

# Solution for Python Quiz 1

First Half of Big Data Analytics Course

## Solutions and Reasoning

### 1. What is Big Data Analytics primarily used for in businesses?

- **Answer:** b. Predicting future trends
- **Reasoning:** Big Data Analytics is primarily utilized in businesses for predicting future trends and making informed decisions based on large datasets.

### 2. Which Linux command is used to change the current directory?

- **Answer:** b. cd
- **Reasoning:** The **cd** (change directory) command is used in Linux to change the current directory, allowing users to navigate through the filesystem.

### 3. In Python, what will `print(type(3.5))` output?

- **Answer:** b. float
- **Reasoning:** The output will be **float** because **3.5** is a decimal number, and Python recognizes decimal numbers as floating-point numbers.

### 4. Which command is used to list all files and directories in Linux?

- **Answer:** a. `ls -a`
- **Reasoning:** The **ls -a** command lists all files and directories, including hidden ones (those starting with `.`), in the current directory.

### 5. What is the correct syntax to output the type of a variable or object in Python?

- **Answer:** c. `type(var)`
- **Reasoning:** The **type()** function is used in Python to output the type of a variable or object.

### 6. How do you start defining a function in Python?

- **Answer:** b. `def myFunction():`
- **Reasoning:** Functions in Python are defined using the **def** keyword followed by the function name and parentheses.

### 7. What does the `pwd` command do in a Linux shell?

- **Answer:** c. Prints the working directory
- **Reasoning:** The **pwd** (print working directory) command displays the current directory path.

8. Which Python data structure is used to store multiple items in a single variable?

- **Answer:** a. List
- **Reasoning:** Lists in Python are used to store multiple items in a single variable, allowing for ordered and changeable collections.

9. What does the `chmod +x filename` command do in Linux?

- **Answer:** c. Makes the file executable
- **Reasoning:** The `chmod +x` command adds executable permissions to the specified file, allowing it to be run as a program.

10. In Python, how would you print "Hello World" to the console?

- **Answer:** b. `print("Hello World")`
- **Reasoning:** The `print()` function is used in Python to output text to the console.

11. What is the result of the following Python expression: `4 == 5`?

- **Answer:** b. False
- **Reasoning:** The expression `4 == 5` evaluates to **False** because 4 is not equal to 5.

12. Which of the following Python data types is immutable?

- **Answer:** c. Tuple
- **Reasoning:** Tuples in Python are immutable, meaning their contents cannot be altered after creation.

13. Which Python keyword is used to create a class?

- **Answer:** a. `class`
- **Reasoning:** The `class` keyword is used in Python to define a class.

14. In descriptive statistics, what does the mode represent?

- **Answer:** c. The most frequent value
- **Reasoning:** The mode in descriptive statistics is the value that appears most frequently in a data set.

15. What is the use of the `import` statement in Python?

- **Answer:** a. To include the contents of one script within another
- **Reasoning:** The `import` statement is used to include the functions, variables, and classes defined in one module into another.

16. Which command is used to create a new directory in Linux?

- **Answer:** b. mkdir
- **Reasoning:** The **mkdir** (make directory) command is used to create a new directory in Linux.

**17. What does the numpy.array function do?**

- **Answer:** c. Creates a new array instance in numpy
- **Reasoning:** The **numpy.array** function creates a new array object in NumPy, which is used for storing data in a structured format.

**18. In Linux, what is the purpose of the grep command?**

- **Answer:** a. To search text using patterns
- **Reasoning:** The **grep** command is used to search for text within

**19. How is a conditional statement started in Python?**

- **Answer:** b. if condition:
- **Reasoning:** In Python, a conditional statement starts with the **if** keyword followed by a condition and a colon. This structure initiates a block of code that runs if the condition is **True**.

**20. Which Python package is used for data analysis and manipulation?**

- **Answer:** c. Pandas
  - **Reasoning:** Pandas is a widely used Python package for data analysis and manipulation. It provides data structures and operations for manipulating numerical tables and time series, making it ideal for a variety of data analysis tasks.
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