Travelers EDP Week 3 Review

1. Which of the following statements are false about Python? Select all that apply.

    a) Python variable names may contain letters, digits, and underscores may not start with digits.
    b) Python variable names are case sensitive.
    c) In Python, you need to declare variable data types.
    d) Jupyter is a browser-based python REPL.
    e) None of the above

2. Which of the following statements are true in python environment? Select all that apply.

    a) A Python module contains definitions of functions, classes, constants, and objects.
    b) A Python package contains definitions of functions, classes, constants, and objects.
    c) The Python sequence types are bool, int, float, and complex.
    d) The Python sequence types are str, bytes, list, and tuple.
    e) None of the above

3. What is lambda in Python?
    a) A special class
    b) Arrow function
    c) A small anonymous function
    d) A special package to perform mathematical operations
    e) None of the above

4. What will be the output of the following python code?

```
i = 1
while True:
    if i%3 == 0:
        break
    print(i)

    i + = 1
```

    a) 1 2 3
    b) 1 2
    c) SyntaxError: invalid syntax
    d) No output
    e) None of the above

5. Which of the following is used to define a block of code in Python?

    a) Curly brackets
    b) Brackets
    c) Indentation
    d) All the above
    e) None of the above

6. What will be the output of the following Python code?

   len([1,4, 8, 'awesome', 24, 'love'])

   a) 4
   b) 6
   c) SyntaxError: invalid syntax
   d) 32
   e) None of the above

7. What will be the output of the following Python code?

```python
for i in [1, 2, 3, 4, 5][::-1]:
    print (i)
```

   a) 0 1 2 3 4
   b) 1 2 3 4 5
   c) 5 4 3 2 1
   d) SyntaxError: invalid syntax
   e) None of the above

8. What will be the output of the following Python code?

```python
message = "cool";
x = 10;
output = message + x;
print(output)
```

   a) cool10
   b) TypeError
   c) No output
   d) coolcoolcoolcoolcoolcoolcoolcoolcoolcool
   e) None of the above

9. What is ETL in data engineering?

   a) Extract, Transfer, and Learn
   b) Extract, Transform, and Load
   c) Extract, Transform, and Lean
   d) Estimate, Transform, and Load
   e) None of the above

10. What are the 3 primary characteristics of Big Data?

    a) Volume, Velocity, Vertical Scaling
    b) Volume, Variety, Velocity
    c) Volume, Veracity, Vertical
    d) Volume, Velocity, Vertical
    e) None of the above

11. Which of the following statements are false about Data Engineering?

    a) Data processing includes data acquisition, data transfer, data transformation and data storage.
    b) Apache Parquet is an open-source columnar storage data format.
    c) Data Sharding is a technique to achieve vertical scalability.
    d) Data Sharing is a technique to achieve horizontal scalability.
    e) None of the above

12. Which of the following are part of Hadoop ecosystem?

    a) Apache Pig
    b) Apache Hive
    c) Apache Sqoop
    d) Apache Flume
    e) All the above
    f) None of the above

13. Which of the following statements are true?

    a) The syntax *args in python function definitions is used to pass a variable number of arguments to a function.
    b) The syntax **kwargs in python function definitions is used to pass a keyworded variable length argument list to a function.
    c) DAG is an acronym for Database Aligned Graph in data engineering.
    d) REPL is an acronym for Read Evaluate Print Lambda
    e) None of the above

14. What are the desirable properties of any distributed system in data engineering?

    a) Consistency
    b) High Availability
    c) Tolerance to network partitions
    d) All the above
    e) None of the above

15. What will be the output of the following python code?

```
deposits = (10000, 20000, 50000, 100000)
interest = 0.04
print(list(map(lambda i: i * interest, deposits)))
```

    a) [10000.0, 20000.0, 50000.0, 100000.0]
    b) [10400.0, 20800.0, 52000.0, 10400.0]
    c) [400.0, 800.0, 2000.0, 4000.0]
    d) SyntaxError: invalid syntax
    e) None of the above

16. Which of the following is a package manager for Python?
    a) npm
    b) maven
    c) gradle
    d) pip
    e) none of the above

17. Which of the following functions is a built-in function in Python?

    a) seed()
    b) print()
    c) sqrt()
    d) factorial()
    e) none of the above

18. The Hadoop Distributed File System is a distributed, scalable, fault-tolerant, and portable file system. Is this True or False?

    a) True
    b) False
    c) Not Sure

19. Which of the following data related roles are common in data driven organizations?

    a) Data Analyst
    b) Data Scientist
    c) Data Engineer
    d) All the above
    e) None of the above

20. Each object in Python has a unique id. We can use the id() function to get the object's id. Is this True or False?

    a) True
    b) False
    c) Not sure