TYPE A

OBJECTIVE TYPE QUESTIONS

[1 Mark]

Multiple Choice Questions

1. To create an empty Series object, you can use :

   (*a*) pd.Series(empty)
   (*b*) pd.Series(np.NaN)
   (*c*) pd.Series( )
   (*d*) all of these

2. To specify datatype *int16* for a Series object, you can write :

   (*a*) pd.Series(data = array, dtype = int16)
   (*b*) pd.Series(data = array, dtype = numpy.int16)
   (*c*) pd.Series(data = array.dtype = pandas.int16)
   (*d*) all of the above

3. To get the number of dimensions of a Series object, _____ attribute is displayed.

   (*a*) index (*b*) size (*c*) itemsize (*d*) ndim

4. To get the size of the datatype of the items in Series object, you can display _____ attribute.

   (*a*) index (*b*) size (*c*) itemsize (*d*) ndim

5. To get the number of elements in a Series object, _____ attribute may be used.
(a) index (b) size (c) itemsize (d) ndim

6. To get the number of bytes of the Series data, _____ attribute is displayed.
(a) hasnans (b) nbytes (c) ndim (d) dtype

7. To check if the Series object contains NaN values, _____ attribute is displayed.
(a) hasnans (b) nbytes (c) ndim (d) dtype

8. To display third element of a Series object *S*, you will write _____ .
(a) S[:3] (b) S[2] (c) S[3] (d) S[:2]

9. To display first three elements of a Series object *S*, you may write _____ .
(a) S[:3] (b) S[3] (c) S[3rd] (d) all of these

10. To display last five rows of a Series object *S*, you may write _____ .
(a) head( ) (b) head(5)
(c) tail( ) (d) tail(5)

11. _____ Pandas object cannot grow in size.
(a) Dataframe (b) Series
(c) Panel (d) None of these

12. Given a Pandas series called Sequences, the command which will display the first 4 rows is _____ . [CBSE Sample Paper 2020-21]
(a) `print(Sequences.head(4))`
(b) `print(Sequences.Head(4))`
(c) `print(Sequences.heads(4)`
(d) `print(Sequences.Heads(4))`

13. If a Dataframe is created using a 2D dictionary, then the indexes/row labels are formed from _____ .
(a) dictionary's values (b) inner dictionary's keys
(c) outer dictionary's keys (d) none of these

14. If a dataframe is created using a 2D dictionary, then the column labels are formed from _____ .
(a) dictionary's values (b) inner dictionary's keys
(c) outer dictionary's keys (d) none of these

15. The axis 0 identifies a dataframe's _____ .
(a) rows (b) columns (c) values (d) datatype

16. The axis 1 identifies a dataframe's _____ .
(a) rows (b) columns (c) values (d) datatype

17. To get the number of elements in a dataframe, _____ attribute may be used.
(a) size (b) shape (c) values (d) ndim

18. To get a number representing number of axes in a dataframe, _____ attribute may be used.
(a) size (b) shape (c) values (d) ndim

19. To get the transpose of a dataframe D1, you can write _____ .

(a) D1.T (b) D1.Transpose

(c) D1.Swap (d) All of these

20. To extract row/column from a dataframe, _____ function may be used.

(a) row( ) (b) column( ) (c) loc( ) (d) all of these

21. To display the 3rd, 4th and 5th columns from the 6th to 9th rows of a dataframe DF, you can write _____ .

(a) DF.loc[6:9, 3:5] (b) DF.loc[6:10, 3:6]

(c) DF.iloc[6:10, 3:6] (d) DF.iloc[6:9, 3:5]

22. To change the 5th column's value at 3rd row as 35 in dataframe DF, you can write _____ .

(a) DF[4, 6] = 35 (b) DF[3, 5] = 35

(c) DF.iat[4, 6] = 35 (d) DF.iat[3, 5] = 35

23. Which among the following options can be used to create a DataFrame in Pandas ?

(a) A scalar value (b) An ndarray

(c) A python dict (d) All of these

24. Identify the correct statement :

(a) Dataframes can change their size.

(b) Series act in a way similar to that of an array.

(c) Both (a) and (b)

(d) None of the above

25. To delete a column from a DataFrame, you may use _____ statement.

(a) remove (b) del (c) drop (d) cancel

26. To delete a row from a DataFrame, you may use ____ statement.

(a) remove (b) del (c) drop (d) cancel

27. To iterate over horizontal subsets of dataframe, _____ function may be used.

(a) iterate( ) (b) iterrows( ) (c) itercols( ) (d) iteritems( )

28. To iterate over vertical subsets of a dataframe, _____ function may be used.

(a) iterate( ) (b) iterrows( ) (c) itercols( ) (d) iteritems( )

29. To add two dataframes' values, _____ function may be used.

(a) plus (b) rplus (c) add (d) radd

30. To subtract the values of two dataframes, _____ function may be used.

(a) sub (b) difference (c) minus (d) rsub

31. To divide the values of two dataframes, _____ function may be used.

(a) divide (b) div (c) rdiv (d) division

32. Which of the following two functions will produce the same result ?

(a) add (b) radd (c) sub (d) rsub

33. To get the 3 bottommost rows from a dataframe, you may use _____ function.

(a) bottom (b) bottom(3) (c) tail( ) (d) tail(3)

34. Which of the following arguments lets you specify index labels of dataframe through Dataframe( ) ?

(a) index
(b) columns
(c) label
(d) all of these

35. To get top 5 rows of a dataframe, you may use _____ function.

(a) head( )
(b) head(5)
(c) top( )
(d) top(5)

36. Which of the following can be used to specify data for creating a Dataframe ?

(a) Series
(b) DataFrame
(c) Structured ndarray
(d) All of these

37. All Pandas' data structures are _____ mutable but not always _____ mutable.

(a) size, value
(b) semantic, size
(c) value, size
(d) none of these

38. Which of the following statement will import Pandas library ?

(a) import pandas as pd
(b) import panda as py
(c) import pandas as py
(d) All of these

39. What will be the output for the following code ?

```
import pandas as pd
s = pd.Series([1,2,3,4,5],index = ['a','b','c','d','e'])
print ( s['a'] )
```

(a) 1 (b) 2 (c) 3 (d) 4

40. What will be the output for the following code ?

```
import pandas as pd
import numpy as np
s = pd.Series(np.random.randn(2))
print (s.size)
```

(a) 0 (b) 1 (c) 2 (d) 3

41. What will be the output for the following code ?

```
import pandas as pd
import numpy as np
s = pd.Series(np.random.randn(4))
print (s.ndim)
```

(a) 0 (b) 1 (c) 2 (d) 3

42. What is the purpose of using **ndim** attribute ?

(a) It returns the number of elements in the given data structure.
(b) It returns the Series object in the form of an ndarray.
(c) It returns a list of the indexes / labels.
(d) It returns the number of dimensions of the given data structure.

43. PyPlot is an interface of Python's _____ library.

(a) seaborn (b) plotly (c) ggplot (d) matplotlib

44. For 2D plotting using a Python library, which library interface is often used ?
(a) seaborn (b) plotly
(c) matplotlib (d) matplotlib.pyplot

45. Which of the following is not a valid chart type ?
(a) Histogram (b) Statistical (c) Pie (d) Box

46. Which of the following is not a valid plotting function of pyplot ?
(a) plot( ) (b) bar( ) (c) line( ) (d) pie( )

47. Which of the following plotting functions does not plot multiple data series ?
(a) plot( ) (b) bar( ) (c) pie( ) (d) barh( )

48. The plot which tells the trend between two graphed variables is the _____ graph/chart.
(a) line (b) scatter (c) bar (d) pie

49. Which of the following functions is used to create a line chart ?
(a) line( ) (b) plot( ) (c) chart( ) (d) plotline( )

50. Which of the following function will produce a bar chart ?
(a) plot( ) (b) bar( ) (c) plotbar( ) (d) barh( )

51. Which of the following function will create a vertical bar chart ?
(a) plot( ) (b) bar( ) (c) plotbar( ) (d) barh( )

52. Which of the following function will create a horizontal bar chart ?
(a) plot( ) (b) bar( ) (c) plotbar( ) (d) barh( )

53. The datapoints plotted on a graph are called _____ .
(a) points (b) pointers (c) marks (d) markers

54. A _____ graph is a type of chart which displays information as a series of data points connected by straight line segments.
(a) line (b) bar (c) pie (d) boxplot

55. Which argument of bar( ) lets you set the thickness of bar ?
(a) thick (b) thickness
(c) width (d) barwidth

56. Which function lets you set the title of the plot ?
(a) title( ) (b) plottitle( )
(c) graphtitle( ) (d) All of these

57. The command used to give a heading to a graph is _____ .
(a) plt.show( ) (b) plt.plot( ) (c) plt.xlabel( ) (d) plt.title( )

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58. Which function would you use to set the limits for x-axis of the plot ?
(a) limits( ) (b) xlimits( ) (c) xlim( ) (d) lim( )

59. Which function is used to show legends ?
(a) display( ) (b) show( ) (c) legend( ) (d) legends( )

60. Which argument must be set with plotting functions for **legend( )** to display the legends ?

(*a*) data (*b*) label (*c*) name (*d*) sequence

61. Which function is used to create a histogram ?

(*a*) histo( ) (*b*) histogram( ) (*c*) hist( ) (*d*) histtype

62. Which of the following is not a valid plotting function of pyplot ?

(*a*) plot( ) (*b*) bar( ) (*c*) line( ) (*d*) pie( )

63. Which of the following plotting functions does not plot multiple data series ?

(*a*) plot( ) (*b*) bar( ) (*c*) pie( ) (*d*) barh( )

64. The plot which tells the trend between two graphed variables is the _____ graph/chart.

(*a*) line (*b*) scatter (*c*) bar (*d*) pie

65. A CSV file can take _____ character as separator.

(*a*) , (*b*) ~ (*c*) | (*d*) \t

(*e*) only (*a*) (*f*) all of these

66. In order to work with CSV files from Pandas, you need to import _____ , other than pandas.

(*a*) csv (*b*) pandas.io

(*c*) newcsv (*d*) no extra package required

67. The correct statement to read from a CSV file in a dataframe is :

(*a*) <DF>.read_csv(<file>) (*b*) <File>. read_csv( )(<DF>)

(*c*) <DF> = pandas.read(<file>) (*d*) <DF> = pandas.read_csv(<files>)

68. Which argument do you specify with read_csv( ) to specify a separator character ?

(*a*) character (*b*) char (*c*) separator (*d*) sep

69. To suppress first row as header, which of the following arguments is to be given in read_csv( ) ?

(*a*) noheader = True (*b*) header = None

(*c*) skipheader = True (*d*) header = Null

70. To read specific number of rows from a CSV file, which argument is to be given in read_csv( ) ?

(*a*) rows = <n> (*b*) nrows = <n>

(*c*) n_rows = <n> (*d*) number_rows = <n>

71. To skip first 5 rows of CSV file, which argument will you give in read_csv( ) ?

(*a*) skiprows = 5 (*b*) skip_rows = 5

(*c*) skip = 5 (*d*) noread = 5

72. To skip 1st, 3rd and 5th rows of CSV file, which argument will you give in read_csv( ) ?

(*a*) skiprows = 1 | 3 | 5 (*b*) skiprows = [1, 5, 1]

(*c*) skiprows = [1, 3, 5] (*d*) Any of these

73. While reading from a CSV file, to use a column's values as index labels, argument given in read_CSV( ) is :

(*a*) index (*b*) index_col

(*c*) index_values (*d*) index_label

74. While writing a dataframe onto a CSV file, which argument would you use in to_sql( ) for NaN values' representation as NULL ?

(*a*) NaN = NULL (*b*) na_rep = NULL

(*c*) na_value = NULL (*d*) na = NULL

Fill in the Blanks

75. _____ is a popular data-science library of Python.
76. A _____ is a Pandas data structure that represents a 1-D array like object.
77. A _____ is a Pandas data structure that represents a 2-D array like object.
78. Pandas' _____ function creates a Series object.
79. To specify datatype for a Series object, _____ argument is used.
80. The _____ function on Series object returns total elements in it including NaNs.
81. The _____ function on Series object returns only the count of non-NaN values in it.
82. Series is _____ mutable but not _____ mutable.
83. Pandas' _____ function creates a Dataframe object.
84. Dataframe is _____ mutable as well as _____ mutable.
85. To access values using row labels you can use DF._____ .
86. To access individual value, you can use DF._____ using row/column index labels.
87. To access individual value, you can use DF._____ using row/column integer position.
88. The rename( ) function requires _____ argument to make changes in the original dataframe.
89. _____ and _____ functions help you to iterate over a dataframe.
90. To add two dataframes, you may use functions _____ or _____ .
91. In a DataFrame, Axis = 1 represents the _____ elements. [CBSE Sample Paper 2020-21]
92. To concatenate two string columns of a dataframe, _____ operator is used.
93. A _____ is a plot that shows the underlying frequency distribution of a set of continuous data.
94. Pyplot interface is a collection of methods within _____ library of Python.
95. Pyplot's _____ function is used to create line charts.
96. Pyplot's _____ function is used to create horizontal bar charts.
97. Using Python Matplotlib _____ can be used to count how many values fall into each interval. (*line plot/bar graph/histogram*) [CBSE Sample Paper 2020-21]
98. The _____ function is used to specify ticks for *x*-axis.

99. To save a plot, _____ function is used.
100. The _____ argument of hist( ) is set to create a horizontal histogram.
101. Full form of CSV is _____ _____ _____ .
102. Default separator of CSV files is _____ .
103. To load data of a CSV file in a dataframe _____ function is used.
104. To write data of a dataframe in a CSV file, _____ function is used.
105. To specify a separator other than comma in a CSV file, _____ argument is used.
106. To specify the string to represent NaN values in a CSV file, _____ argument in to_sql( ) is used.

True/False Questions

107. A Pandas Series object can be thought of as a column or a row, essentially.
108. Both Series and DataFrame are one dimensional data structure objects.
109. While series is a one-dimensional data structure object, dataframe is a multi-dimensional data structure object.
110. A Series object is value mutable.
111. A Series object is size mutable.
112. A DataFrame object is value mutable
113. A DataFrame object is size mutable.
114. There is no difference between a NumPy array and a Series object.
115. A DataFrame can be thought of as a group of multiple Series objects.
116. A DataFrame has similar properties as a Series object.
117. A Series object can store only homogeneous (same type of) elements.
118. A DataFrame object can store only homogeneous elements.
119. The del statement can remove the rows as well as columns in a dataframe.
120. The rename( ) always makes changes in the default dataframe.
121. The iteritems( ) iterates over the rows of a dataframe.
122. The iteritems( ) iterates over the columns of a dataframe.
123. The result produced by the functions sub( ) and rsub( ) is the same.
124. The result produced by the functions add( ) and radd( ) is the same.
125. The result produced by the functions div( ) and rdiv( ) is the same.
126. The info( ) and describe( ) list the same information about a dataframe.
127. Function add( ) and operator + give the same result.
128. Function rsub( ) and operator – give the same result.
129. The minus – operator's result is same as sub( ) and rsub( ).
130. Python integer datatype can store NaN values.
131. PyPlot is a sub-library of matplotlib library.

132. Statement **import pyplot.matplotlib** is a valid statement for working on pyplot functions.

133. A line chart can be plotted using pyplot library's line( ) function.

134. A line chart can be plotted using pyplot library's plot( ) function.

135. A bar chart can be plotted using pyplot library's bar( ) function.

136. A bar chart can be plotted using pyplot library's barh( ) function.

137. It is not possible to plot multiple series of values in the same bar graph.

138. A standard marker of representing a non-number data in Python libraries is NaN.

139. The bar( ) function can also create horizontal bar charts.

140. The plot is always as per the data series being plotted irrespective of the **xlim( )**.

141. CSV files can only store comma separated values.

142. The number of rows in a dataframe are by default equal to number of rows in a CSV file, it created from a CSV file.

143. Pandas can only read from CSV files but can't write CSV files.

144. You need to import CSV package in order to store a dataframe in a CSV file.

145. The read_csv( ) can handle different separator characters but not to_csv( ).