NumPy and Statistical Analysis Modular Exam

Score Obtained:
43/50 (86%)

RETAKE (/PACKAGE-COST-DETAILS/#) VIEW REPORT

1.
NumPY stands for?

1/1 ATTEMPTED

- Numbering Python
- Number In Python
- Numerical Python
- None Of the above

2.
NumPy is often used along with packages like?

1/1 ATTEMPTED

- Node.js
- Matplotlib
- SciPy
- Both B and C

3.
Which of the following Numpy operation are correct?

- Mathematical and logical operations on arrays. 1/1 ATTEMPTED
- Fourier transforms and routines for shape manipulation.
- Operations related to linear algebra.
- All of the above

4.
What is the syntax for dtype object?

0/1 ATTEMPTED

- numpy.dtype(object, align, copy, subok)
- numpy.dtype(object, align, copy)
- numpy.dtype(object, align, copy, ndmin)
- numpy_dtype(object, align, copy)

5.
Which of the following statement is false?

1/1 ATTEMPTED

- ndarray is also known as the axis array.
- ndarray.dataitemSize is the buffer containing the actual elements of the array.
- NumPy main object is the homogeneous multidimensional array
- In Numpy, dimensions are called axes

6. Identify the correct Statement:

1/1 ATTEMPTED

- Standard marker for missing data in Pandas is Nan

- Series act in a way similar to that of an array
- Both of the Above
- None of the above

7. What is the output of the following code? import numpy as np a=np.arange(10) print(a[2:5]) 1/1 ATTEMPTED

- [0, 1, 2]
- [5, 6, 7]
- [2, 3, 4]
- [2, 4, 6]

8. In a NumPy array, what term is used to describe the number of dimensions? 1/1 ATTEMPTED

- Axis
- Rank
- Shape
- Element

9. How do you access a specific element in a NumPy array? 1/1 ATTEMPTED

- Using the locate() function
- With the get() method

- Through indexing, e.g., array[2]
- By applying the find() function

10. What is the purpose of the numpy.arange() function? 1/1 ATTEMPTED

- To create an array with evenly spaced values within a given range
- To count the number of elements in an array
- To reverse the order of elements in an array
- To find the minimum value in an array

11.

What is the syntax for dtype object?

0/1 ATTEMPTED

- numpy.dtype(object, align, copy, subok)
- numpy.dtype(object, align, copy)
- numpy.dtype(object, align, copy, ndmin)
- numpy_dtype(object, align, copy)

12.

What is the output of the following?

```
import numpy as np
x=np.array([1,2,3,6,10])
y=x
```

```
z=np.copy(x)
print(x)
print(y)
print(z)
```

0/1 ATTEMPTED

- [1,2,3,6,10] [1,2,3,6,10]
- [1,2,3,6,10] [1,2,3,6,10] [1,2,3,6,10]
- [1,2,3,6]
- [1,2,3,6] [1,2,3,6,10]

13.
Which of the following is a feature of Numpy?

1/1 ATTEMPTED

- Mathematical and Logical Calculations.
- Shape Manipulation
- Searching and Sorting
- All of these

14. Which of the following is True about Numpy Arrays?

1/1 ATTEMPTED

- They can grow dynamically
- Elements can be of different sizes
- Less efficient than Python's built in sequences

- Used in a growing plethora of scientific and mathematical Python-based packages

15.

1. **NumPy package is capable to do fast operations on arrays.**

1/1 ATTEMPTED

- True
- False
- None
- No

16. Which of the following is a tuple of integers representing the size of the ndarray in each dimension?

1/1 ATTEMPTED

- ndim
- shape
- size
- dtype

17. Which of the following represents the number of dimensions in ndarray?

1/1 ATTEMPTED

- ndim
- shape
- size
-

dtype

18.
NumPY stands for?

1/1 ATTEMPTED

- Numbering Python
- Number In Python
- Numerical Python
- None Of the above

19.
Numpy developed by?

1/1 ATTEMPTED

- Guido van Rossum
- Travis Oliphant
- Wes McKinney
- Jim Hugunin

20.
NumPy is often used along with packages like?

1/1 ATTEMPTED

- Node.js
- Matplotlib
- SciPy

- Both B and C

21.

Which of the following Numpy operation are correct?

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- Operations related to linear algebra.
- All of the above

22.

The basic ndarray is created using?

0/1 ATTEMPTED

- numpy.array(object, dtype = None, copy = True, subok = False, ndmin = 0)
- numpy.array(object, dtype = None, copy = True, order = None, subok = False, ndmin = 0)
- numpy_array(object, dtype = None, copy = True, order = None, subok = False, ndmin = 0)
- numpy.array(object, dtype = None, copy = True, order = None, ndmin = 0)

23. Identify the correct Statement:

1/1 ATTEMPTED

- Standard marker for missing data in Pandas is Nan
- Series act in a way similar to that of an array
- Both of the Above

- None of the above

24. What will be the output of the following Code: import pandas as pd import numpy as np s=pd.Series(np.random.randn(4)) print s ATTEMPTED 0/1

- 0
- 1
- 2
- 3

25. How do you access a specific element in a NumPy array? 1/1 ATTEMPTED

- Using the locate() function
- With the get() method
- Through indexing, e.g., array[2]
- By applying the find() function

26. What is the purpose of the numpy.arange() function? 1/1 ATTEMPTED

- To create an array with evenly spaced values within a given range
- To count the number of elements in an array
- To reverse the order of elements in an array

- To find the minimum value in an array

27. In NumPy, what does "vectorization" refer to?

1/1 ATTEMPTED

- The process of creating vectors
- The ability to perform operations on entire arrays without the need for explicit looping
- Converting arrays into matrices
- Sorting elements in an array

28.

What is the syntax for dtype object?

1/1 ATTEMPTED

- numpy.dtype(object, align, copy, subok)
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29.

What is the output of the following?

```
import numpy as np
x=np.array([1,2,3,6,10])
y=x
z=np.copy(x)
```

print(x)

print(y)

print(z)

1/1 ATTEMPTED

- [1,2,3,6,10] [1,2,3,6,10]
- [1,2,3,6,10] [1,2,3,6,10] [1,2,3,6,10]
- [1,2,3,6]
- [1,2,3,6] [1,2,3,6,10]

30.

What will be printed?

```
import numpy as np
a = np.array([1,2,3,5,8])
b = np.array([0,3,4,2,1])
c = a + b
c = c*a
print (c[2])
```

0/1 ATTEMPTED

- 7
- 12
- 10
- 21

31. **Which of the following Numpy operation are correct?**

1/1 ATTEMPTED

- Mathematical and logical operations on arrays

- Fourier transforms and routines for shape manipulation
- Operations related to linear algebra.
- All of the above

32.

The goal of _____ is to focus on summarizing and explaining a specific set of data.

1/1 ATTEMPTED

- Inferential statistics
- Descriptive statistics
- Annova statistics
- inference statistics

33.

When all the values in a series occur the same number of times, then one must not compute _____?

1/1 ATTEMPTED

- Mode
- Median
- Variance
- Standard Deviation

34.

Sample is a subset of population.

- True — 1/1 ATTEMPTED
- False
- -
- -

35.

_____ contains all the elements of a dataset.

1/1 ATTEMPTED

- Sample
- Event
- Population
- None of the options

36.

Descriptive Statistics works on _____ dataset.

0/1 ATTEMPTED

- Sample
- Population
- Both the options
- -

37.

_____ is an art of learning data.

1/1 ATTEMPTED

- Probability

- Statistics
- Both the options
- None of the options

38.
Is Statistics required in the field of computer science?

1/1 ATTEMPTED

- Yes, statistics plays a vital role in many areas of computer science such as machine learning, data mining, and artificial intelligence.
- No, statistics is not used in computer science at all.
- Only basic statistical concepts are required in computer science.
- Statistics is only used in certain subfields of computer science such as bioinformatics.

39. Mean is an example of which of the following?

1/1 ATTEMPTED

- Inferential Statistics
- Measures of Central Tendency
- Measures of Variation
- Probability

40. If a distribution is skewed to the right, then it is _____

1/1 ATTEMPTED

- Negatively Skewed
- Positively Skewed

- Symmetrically Skewed
- Symmetric

41. Approximately what percentage of scores fall within two standard deviation of the mean in a normal distribution? 1/1 ATTEMPTED

- 95%
- 99%
- 68%
- 35%

42. What is the purpose of descriptive statistics? 1/1 ATTEMPTED

- To predict future outcomes
- To summarize and describe the main features of a dataset
- To manipulate data for analysis
- To test hypothesis

43. In descriptive statistics, what does the standard deviation measure? 1/1 ATTEMPTED

- The central tendency of the data
- The range of values in the dataset
- The spread or dispersion of values around the mean

- The frequency of each value in the dataset

44. What is the purpose of the range in descriptive statistics? 1/1 ATTEMPTED

- To measure the spread of data
- To calculate the mean of a dataset
- To identify outliers
- To determine the mode

45.
If my null hypothesis is 'Dutch people do not differ from English people in height', what is my alternative hypothesis?

1/1 ATTEMPTED

- English people are taller than Dutch people.
- Dutch people are taller than English people.
- Dutch people differ in height from English people.
- All of the statements are plausible alternative hypotheses.

46. Which of the following methods is commonly used to estimate population parameters? 1/1 ATTEMPTED

- Descriptive statistics
- Confidence intervals
- Frequency distribution
- Range

47. What does a p-value represent in hypothesis testing? 1/1 ATTEMPTED

- The probability that the null hypothesis is true
- The probability of making a Type I error
- The strength of the evidence against the null hypothesis
- The probability of obtaining the observed results if the null hypothesis is true

48. What does the Central Limit Theorem state? 1/1 ATTEMPTED

- The distribution of a population is always normal.
- The sum of a large number of independent random variables will be normally distributed,
- Sample means will always be equal to the population mean.
- The variance of the sample means will be larger than the population variance.

49. If a population has a mean (μ) of 50 and a standard deviation (σ) of 10, what is the mean of the sampling distribution of the sample means ($\mu_{\bar{x}}$) for samples of size n=25? 1/1 ATTEMPTED

- 40
- 50
- 10
- 2

50. What is the power of a statistical test?

1/1 ATTEMPTED

- The probability of making a Type I error.
- The probability of correctly rejecting a false null hypothesis.
- The probability of making a Type II error.
- The probability of correctly accepting a true null hypothesis.