + 2.1T$. What is your prognosis for period 7? a. 23 b. 25 c. 27 d. 40 e. can non be determined vitamin D (Time-series prediction. centrist)

66. For a given merchandise demand, the clip series tendency equation is $53 - 4T$. The negative mark on the incline of the equation a. is a mathematical impossibleness b. is an indicant that the prognosis is biased, with prognosis values lower than existent values c. is an indicant that merchandise demand is worsening d. implies that the coefficient of finding will besides be negative e. implies that the RSFE will be negative degree Celsius (Time-series prediction. centrist)

67. In trend-adjusted exponential smoothing, the prognosis including tendency (FIT) consists of a. an exponentially smoothed prognosis and an estimated tendency value b. an exponentially smoothed prognosis and a smoothed tendency factor c. the old prognosis adjusted by a tendency factor d. the old prognosis and a smoothed tendency factor e. a moving norm and a tendency factor B (Time-series prediction, centrist)

68. Which of the undermentioned is true sing the two smoothing invariables of the Forecast Including Trend (FIT) theoretical account? a. One invariable is positive, while the other is negative. B. They are called MAD and RSFE. c. Alpha is ever smaller than beta. d. One changeless smoothes the arrested development intercept, whereas the other smoothes the arrested development incline. e. Their values are determined independently. vitamin E (Time-series prediction, centrist)

69. Demand for a certain merchandise is forecast to be 800 units per month, averaged over all 12 months of the twelvemonth. The merchandise follows a seasonal form, for which the January monthly index is 1. 25. What is the seasonally-adjusted gross revenues prognosis for January?

a. 640 units B. 798. 75 units c. 800 units d. 1000 unit e. can non be calculated with the information given a (Time-series prediction, centrist)

70. A seasonal index for a monthly series is about to be calculated on the footing of three years' accretion of informations. The three old July values were 110, 150, and 130. The norm over all months is 190. The approximative seasonal index for July is

a. 0. 487B. 0. 684c. 1. 462d. 2. 053e. can non be calculated with the information givenB (Time-series prediction. centrist)

71. A cardinal differentiation between tendency projection and additive arrested development is thata. tendency projection uses least squares while additive arrested development does nonb. merely additive arrested development can hold a negative inclinec. in tendency projection the independent variable is clip ; in additive arrested development the independent variable need non be clip. but can be any variable with explanatory powerd. additive arrested development tends to work better on informations that lack tendenciiese. tendency projection uses two smoothing invariables. non merely onedegree Celsius (Associative prediction methods: Arrested development and correlativity analysis. centrist)

72. The per centum of fluctuation in the dependant variable that is explained by the arrested development equation is measured by thea. average absolute divergencesb. slopec. coefficient of findingd. correlativity coefficiente. interceptdegree Celsius (Associative prediction methods: Arrested development and correlativity analysis. centrist)

73. The grade or strength of a additive relationship is shown by thea. alphab. meanc. intend absolute divergenced. correlativity coefficiente. RSFEvitamin D (Associative prediction methods: Arrested development and correlativity analysis. centrist)

74. If two variables were absolutely correlated. the correlativity coefficient R would bea. 0b. less than 1c. precisely 1d. -1 or +1e. greater than 1vitamin D

(Associative prediction methods: Arrested development and correlativity analysis. centrist)

75. The last four hebdomadal values of gross revenues were 80. 100. 105. and 90 units. The last four prognosiss were 60. 80. 95. and 75 units. These prognosiss illustratea. qualitative methodsb. adaptative smoothingc. sloped. prejudice. tendency projectionvitamin D (Monitoring and commanding prognosiss. easy)

76. The tracking signal is thea. standard mistake of the estimationb. running amount of forecast mistakes (RSFE)c. intend absolute divergence (MAD)d. ratio RSFE/MADe. average absolute per centum mistake (MAPE)vitamin D (Monitoring and commanding prognosiss. centrist)

77. Computer monitoring of tracking signals and self-adjustment if a signal passes a preset bound is characteristic ofa. exponential smoothing including tendencyb. adaptative smoothingc. tendency projectiond. focal point predictione. multiple arrested development analysisB (Monitoring and commanding prognosiss. centrist)

78. Many services maintain records of gross revenues observinga. the twenty-four hours of the hebdomadb. unusual eventsc. conditionsd. vacationse. all of the abovevitamin E (Forecasting in the service sector. moderate)

79. Taco Bell's alone employee programming patterns are partially the consequence of utilizinga. point-of-sale computing machines to track nutrient gross revenues in 15 minute intervalsb. focal point predictionc. a six-week

moving mean prediction technique. multiple arrested developments. a and degree Celsius are both right vitamin E (Forecasting in the service sector. moderate)

96. A disbelieving director asks what short-range prognoses can be used for. Give her three possible uses/purposes. Any three of: planning buying. occupation scheduling. work force degrees. occupation assignments. production degrees. (What is calculating? centrist)

97. A disbelieving director asks what long-range prognoses can be used for. Give her three possible uses/purposes. Any three of: be aftering new merchandises. capital outgos. installation location or enlargement. research and development. (What is calculating? centrist)

98. Describe the three prediction clip skylines and their usage. Forecasting clip skylines are: short range—generally less than three months. used for buying. occupation scheduling. work force degrees. production degrees ; medium range—usually from three months up to three old ages. used for gross revenues be aftering. production planning and budgeting. hard currency budgeting. analysing operating programs ; long range—usually three old ages or more. used for new merchandise development. capital outgos. installation planning. and R & A ; D. (What is calculating? centrist)

99. List and briefly describe the three major types of prognoses. The three types are economic. technological. and demand ; economic refers to macroeconomic. growing and fiscal variables ; technological refers to calculating sum of technological progress. or futurism ; demand refers to merchandise demand. (Types of prognoses. centrist)

<https://assignbuster.com/forecasting/>

100. List the seven stairss involved in prediction. 1. Determine the usage of the prognosis. 2. Choose the points that are to be forecast. 3. Determine the clip skyline of the prognosis. 4. Choose the prediction theoretical account (s) . 5. Gather the informations needed to do the prognosis. 6. Make the prognosis. 7. Validate the prediction manner and implement the consequences.(Seven stairss in the prediction procedure. centrist)

101. What are the worlds of calculating that companies face? First. prognosiss are seldom perfect. Second. most calculating techniques assume that there is some implicit in stableness in the system. Finally. both merchandise household and aggregative prognosiss are more accurate than single merchandise prognosiss. (Seven stairss in the prediction system. centrist)

102. What are the differences between quantitative and qualitative prediction methods? Quantitative methods use mathematical theoretical accounts to analyse historical informations. Qualitative methods incorporate such factors as the determination maker’s intuition. emotions. personal experiences. and value systems in finding the prognosis. (Forecasting attacks. centrist)

103. List four quantitative prediction methods. The list includes naif. traveling norms. exponential smoothing. tendency projection. and additive arrested development. (Forecasting attacks. centrist)

104. What is a time-series prediction theoretical account? A clip series calculating theoretical account is any mathematical theoretical account that

uses historical values of the measure of involvement to foretell future values of that measure. (Forecasting attacks. easy)

105. What is the difference between an associatory theoretical account and a time-series theoretical account? A clip series theoretical account uses merely historical values of the measure of involvement to foretell future values of that measure. The associatory theoretical account, on the other hand, efforts to place implicit in causes or factors that control the fluctuation of the measure of involvement, predict future values of these factors, and utilize these anticipations in a theoretical account to foretell future values of the specific measure of involvement. (Forecasting attacks. centrist)

106. Name and discourse three qualitative calculating methods. Qualitative prediction methods include: jury of executive sentiment, where high-level directors arrive at a group estimation of demand ; gross revenues force composite, where salespersons' estimations are aggregated ; Delphi method, where respondents provide inputs to a group of determination shapers ; the group of determination shapers, frequently experts, so do the existent prognosis ; consumer market study, where consumers are queried about their future purchase programs. (Forecasting attacks. centrist)

107. List the four constituents of a clip series. Which one of these is seldom forecast? Why is this so? Trend, seasonality, rhythms, and random fluctuation. Since random fluctuations follow no discernable form, they can non be predicted, and therefore are non forecast. (Time-series prediction. centrist)

108. Compare seasonal effects and cyclical effects. A rhythm is longer (typically several old ages) than a season (typically yearss. hebdomads. months. or quarters) . A rhythm has variable continuance. while a season has fixed continuance and regular repeat. (Time-series prediction. centrist)

109. Distinguish between a moving mean theoretical account and an exponential smoothing theoretical account. Exponential smoothing is a leaden moving mean theoretical account wherein old values are weighted in a specific manner—in peculiar. all old values are weighted with a set of weights that decline exponentially. (Time-series prediction. centrist)

110. Describe three popular steps of prognosis truth. Measures of prognosis truth include: (a) MAD (average absolute divergence) . This is a amount of the absolute values of single mistakes divided by the figure of periods of informations. (B) MSE (average squared mistake) . This is the norm of the squared differences between the prognosis and ascertained values. (degree Celsius) MAPE (average absolute per centum mistake) is independent of the magnitude of the variable being forecast. (Forecasting attacks: Measuring prognosis mistake. centrist)

111. Give an example—other than a eating house or other food-service firm—of an organisation that experiences an hourly seasonal form. (That is. each hr of the twenty-four hours has a form that tends to reiterate twenty-four hours after day.) Explain. Answer will change. However. two non-food illustrations would be Bankss and film theatres. (Time-series prediction. centrist)

112. Explain the function of arrested development theoretical accounts (clip series and otherwise) in prediction. That is. how is tendency

projection able to calculate? How is arrested development used for causal prediction? For tendency projection. the independent variable is clip. The tendency projection equation has a incline that is the alteration in demand per period. To calculate the demand for period t. execute the computation $a + bt$. For causal prediction. the independent variables are forecasters of the prognosis value or dependent variable. The incline of the arrested development equation is the alteration in the Y variable per unit alteration in the X variable. (Time-series prediction. hard)

113. List three advantages of the traveling mean forecasting theoretical account. List three disadvantages of the traveling mean forecasting theoretical account. Two advantages of the theoretical account are that it uses simple computations. it smoothes out sudden fluctuations. and it is easy for users to understand. The disadvantages are that the norms ever stay within past scopes. that they require extended record maintaining of past informations. and that they do non pick up on tendencies really good. (Time-series prediction. centrist)

114. What does it intend to “ decompose” a clip series? To break up a clip series means to interrupt past informations down into constituents of tendencies. seasonality. rhythms. and random blips. and to project them frontward. (Time-series prediction. easy)

115. Distinguish a dependent variable from an independent variable. The independent variable causes some behaviour in the dependent variable ; the dependant variable shows the consequence of alterations in the independent

variable. (Associative prediction methods: Arrested development and correlativity. centrist)

116. Explain. in your own words. the significance of the coefficient of finding. The coefficient of finding measures the sum (per centum) of entire fluctuation in the information that is explained by the theoretical account. (Associative prediction methods: Arrested development and correlativity. centrist)

117. What is a tracking signal? How is it calculated? Explain the connexion between adaptive smoothing and trailing signals. A tracking signal is a step of how good the prognosis really predicts. Its computation is the ratio of RSFE to MAD. The larger the absolute tracking signal. the worse the prognosis is executing. Adaptive smoothing sets bounds to the tracking signal. and makes alterations to its prediction theoretical accounts when the tracking signal goes beyond those bounds. (Monitoring and commanding prognosis. centrist)

118. What is focus prediction? It is a prediction method that tries a assortment of computing machine theoretical accounts. and selects the 1 that is best for a peculiar application. (Monitoring and commanding prognosis. easy)

124. A direction analyst is utilizing exponential smoothing to foretell ware returns at an upscale subdivision of a section shop concatenation. Given an existent figure of returns of 154 points in the most recent period completed. a prognosis of 172 points for that period. and a smoothing invariable of 0.3. what is the prognosis for the following period? How would the prognosis be

<https://assignbuster.com/forecasting/>

changed if the smoothing invariable were 0.6? Explain the difference in footings of alpha and reactivity. 166.6 ; 161.2 The larger the smoothing invariable in an exponentially smoothed prognosis, the more antiphonal the prognosis. (Time-series prediction. easy)

126. The undermentioned tendency projection is used to foretell quarterly demand: $Y = 250 - 2.5t$, where $t = 1$ in the first one-fourth of 2004.

Seasonal (quarterly) relations are Quarter 1 = 1.5 ; Quarter 2 = 0.8 ; Quarter 3 = 1.1 ; and Quarter 4 = 0.6. What is the seasonally adjusted prognosis for the four quarters of 2006?

Period Projection Adjusted 9 227.5341.2510 225180.0011222.5224.
7512220132.00 (Time-series prediction. centrist)

127. Jim's section at a local section shop has tracked the gross revenues of a merchandise over the last 10 hebdomads. Forecast demand utilizing exponential smoothing with an alpha of 0.4, and an initial prognosis of 28.0. Calculate MAD and the tracking signal. What do you urge?

130. A little family-owned eating house uses a weeklong moving mean theoretical account to find work force demands. These prognosiss need to be seasonalized because each twenty-four hours of the hebdomad has its ain demand form. The seasonal relations for each twenty-four hours of the hebdomad are: Monday. 0.445 ; Tuesday. 0.791 ; Wednesday. 0.927 ; Thursday. 1.033 ; Friday. 1.422 ; Saturday. 1.478 ; and Sunday 0.903. Average day-to-day demand based on the most recent moving norm is 194 frequenters. What is the seasonalized prognosis for each twenty-four hours of following hebdomad? The mean value multiplied by each day's seasonal

index. Monday: $194 \text{ ten. } 445 = 86$; Tuesday: $194 \text{ ten. } 791 = 153$;
 Wednesday: $194 \text{ ten. } 927 = 180$; Thursday: $194 \times 1.033 = 200$; Friday: 194
 $\times 1.422 = 276$; Saturday: $194 \times 1.478 = 287$; and Sunday: $194 \text{ ten. } 903 =$
 175. (Associative prediction methods: Arrested development and
 correlativity. centrist)

131. A eating house has tracked the figure of repasts served at tiffin over the
 last four hebdomads. The information shows small in footings of tendencies.
 but does expose significant fluctuation by twenty-four hours of the
 hebdomad. Use the undermentioned information to find the seasonal (daily)
 index for this eating house.

132. A house has modeled its experience with industrial accidents and found
 that the figure of accidents per twelvemonth (Y) is related to the figure of
 employees (X) by the arrested development equation $Y = 3.3 + 0.049 \times X$.
 R-Square is 0.68. The arrested development is based on 20 one-year
 observations. The steadfast intends to use 480 workers following
 twelvemonth. How many accidents do you project? How much assurance do
 you hold in that prognosis? $Y = 3.3 + 0.049 \times 480 = 3.3 + 23.52 = 26.82$
 accidents. This is non a clip series. so following twelvemonth = twelvemonth
 21 is of no relevancy. Assurance comes from the coefficient of finding ; the
 theoretical account explains 68 % of the fluctuation in figure of accidents.
 which seems respectable. (Associative prediction methods: Arrested
 development and correlativity. centrist)

133. Demand for a certain merchandise is forecast to be 8.000 units per
 month. averaged over all 12 months of the twelvemonth. The merchandise

follows a seasonal form, for which the January monthly index is 1.25. What is the seasonally-adjusted gross revenues prognosis for January? $8.000 \times 1.25 = 10.000$ (Time-series prediction. easy)

134. A seasonal index for a monthly series is about to be calculated on the footing of three years' accretion of informations. The three old July values were 110, 135, and 130. The norm over all months is 160. The approximative seasonal index for July is $(110 + 135 + 130) / 3 = 125$; $125/160 = 0.781$ (Time-series prediction. centrist)

135. Marie Bain is the production director at a company that manufactures hot H2O warmers. Marie needs a demand prognosis for the following few old ages to assist make up one's mind whether to add new production capacity. The company's gross revenues history (in 1000s of units) is shown in the tabular array below. Use exponential smoothing with tendency accommodation, to calculate demand for period 6. The initial prognosis for period 1 was 11 units ; the initial estimation of tendency was 0. The smoothing invariables are $\alpha = .3$ and $\beta = .3$

136. The quarterly gross revenues for specific educational package over the past three old ages are given in the undermentioned tabular array. Calculate the four seasonal factors.

137. An advanced restauranter owns and operates a twelve " Ultimate Low-Carb" eating houses in northern Arkansas. His signature point is a cheese-encrusted beef medallion wrapped in boodle. Gross saless (X, in 1000000s of dollars) is related to Net incomes (Y, in 100s of 1000s of dollars) by the arrested development equation $Y = 8.21 + 0.76 X$. What is your

prognosis of net income for a shop with gross revenues of \$ 40 million? \$ 50 million?

Students must acknowledge that gross revenues is the independent variable and net incomes is dependent ; the job is non a clip series. A shop with \$ 40 million in gross revenues: $40 \times 0.76 = 30.4$; $30.4 + 8.21 = 38.61$. or \$ 3.861.000 in net income ; \$ 50 million in gross revenues is estimated to gain 46.21 or \$ 4.621.000. (Associative prediction methods: Arrested development and correlativity. centrist)

138. Arnold Tofu owns and operates a concatenation of 12 vegetable protein “ hamburger” eating houses in northern Louisiana. Gross saless figures and net incomes for the shops are in the tabular array below. Gross saless are given in 1000000s of dollars ; net incomes are in 100s of 1000s of dollars. Calculate a arrested development line for the information. What is your prognosis of net income for a shop with gross revenues of \$ 24 million? \$ 30 million?

Students must acknowledge that “ sales” is the independent variable and net incomes is dependent. Shop figure is non a variable. and the job is non a clip series. The arrested development equation is $Y = 5.936 + 1.421 X$ ($Y =$ net income. Ten = gross revenues) . A shop with \$ 24 million in gross revenues is estimated to gain 40.04 or \$ 4.004.000 ; \$ 30 million in gross revenues should give 48.566 or \$ 4.856.600 in net income. (Associative prediction methods: Arrested development and correlativity. centrist)

139. The section director utilizing a combination of methods has forecast gross revenues of wassailers at a local section shop. Calculate the MAD for <https://assignbuster.com/forecasting/>

themanager’s prognosis. Compare the manager’s prognosis against a naif prognosis. Which is better?