

100 - Practice Questions

Q1. What will be the output of `len([10, 20, 30])`?

- A) 2
- B) 3 ✓
- C) 4
- D) Error

Q2. Which method is used to add an element at the end of a list?

- A) `append()` ✓
- B) `add()`
- C) `extend()`
- D) `insert()`

Q3. What will `list(range(2, 8, 2))` return?

- A) [2, 4, 6, 8]
- B) [2, 4, 6] ✓
- C) [4, 6, 8]
- D) Error

Q4. Which operation removes and returns the last element from a list?

- A) `pop()` ✓
- B) `remove()`
- C) `del`
- D) `cut()`

Q5. What is the output of:

```
a = [1, 2, 3]
a[1] = 10
print(a)
```

- A) [1, 10, 3] ✓
- B) [1, 2, 3]
- C) Error
- D) [10, 2, 3]

Q6. Which method merges two lists in-place?

- A) `merge()`
- B) `extend()` ✓
- C) `append()`
- D) `join()`

Q7. What is the result of `[1, 2] * 2`?

- A) `[1, 2, 1, 2]` ✓
- B) `[2, 4]`
- C) `[1, 2, 2, 4]`
- D) Error

Q8. Which method removes the first occurrence of an item?

- A) `delete()`
- B) `pop()`
- C) `remove()` ✓
- D) `discard()`

Q9. What does `min([3, 1, 4])` return?

- A) 1 ✓
- B) 3
- C) 4
- D) Error

Q10. Which statement creates a list with 5 zeros?

- A) `[0]*5` ✓
- B) `[0:5]`
- C) `list(0,5)`
- D) `zeros(5)`

Q11. Which of these creates a shallow copy of a list?

- A) `list.copy()`
- B) `list[:]`
- C) `copy.copy(list)`
- D) All of the above ✓

Q12. What is the output of:

```
a = [1, 2, 3]
print(a[::-1])
```

- A) `[3, 2, 1]` ✓
- B) `[1, 2, 3]`
- C) Error
- D) None

Q13. Which operator checks if an element exists in a list?

- A) `in` ✓
- B) `has`
- C) `exist`
- D) `contain`

Section 2 – Tuples (12 Questions)

Q14. Which of these is a tuple?

- A) (1, 2, 3) ✓
- B) [1, 2, 3]
- C) {1, 2, 3}
- D) tuple(1, 2, 3)

Q15. Tuples are:

- A) Mutable
- B) Immutable ✓
- C) Partially mutable
- D) None

Q16. What is the output of (1,) ?

- A) int
- B) tuple with one element ✓
- C) list
- D) Error

Q17. How do you concatenate tuples?

- A) + ✓
- B) append()
- C) extend()
- D) join()

Q18. What will (1, 2) * 2 return?

- A) (1, 2, 1, 2) ✓
- B) (2, 4)
- C) (1, 2, 2, 4)
- D) Error

Q19. Which function returns the length of a tuple?

- A) length()
- B) len() ✓
- C) size()
- D) count()

Q20. What is the output of:

```
python
CopyEdit
t = (10, 20, 30)
print(t[1])
```

- A) 10
- B) 20 ✓
- C) 30
- D) Error

Q21. Can a tuple contain mutable elements?

- A) Yes ✓
- B) No
- C) Only strings
- D) Only numbers

Q22. Which method counts occurrences of an element in a tuple?

- A) count() ✓
- B) index()
- C) find()
- D) search()

Q23. How to get index of an element in a tuple?

- A) index() ✓
- B) find()
- C) position()
- D) locate()

Q24. Which of these will create an empty tuple?

- A) ()
- B) tuple()
- C) Both A and B ✓
- D) None

Q25. What is the output of:

```
tuple("abc")
```

- A) ('a', 'b', 'c') ✓
- B) ['a', 'b', 'c']
- C) "abc"
- D) Error

Section 3 – Sets (12 Questions)

Q26. Which is a valid set creation?

- A) {1, 2, 3} ✓
- B) set[1, 2, 3]

- C) [1, 2, 3]
- D) (1, 2, 3)

Q27. Sets are:

- A) Ordered
- B) Unordered ✓
- C) Indexed
- D) Immutable

Q28. Which removes an element if it exists without error?

- A) remove()
- B) discard() ✓
- C) pop()
- D) delete()

Q29. What is $\{1, 2, 3\} \mid \{3, 4\}$?

- A) $\{1, 2, 3, 4\}$ ✓
- B) $\{3\}$
- C) $\{1, 2, 4\}$
- D) Error

Q30. Intersection of $\{1, 2\}$ and $\{2, 3\}$ is:

- A) $\{2\}$ ✓
- B) $\{1, 2, 3\}$
- C) $\{\}$
- D) None

Q31. Difference $\{1, 2\} - \{2, 3\}$ is:

- A) $\{1\}$ ✓
- B) $\{2\}$
- C) $\{3\}$
- D) None

Q32. Symmetric difference $\{1, 2\} \wedge \{2, 3\}$ is:

- A) $\{1, 3\}$ ✓
- B) $\{2\}$
- C) $\{1, 2, 3\}$
- D) None

Q33. Which method adds an element to a set?

- A) add() ✓
- B) append()
- C) push()
- D) insert()

Q34. Can sets contain duplicates?

- A) Yes
- B) No ✓
- C) Only strings
- D) Only numbers

Q35. Which removes a random element?

- A) pop() ✓
- B) discard()
- C) remove()
- D) delete()

Q36. Which function checks subset relation?

- A) subset()
- B) issubset() ✓
- C) contains()
- D) in

Q37. Empty set creation:

- A) set() ✓
- B) {}
- C) emptyset()
- D) None

Because this is **already long**, I'll need to give you the **Dictionaries, NumPy, Pandas, Scikit-learn, TensorFlow, and Keras sections** in the **next part** so formatting stays clean and you get the whole 100-question set without truncation.

Do you want me to **continue with all remaining sections right now** so you have the final full exam in one place? That will make it a single continuous master document.

You said:

Next part

ChatGPT said:

Perfect — here's the **continuation of the 100-question Python Data Science MCQ exam**, starting from **Dictionaries** and going all the way through **NumPy, Pandas, Scikit-learn, TensorFlow, and Keras**.

Section 4 – Dictionaries (12 Questions)

Q38. Which creates a dictionary?

- A) {1, 2, 3}
- B) {"a": 1, "b": 2} ✓
- C) dict[1, 2]
- D) ("a", 1)

Q39. How do you access a value by key?

- A) dict.key
- B) dict["key"] ✓
- C) dict->key
- D) dict.getvalue

Q40. Which method returns all keys?

- A) keys() ✓
- B) values()
- C) items()
- D) getkeys()

Q41. Which returns all values?

- A) keys()
- B) values() ✓
- C) items()
- D) getvalues()

Q42. Which returns key-value pairs?

- A) items() ✓
- B) pairs()
- C) tuples()
- D) entries()

Q43. What is the output of:

```
python
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d = {"a": 1}
print(d.get("b", 5))
```

- A) 1
- B) 5 ✓
- C) None
- D) Error

Q44. Which deletes a key-value pair?

- A) remove()
- B) pop() ✓

- C) discard()
- D) delitem()

Q45. Can dictionary keys be mutable?

- A) Yes
- B) No ✓
- C) Only strings
- D) Only numbers

Q46. Which merges two dictionaries in Python 3.9+?

- A) merge()
- B) update()
- C) dict1 | dict2 ✓
- D) concat()

Q47. What will:

```
python
CopyEdit
dict.fromkeys(['a', 'b'], 0)
```

return?

- A) {'a':0,'b':0} ✓
- B) {'a':0,'b':None}
- C) ['a','b']
- D) Error

Q48. Which method removes all items?

- A) delete()
- B) clear() ✓
- C) empty()
- D) pop()

Q49. How to check if key exists?

- A) in ✓
- B) has
- C) contains
- D) exist

Section 5 – NumPy (13 Questions)

Q50. How to import NumPy with alias np?

- A) import numpy as np ✓

- B) import np
- C) include numpy np
- D) use numpy np

Q51. Which creates an array of zeros?

- A) np.zeros() ✓
- B) np.zero()
- C) np.empty()
- D) np.blank()

Q52. Which function creates an array with evenly spaced values?

- A) np.linspace() ✓
- B) np.range()
- C) np.space()
- D) np.fill()

Q53. Shape of array can be found using:

- A) shape()
- B) arr.shape ✓
- C) size()
- D) dim()

Q54. Which function changes array shape without changing data?

- A) reshape() ✓
- B) resize()
- C) transpose()
- D) flatten()

Q55. np.eye(3) creates:

- A) Zero matrix
- B) Identity matrix ✓
- C) Random matrix
- D) Error

Q56. Which gets the maximum value?

- A) arr.max() ✓
- B) arr.maximum()
- C) max(arr)
- D) np.maximum()

Q57. Which flattens a multi-dimensional array?

- A) flatten() ✓
- B) ravel()
- C) Both A & B ✓
- D) None

Q58. Which returns data type of array elements?

- A) dtype ✓
- B) type
- C) datatype
- D) gettype

Q59. Element-wise multiplication in NumPy is done with:

- A) * ✓
- B) dot()
- C) multiply() ✓
- D) Both A & C ✓

Q60. Dot product is computed using:

- A) *
- B) dot() ✓
- C) @ ✓
- D) Both B & C ✓

Q61. How to create an array from Python list?

- A) np.array(list) ✓
- B) np.asarray(list) ✓
- C) Both A & B ✓
- D) None

Q62. `np.arange(5)` returns:

- A) [1 2 3 4 5]
- B) [0 1 2 3 4] ✓
- C) [0 1 2 3 4 5]
- D) Error

Section 6 – Pandas (13 Questions)

Q63. How to import pandas as pd?

- A) import pandas pd
- B) import pandas as pd ✓
- C) use pandas pd
- D) include pandas pd

Q64. Which creates a Series?

- A) pd.Series() ✓
- B) pd.series()

- C) `pd.MakeSeries()`
- D) `pd.DataSeries()`

Q65. Which creates a DataFrame?

- A) `pd.DataFrame()` ✓
- B) `pd.dataframe()`
- C) `pd.MakeDF()`
- D) `dataframe()`

Q66. Which method reads CSV file?

- A) `pd.read_csv()` ✓
- B) `pd.load_csv()`
- C) `pd.csvread()`
- D) `pd.get_csv()`

Q67. Which method writes to CSV?

- A) `to_csv()` ✓
- B) `write_csv()`
- C) `export_csv()`
- D) `save_csv()`

Q68. Which returns first 5 rows?

- A) `head()` ✓
- B) `top()`
- C) `first()`
- D) `start()`

Q69. Which returns last 5 rows?

- A) `tail()` ✓
- B) `bottom()`
- C) `last()`
- D) `end()`

Q70. Selecting a column `df['col']` returns:

- A) Series ✓
- B) DataFrame
- C) list
- D) dict

Q71. Selecting multiple columns `df[['col1', 'col2']]` returns:

- A) Series
- B) DataFrame ✓
- C) list
- D) dict

Q72. `df.isnull()` returns:

- A) Boolean DataFrame ✓
- B) Boolean Series
- C) Null values
- D) Count of nulls

Q73. To drop missing values:

- A) `dropna()` ✓
- B) `remove_na()`
- C) `delete_na()`
- D) `null_drop()`

Q74. To fill missing values:

- A) `fillna()` ✓
- B) `replace_na()`
- C) `na_fill()`
- D) None

Q75. Which merges DataFrames by common columns?

- A) `merge()` ✓
 - B) `concat()`
 - C) `join()`
 - D) `combine()`
-

Section 7 – Scikit-learn (12 Questions)

Q76. Which imports `train_test_split`?

- A) `from sklearn.model_selection import train_test_split` ✓
- B) `import sklearn.train_test_split`
- C) `from sklearn import split`
- D) None

Q77. Which module contains classification algorithms?

- A) `sklearn.linear_model` ✓
- B) `sklearn.cluster`
- C) `sklearn.datasets`
- D) `sklearn.tree`

Q78. Which loads sample datasets?

- A) `sklearn.data`
- B) `sklearn.datasets` ✓
- C) `sklearn.samples`
- D) `sklearn.examples`

Q79. Which standardizes features?

- A) StandardScaler ✓
- B) MinMaxScaler
- C) normalize
- D) fit_transform

Q80. Which is used for decision trees?

- A) DecisionTreeClassifier ✓
- B) TreeClassifier
- C) TreeDecision
- D) DTree

Q81. Which splits data into folds for cross-validation?

- A) KFold ✓
- B) SplitFold
- C) CrossSplit
- D) CVFold

Q82. To measure accuracy:

- A) accuracy_score ✓
- B) score_accuracy
- C) calc_accuracy
- D) test_accuracy

Q83. Which is for clustering?

- A) KMeans ✓
- B) LinearRegression
- C) LogisticRegression
- D) RandomForestClassifier

Q84. Logistic regression is for:

- A) Classification ✓
- B) Regression only
- C) Clustering
- D) None

Q85. Which reduces dimensionality?

- A) PCA ✓
- B) LDA
- C) SVD
- D) All of the above ✓

Q86. To save models:

- A) joblib ✓
- B) pickle ✓

- C) Both A & B ✓
- D) None

Q87. Label encoding:

- A) LabelEncoder ✓
 - B) OneHotEncoder
 - C) label()
 - D) encode_labels
-

Section 8 – TensorFlow & Keras (13 Questions)

Q88. How to import TensorFlow as tf?

- A) import tensorflow as tf ✓
- B) import tf
- C) use tensorflow tf
- D) include tensorflow tf

Q89. Which API is high-level inside TensorFlow?

- A) Keras ✓
- B) NumPy
- C) Pandas
- D) Scikit-learn

Q90. Which creates a sequential model?

- A) tf.keras.Sequential() ✓
- B) tf.keras.sequence()
- C) tf.keras.model()
- D) tf.keras.makeSequential()

Q91. Which adds a dense layer?

- A) Dense() ✓
- B) Layer()
- C) FullyConnected()
- D) denseLayer()

Q92. Activation function for binary classification output:

- A) sigmoid ✓
- B) softmax
- C) relu
- D) tanh

Q93. Loss for binary classification:

- A) binary_crossentropy ✓

- B) categorical_crossentropy
- C) mse
- D) mae

Q94. Optimizer for adaptive learning rate:

- A) Adam ✓
- B) SGD
- C) RMSprop
- D) None

Q95. To compile a model:

- A) compile() ✓
- B) build()
- C) fit()
- D) run()

Q96. To train a model:

- A) fit() ✓
- B) train()
- C) compile()
- D) model()

Q97. To evaluate a model:

- A) evaluate() ✓
- B) test()
- C) score()
- D) assess()

Q98. To make predictions:

- A) predict() ✓
- B) forecast()
- C) infer()
- D) run()

Q99. Callback to stop training early:

- A) EarlyStopping ✓
- B) StopTrain
- C) StopEarly
- D) Halt

Q100. To save a model in TensorFlow/Keras:

- A) save() ✓
- B) store()
- C) keep()
- D) write()

