Collections questions & Exercise
Ai kaust academy

لا تنسونا من دعواتكم 🦦

الله يوفقنا جميعًا ونتقابل في الصيفيه 🙏🏻

هذي حساباتنا لو عندكم اي اقتراحات او ملفات ممكن ننشرها :

Ice Sara Muath

1

1. What is the output of the following Python code: `print(10 // 3)`?

- a) 2
- b) 3
- c) 4
- d) 3.33

2

2. Which of the following operators performs integer division in Python?

- a) /
- b) //
- c) %
- d) *

3

3. What will this code output: `x =; print(x)`?

- a) 1
- b) 2
- c) 3
- d) IndexError

4

4. How many elements will this list comprehension generate: `[x for x in range(5) if x % 2 == 0]`?

- a) 5
- b) 2
- c) 3
- d) 4

5

5. What is the result of `print(len("hello world"))`?

- a) 11
- b) 12
- c) 10
- d) 5

6

6. What appears in the output window when `print("Hello World!")` executes?

- a) Nothing (Runtime Error)
- b) "Hello World!"
- c) Hello World!
- d) Syntax Error

7

7. How can you determine the type of a variable in Python?

- a) Print the value
- b) Use the type() function
- c) Use the typeof operator
- d) Look at the declaration

8

8. What value is printed by `print(int(53.785))`?

- a) 54
- b) 53
- c) 53.785
- d) Error

9

9. What is printed by the following code? `day = "Thursday"; day = 32.5; day = 19; print(day)`

- a) Thursday
- b) 32.5
- c) 19
- d) Error

10

10. What is the result of `3 * (2 + 3)`?

- a) 15
- b) 11
- c) 21
- d) 6

11

11. What is printed by: `s = "python rocks"; print(s[3:8])`?

- a) python
- b) rocks
- c) hon r
- d) hon ro

12

12. What is printed by: `alist = [3, 67, "cat", [56, 57, "dog"], [], 3.14, False]; print(alist[4:])`?

- a) [[], 3.14, False]
- b) [[], 3.14]
- c) [[56, 57, "dog"], [], 3.14, False]
- d) Error

13

13. What is the type of m in: `l = ['w', '7', 0, 9]; m = l[1:2]`?

- a) string
- b) integer
- c) list
- d) tuple

14

14. Which loop is best for iterating over a fixed sequence or iterable?

- a) for
- b) while
- c) do-while
- d) if

15

15. How does break differ from continue?

- a) break stops the loop, continue skips an iteration
- b) continue exits the loop entirely
- c) They are the same
- d) break restarts the loop

16

16. What is the purpose of elif?

- a) To start a loop
- b) To specify additional conditions after an if
- c) To handle errors
- d) To define a function

17

17. What does `"hello".upper()` do?

- a) Capitalizes the first letter only
- b) Converts all letters to uppercase
- c) Reverses the string
- d) Counts uppercase letters

18

18. What does `"python".find("o")` return?

- a) 0
- b) 4
- c) -1
- d) 1

19

19. Which method checks if a string contains only numbers?

- a) isdigit()
- b) isnumber()
- c) isalpha()
- d) to_int()

20

20. What is the output of `print(20 // 6)`?

- a) 4
- b) 3
- c) 2
- d) 3.333

21

21. What is the result of `x=5; if x%2 ==0: print("True") else: print("False")`?

- a) True
- b) False
- c) Error
- d) None

22

22. What is the output of: `x = ["cat", "dog", "elephant"]; print(x)`?

- a) cat
- b) dog
- c) elephant
- d) ["dog"]

23

23. What is the purpose of the `.sort()` method?

- a) To reverse a list
- b) To sort a list in ascending order inplace
- c) To return a sorted copy of the list
- d) To shuffle the list

24

24. How does a set differ from a list?

- a) A set is ordered
- b) A set allows duplicates
- c) A set is unordered and unique
- d) A set is immutable

25

25. Which function is used to open a file in Python?

- a) file.open()
- b) open()
- c) read()
- d) load()

26

26. What does csv stand for?

- a) Comma Separated Values
- b) Common Separated Variables
- c) Column Separated Values
- d) Computer System Values

27

27. Which file mode opens a file for exclusive creation (fails if it exists)?

- a) 'w'
- b) 'r'
- c) 'x'
- d) 'a'

1

28. Which is the correct way to create a new instance of a class named Turtle?

- a) turtle.Turtle()
- b) Turtle.turtle()
- c) new Turtle()
- d) def Turtle()

2

29. What is the name of the method automatically executed when a class instance is created?

- a) __start__
- b) __init__
- c) __main__
- d) __new__

3

30. What does self represent in a class method?

- a) The class itself
- b) The specific instance of the class
- c) The global variables
- d) The parent class

4

31. If a class Dog inherits from Pet, which is true?

- a) Dog cannot have its own methods
- b) Dog inherits methods and attributes from Pet
- c) Pet inherits methods from Dog
- d) Dog is the superclass

5

32. How do you call a method from the parent class inside a child class?

- a) parent.method()
- b) super().method()
- c) this.method()
- d) base.method()

6

33. Which type of error can be handled using try/except?

- a) Syntax errors
- b) Runtime errors
- c) Logic errors
- d) Compilation errors

7

34. What happens if an error occurs in the try block?

- a) The program crashes immediately
- b) The code in the except block is executed
- c) The code restarts
- d) The error is ignored completely

8

35. What is "Method Overriding"?

- a) Writing two methods with the same name in the same class
- b) A subclass defining a method with the same name as the parent class
- c) Deleting a method
- d) Calling a method inside itself

9

36. Which method is used to return a string representation of an object for printing?

- a) __print__
- b) __str__
- c) __string__
- d) __ascii__

10

37. What is the output of `print("Hello {name}".format(name="World"))`?

- a) Hello {name}
- b) Hello World
- c) Error
- d) Hello "World"

1

38. What is the result of `np.array() + np.array()`?

- a)
- b)
- c) Error
- d) ``

2

39. How do you concatenate two NumPy arrays horizontally?

- a) np.vstack()
- b) np.hstack()
- c) np.concat_h()
- d) np.append()

3

40. What is the output shape of `x.reshape(-1, 1)` if x has 12 elements?

- a) (1, 12)
- b) (12, 1)
- c) (12,)
- d) Error

4

41. What does `np.squeeze()` do?

- a) Compresses the array memory
- b) Removes dimensions of size 1
- c) Flattens the array
- d) Removes NaN values

5

42. Which Pandas function is used to read a CSV file?

- a) pd.load_csv()
- b) pd.read_csv()
- c) pd.import_csv()
- d) pd.csv_read()

6

43. What does `df.groupby()` do?

- a) Sorts the data
- b) Groups data based on a category for aggregation
- c) Merges two dataframes
- d) Filters rows

7

44. How do you check for missing values in a DataFrame?

- a) df.missing()
- b) df.isnull()
- c) df.check_nan()
- d) df.empty()

8

45. Which method drops rows with missing values?

- a) df.drop()
- b) df.dropna()
- c) df.remove_na()
- d) df.delete()

9

46. What does `df.describe()` generate?

- a) A plot of the data
- b) Descriptive statistics (mean, std, min, max)
- c) The first 5 rows
- d) Data types of columns

10

47. Which library is best for creating interactive plots?

- a) matplotlib
- b) seaborn
- c) plotly
- d) pandas

11

48. How do you create a scatter plot in Matplotlib?

- a) plt.scatter()
- b) plt.points()
- c) plt.dots()
- d) plt.plot_scatter()

12

49. What does a histogram visualize?

- a) Relationship between two variables
- b) Distribution of a single numerical variable
- c) Categorical counts
- d) Trends over time

13

50. What is the primary purpose of PCA (Principal Component Analysis)?

- a) To classify data
- b) To reduce dimensionality
- c) To cluster data
- d) To increase features

14

51. What does a correlation of 0 between two variables imply?

- a) Strong positive relationship
- b) Strong negative relationship
- c) No linear relationship
- d) Error in data

15

52. What is "Overfitting" in a model?

- a) The model performs poorly on training data
- b) The model performs well on training data but poorly on new data
- c) The model is too simple
- d) The model has high bias

16

53. What is a Confusion Matrix used for?

- a) Regression evaluation
- b) Classification performance evaluation
- c) Data cleaning
- d) Feature selection

1

54. From a population with $\mu = 100$ and $\sigma = 20$, sample size 16. What is the expected standard deviation of the sample mean (Standard Error)?

- a) 20
- b) 5
- c) 4
- d) 1.25

2

55. The sum of probabilities of all possible outcomes in an experiment is:

- a) 0
- b) 0.5
- c) 1
- d) 100

3

56. What is the probability of rolling a sum of 7 with two dice?

- a) 1/36
- b) 1/6
- c) 1/12
- d) 5/36

4

57. If two events are mutually exclusive, $P(A \cap B)$ is:

- a) 1
- b) 0.5
- c) 0
- d) $P(A) + P(B)$

5

58. What is the primary use of the Central Limit Theorem?

- a) To find the median
- b) To approximate the distribution of sample means as Normal
- c) To calculate variance
- d) To predict outliers

6

59. What does the derivative of a function represent?

- a) The area under the curve
- b) The rate of change (slope) at a point
- c) The maximum value
- d) The average value

7

60. What is the derivative of $f(x) = x^2$?

- a) x
- b) $2x$
- c) 2
- d) $x^3/3$

8

61. What is the derivative of $f(x) = \sin(x)$?

- a) $\cos(x)$
- b) $-\cos(x)$
- c) $\tan(x)$
- d) $-\sin(x)$

9

62. What is the slope of the tangent to $y = x^2$ at $x = 3$?

- a) 3
- b) 6
- c) 9
- d) 0

10

63. If $f'(x) = 0$ at a point, what does this indicate?

- a) The function is undefined
- b) A critical point (potential max/min)
- c) The function is zero
- d) Vertical tangent

11

64. What is the integral of $3x^2$?

- a) $6x$
- b) $x^3 + C$
- c) $3x^3$
- d) x^2

12

65. What is the result of multiplying a 3×2 matrix by a 2×4 matrix?

- a) 3×2
- b) 2×4
- c) 3×4
- d) Error

13

66. What is the determinant of a singular matrix?

- a) 1
- b) 0
- c) Negative
- d) Undefined

14

67. What is the Transpose of a matrix?

- a) Swapping rows and columns
- b) Multiplying by -1
- c) Finding the inverse
- d) Rotating 90 degrees

15

68. What does the trace of a square matrix represent?

- a) Product of diagonal elements
- b) Sum of diagonal elements
- c) The determinant
- d) The rank

16

69. Two vectors are orthogonal if their dot product is:

- a) 1
- b) 0
- c) -1
- d) Infinity

17

70. What is an eigenvector?

- a) A vector that becomes zero when transformed
- b) A vector that does not change direction during transformation
- c) A vector with length 1
- d) The sum of columns

18

71. How many permutations of {1, 2, 3} exist?

- a) 3
- b) 6
- c) 9
- d) 27

19

72. What is the factorial of 5 (5!)?

- a) 25
- b) 60
- c) 120
- d) 100

20

73. If $a^2 + b^2 = c^2$, the triangle is:

- a) Acute
- b) Right-angled
- c) Obtuse
- d) Equilateral

21

74. What is the sum of angles in a triangle?

- a) 180
- b) 360
- c) 90
- d) 270

22

75. Next number in sequence: 2, 4, 8, 16...?

- a) 24
- b) 32
- c) 20
- d) 64

1

Question 76

What is the result of `10 % 3`?

- a) 3
- b) 1
- c) 0
- d) 10

2

Question 77

What data type is returned by `input()` in Python 3?

- a) int
- b) str
- c) float
- d) list

3

Question 78

How do you access the value associated with key 'A' in dictionary `d = {'A': 1, 'B': 2}`?

- a) d
- b) d['A']
- c) d.get(1)
- d) d.A

4

Question 79

Which statement is used to handle exceptions effectively?

- a) if/else
- b) try/except
- c) do/catch
- d) check/error

5

Question 80

What is the output of `list(range(5, 10))`?

- a)
- b)
- c)
- d)

6

Question 81

In OOP, what is "Inheritance"?

- a) Creating a new class from an existing class
- b) Encrypting data
- c) Hiding private variables
- d) Converting data types

7

Question 82

Which NumPy function calculates the mean of an array?

- a) np.average_val()
- b) np.mean()
- c) np.median()
- d) np.mode()

8

Question 83

What is the default axis for `df.drop()`?

- a) 0 (rows)
- b) 1 (columns)
- c) 2 (depth)
- d) None

9

Question 84

What allows you to select rows by label in Pandas?

- a) .iloc[]
- b) .loc[]
- c) .select()
- d) .get()

10

Question 85

If you have a dataset with 100 features, why might you use dimensionality reduction?

- a) To create more data
- b) To visualize the data and reduce computation time
- c) To increase the accuracy on training data only
- d) To add complexity

11

Question 86

What is the derivative of a constant (e.g., $f(x) = 5$)?

- a) 5
- b) 1
- c) 0
- d) x

12

Question 87

What is the second derivative of $f(x) = x^3$?

- a) $3x^2$
- b) $6x$
- c) 6
- d) x

13

Question 88

If the determinant of a matrix is non-zero, the matrix is:

- a) Singular
- b) Invertible
- c) Zero matrix
- d) Identity matrix

14

Question 89

The identity matrix has:

- a) 1s everywhere
- b) 1s on the diagonal, 0s elsewhere
- c) 0s on the diagonal, 1s elsewhere
- d) Random numbers

15

Question 90

What is the probability of flipping heads on a coin AND rolling a 6 on a die?

- a) 1/2
- b) 1/6
- c) 1/8
- d) 1/12

16

Question 91

A "Type I error" in statistics is also known as:

- a) False Negative
- b) False Positive
- c) Correct rejection
- d) Missing data

17

Question 92

Which Python keyword is used to define a function?

- a) func
- b) def
- c) function
- d) define

18

Question 93

What does `zip(, ['a','b'])` create (conceptually)?

- a) [(1, 'a'), (2, 'b')]
- b) [1, 2, 'a', 'b']
- c) {'a':1, 'b':2}
- d) Error

19

Question 94

How do you comment a single line in Python?

- a) //
- b) /* */
- c) #
- d) <!-- -->

20

Question 95

What is the output of `bool([])`?

- a) True
- b) False
- c) None
- d) Error

21

Question 96

In a box plot, what does the box represent?

- a) The range (min to max)
- b) The Interquartile Range (IQR) - middle 50%
- c) The standard deviation
- d) The mean

22

Question 97

Which distribution is bell-shaped and symmetric?

- a) Uniform
- b) Normal (Gaussian)
- c) Binomial
- d) Poisson

23

Question 98

If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, what is $2A$?

- a) Adds 2 to all elements
- b) Multiplies every element by 2
- c) Squares the matrix
- d) Adds a row of 2s

24

Question 99

What is the value of $\cos(0)$?

- a) 0
- b) 1
- c) -1
- d) 0.5

25

Question 100

What is the limit of $1/x$ as x approaches infinity?

- a) Infinity
- b) 1
- c) 0
- d) Undefined

26

Question 101

Which pandas method fills missing values?

- a) df.fill()
- b) df.fillna()
- c) df.replace_na()
- d) df.put()

27

Question 102

What is a key characteristic of Unsupervised Learning?

- a) Data has labels
- b) Data has no labels
- c) It always uses regression
- d) It requires a teacher

28

Question 103

Which of the following is an immutable data type in Python?

- a) List
- b) Dictionary
- c) Set
- d) Tuple

29

Question 104

What does the pass statement do?

- a) Terminates the program
- b) Skips to the next iteration
- c) Does nothing (placeholder)
- d) Returns a value

30

Question 105

Which matrix operation is generally NOT commutative ($AB \neq BA$)?

- a) Matrix Addition
- b) Matrix Multiplication
- c) Scalar Multiplication
- d) None

31

Question 106

What is the gradient of $f(x, y) = x^2 + y^2$ at $(1, 1)$?

- a) $(1, 1)$
- b) $(2, 2)$
- c) 2
- d) 4

32

Question 107

What is the variance of the dataset $2, 2, 2, 2$?

- a) 2
- b) 1
- c) 0
- d) 4

33

Question 108

`lambda x: x + 1` is an example of:

- a) A named function
- b) An anonymous function
- c) A recursive function
- d) A generator

34

Question 109

Which library is the foundation for Pandas?

- a) Matplotlib
- b) NumPy
- c) Scikit-learn
- d) Seaborn

35

Question 110

To create a sequence of numbers from 0 to 10 with a step of 2 in NumPy:

- a) np.range(0, 10, 2)
- b) np.arange(0, 11, 2)
- c) np.linspace(0, 10, 2)
- d) np.seq(0, 10, 2)

36

Question 111

What is the purpose of `__repr__`?

- a) To initialize an object
- b) To provide an unambiguous string representation for developers
- c) To delete an object
- d) To copy an object

37

Question 112

If you open a file using `with open(...)`, what happens when the block ends?

- a) The file remains open
- b) The file is automatically closed
- c) You must call close() manually
- d) The file is deleted

38

Question 113

What does `set()` return?

- a) {1, 2, 2, 3}
- b) {1, 2, 3}
- c) ``
- d) Error

39

Question 114

What is the geometric interpretation of the dot product of two vectors being zero?

- a) They are parallel
- b) They are perpendicular (orthogonal)
- c) They are equal
- d) They are opposite

40

Question 115

For a function to be differentiable at a point, it must be:

- a) Continuous at that point
- b) Zero at that point
- c) Positive at that point
- d) Linear

41

Question 116

What is the "mode" of a dataset?

- a) The average
- b) The middle value
- c) The most frequent value
- d) The largest value

42

Question 117

Which Python error occurs if you try to access a key that doesn't exist in a dictionary?

- a) IndexError
- b) ValueError
- c) KeyError
- d) NameError

43

Question 118

How do you remove the last item from a list?

- a) list.remove_last()
- b) list.pop()
- c) list.delete(-1)
- d) list.end()

44

Question 119

What is the inverse of a matrix A denoted as?

- a) A^T
- b) A^{-1}
- c) $|A|$
- d) $1/A$

45

Question 120

What is the derivative of $\ln(x)$?

- a) e^x
- b) $1/x$
- c) x
- d) $\ln(x)$

46

Question 121

Which chart is best for showing the composition of a whole (parts of a whole)?

- a) Line chart
- b) Pie chart
- c) Scatter plot
- d) Box plot

47

Question 122

What does `np.zeros((3,3))` create?

- a) A 3x3 matrix of null values
- b) A 3x3 matrix of 0s
- c) A 3x3 matrix of 1s
- d) An empty list

48

Question 123

Can a tuple be a dictionary key?

- a) Yes, because it is immutable
- b) No, because it is a sequence
- c) Yes, but only if empty
- d) No, never

49

Question 124

What is the output of `print(3 ** 2)`?

- a) 6
- b) 9
- c) 5
- d) 32

50

Question 125

Which Pandas function is used to join two DataFrames?

- a) pd.combine()
- b) pd.merge()
- c) pd.add()
- d) pd.mix()

51

Question 126

What does `plt.xlabel('Time')` do?

- a) Sets the title of the plot
- b) Labels the x-axis as 'Time'
- c) Labels the y-axis as 'Time'
- d) Plots 'Time' data

52

Question 127

Which statistic is most affected by outliers?

- a) Median
- b) Mode
- c) Mean
- d) IQR

53

Question 128

What is the probability of picking a Red card from a standard 52-card deck?

- a) 1/4
- b) 1/2
- c) 1/13
- d) 1/52

54

Question 129

If $f(x) = 5x^2 - 3x + 2$, what is $f'(x)$?

- a) $10x - 3$
- b) $10x + 2$
- c) $5x - 3$
- d) $10x$

55

Question 130

What is the rank of a matrix?

- a) The number of elements
- b) The number of linearly independent rows or columns
- c) The sum of the diagonal
- d) The determinant value

56

Question 131

What is the correct syntax to create a class Car?

- a) function Car():
- b) class Car:
- c) create Car:
- d) def Car:

57

Question 132

How do you raise a number to a power in Python?

- a) ^
- b) **
- c) pow
- d) ^^

58

Question 133

What is the result of `'abc' + 'def'`?

- a) 'abcdef'
- b) 'abc def'
- c) Error
- d) ['abc', 'def']

59

Question 134

Which is NOT a valid variable name?

- a) my_var
- b) var2
- c) 2var
- d) _var

60

Question 135

What is the value of `len({'a': 1, 'b': 2})`?

- a) 1
- b) 2
- c) 4
- d) 0

61

Question 136

What does `range(3)` generate?

- a) 1, 2, 3
- b) 0, 1, 2
- c) 0, 1, 2, 3
- d) 1, 2

62

Question 137

Which keyword is used to return a value from a function?

- a) give
- b) send
- c) return
- d) output

63

Question 138

What is the output of `100 > 50 and 50 > 10`?

- a) True
- b) False
- c) 100
- d) Error

64

Question 139

What does `\n` represent in a string?

- a) New tab
- b) New line
- c) Null character
- d) Number

65

Question 140

How do you import the NumPy library?

- a) include numpy
- b) import numpy as np
- c) using numpy
- d) from numpy import *

66

Question 141

What is the standard deviation?

- a) The square of the variance
- b) The square root of the variance
- c) The average absolute deviation
- d) The range divided by 2

67

Question 142

What is the integral of $1/x$?

- a) $\ln|x| + C$
- b) x^{-2}
- c) 1
- d) e^x

68

Question 143

If a matrix A is 2×3, what is the size of A^T?

- a) 2×3
- b) 3×2
- c) 2×2
- d) 3×3

69

Question 144

Two vectors are linearly dependent if:

- a) Their dot product is zero
- b) One is a scalar multiple of the other
- c) They are perpendicular
- d) They have length 1

70

Question 145

What is the Chain Rule used for?

- a) Integrating products
- b) Differentiating composite functions
- c) Solving matrices
- d) Calculating probability

71

Question 146

Which sorting algorithm is used by Python's `.sort()` (Timsort)?

- a) Bubble sort
- b) Quick sort
- c) Merge sort and Insertion sort hybrid
- d) Selection sort

72

Question 147

What is a "syntax error"?

- a) The code runs but gives wrong results
- b) The code violates the grammar rules of the language
- c) The computer runs out of memory
- d) Division by zero

73

Question 148

What is NaN in Pandas?

- a) Not a Number (Missing Value)
- b) New and Null
- c) Negative and Null
- d) Number at Null

74

Question 149

Which method is used to remove duplicates from a DataFrame?

- a) df.unique()
- b) df.drop_duplicates()
- c) df.distinct()
- d) df.clean()

75

Question 150

What is the default index of a DataFrame?

- a) A, B, C...
- b) 0, 1, 2...
- c) Random numbers
- d) Date and time

76

Question 151

What does `np.ones(4)` return?

- a) (array)
- b) `1111`
- c)
- d) ``

77

Question 152

If you roll a die, what is P(Number > 4)?

- a) 1/6
- b) 2/6 (or 1/3)
- c) 3/6
- d) 4/6

78

Question 153

What is the median of?

- a) 3
- b) 6
- c) 7
- d) 5.2

79

Question 154

Which command installs a Python package?

- a) python install package
- b) pip install package
- c) get package
- d) download package

80

Question 155

What is a "constructor" in Python?

- a) A function that builds the code
- b) The __init__ method
- c) The import statement
- d) A loop

81

Question 156

Can you modify a tuple after creation?

- a) Yes
- b) No
- c) Only if it contains a list
- d) Only using special methods

82

Question 157

What is the result of `bool(0)`?

- a) True
- b) False
- c) None
- d) Error

83

Question 158

What is the derivative of e^{2x}?

- a) e^{2x}
- b) $2e^{2x}$
- c) $2xe^{2x-1}$
- d) e^{x}

84

Question 159

What does "Correlation does not imply Causation" mean?

- a) Variables are not related
- b) Just because two variables move together doesn't mean one causes the other
- c) Statistics is useless
- d) Correlation is always zero

85

Question 160

What is the primary goal of Linear Regression?

- a) To classify images
- b) To find the best-fitting line to predict a continuous value
- c) To group similar items
- d) To find probability of categories

Answer Key

1. b
2. b
3. b
4. c
5. a
6. b
7. b
8. b
9. c
10. a
11. c
12. a
13. c
14. a
15. a
16. b
17. b
18. b
19. a
20. b
21. b
22. b
23. b
24. c
25. b
26. a
27. c
28. a
29. b
30. b
31. b
32. b
33. b
34. b
35. b
36. b
37. b
38. b
39. b
40. b
41. b
42. b
43. b
44. b
45. b
46. b
47. c
48. a
49. b
50. b
51. c
52. b
53. b
54. b
55. c
56. b
57. c
58. b
59. b
60. b
61. a
62. b
63. b
64. b
65. c
66. b
67. a
68. b
69. b
70. b
71. b
72. c
73. b
74. a
75. b
76. b
77. b
78. b
79. b
80. b
81. a
82. b
83. a
84. b
85. b
86. c
87. b
88. b
89. b
90. d
91. b
92. b
93. a
94. c
95. b
96. b
97. b
98. b
99. b
100. c
101. b
102. b
103. d
104. c
105. b
106. b
107. c
108. b
109. b
110. b
111. b
112. b
113. b
114. b
115. a
116. c
117. c
118. b
119. b
120. b
121. b
122. b
123. a
124. b
125. b
126. b
127. c
128. b
129. a
130. b
131. b
132. b
133. a
134. c
135. b
136. b
137. c
138. a
139. b
140. b
141. b
142. a
143. b
144. b
145. b
146. c
147. b
148. a
149. b
150. b
151. a
152. b
153. b
154. b
155. b
156. b
157. b
158. b
159. b
160. b