Assignment-4

The due date for submitting this assignment has passed. Due on 2019-03-27, 23:59 IST.

1) Identify the correct choices for the given scenarios:

P: The system allows operations all the time, and operations return quickly
Q: All nodes see same data at any time, or reads return latest written value by any client
R: The system continues to work in spite of network partitions

- P: Consistency, Q: Availability, R: Partition tolerance
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- P: Partition tolerance, Q: Consistency, R: Availability
- P: Consistency, Q: Partition tolerance, R: Availability

No, the answer is incorrect.
Score: 0
Accepted Answers:
- P: Availability, Q: Consistency, R: Partition tolerance

2) Cassandra uses a protocol called __________ to discover location and state information about the other nodes participating in a Cassandra cluster.

- Key-value
- Memtable
- Gossip
- Heartbeat

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Gossip

3) A ________________ is Cassandra’s way of mapping a node to a physical location in the network. It helps determine the location of a node relative to another node in order to ensure efficient request routing. The __________________ can only be used if your network IP allocation is divided along octets in your IP address.

- Partitioner, SimpleSnitch
- Snitch, EC2Snitch
- EC2Snitch, PropertyFileSnitch
- Snitch, RackInferringSnitch

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Snitch, RackInferringSnitch

4) Consider the Table temperature_details in Keyspace “day3” with schema as follows:

```
temperature_details(daynum, year, month, date, max_temp)
```

with primary key(daynum, year, month, date)

1 point
There exists same maximum temperature at different hours of the same day. Choose the correct CQL query to:

- Alter table temperature_details to add a new column called "seasons" using map of type <varint, text> represented as <month, season>. Season can have the following values season={spring, summer, autumn, winter}.
- Update table temperature_details where columns daynum, year, month, date bore the following values: 4317, 1955, 7, 26 respectively.
- Use the select statement to output the row after updation.

Note: A map relates one item to another with a key-value pair. For each key, only one value may exist, and duplicates cannot be stored. Both the key and the value are designated with a data type.

```
cqlsh:day3> alter table temperature_details add hours1 set<varint>;
cqlsh:day3> update temperature_details set hours1={1,5,9,13,5,9} where daynum=4317;
cqlsh:day3> select * from temperature_details where daynum=4317;

No, the answer is incorrect.
Score: 0
Accepted Answers:
```

5) What is eventual consistency?

- At any time, the system is linearizable
- At any time, concurrent reads from any node return the same values
- If writes stop, all reads will return the same value after a while
- If writes stop, a distributed system will become consistent

No, the answer is incorrect.
Score: 0
Accepted Answers:
```

6) True or False?

Zookeeper is a replicated service that holds the metadata of distributed applications.

- True
- False

No, the answer is incorrect.
Score: 0
Accepted Answers:
```

<table>
<thead>
<tr>
<th>DayNum</th>
<th>Year</th>
<th>Month</th>
<th>Date</th>
<th>MaxTemp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1943</td>
<td>10</td>
<td>1</td>
<td>14.1</td>
</tr>
<tr>
<td>2</td>
<td>1943</td>
<td>10</td>
<td>2</td>
<td>16.4</td>
</tr>
<tr>
<td>541</td>
<td>1945</td>
<td>3</td>
<td>24</td>
<td>21.1</td>
</tr>
<tr>
<td>9970</td>
<td>1971</td>
<td>1</td>
<td>16</td>
<td>21.4</td>
</tr>
<tr>
<td>20174</td>
<td>1998</td>
<td>12</td>
<td>24</td>
<td>30.7</td>
</tr>
<tr>
<td>21223</td>
<td>2001</td>
<td>11</td>
<td>7</td>
<td>29</td>
</tr>
<tr>
<td>4317</td>
<td>1955</td>
<td>7</td>
<td>26</td>
<td>16.7</td>
</tr>
</tbody>
</table>
7) Consider the following statements:

Statement 1: When two processes are competing with each other causing data corruption, it is called deadlock.

Statement 2: When two processes are waiting for each other directly or indirectly, it is called race condition.

- Only statement 1 is true
- Only statement 2 is true
- Both statements are true
- Both statements are false

No, the answer is incorrect.

Score: 0

Accepted Answers:
- Both statements are false

8) ZooKeeper allows distributed processes to coordinate with each other through registers, known as___________________.

- znodes
- hnodes
- vnodes
- rnodes

No, the answer is incorrect.

Score: 0

Accepted Answers:
- znodes

9) ______________ a distributed indexer that uses ZooKeeper for coordination, and it is an example of a non-Yahoo! application.

- Helprace
- Neo4j
- 101tec
- Katta

No, the answer is incorrect.

Score: 0

Accepted Answers:
- Katta

10) True or False?

In zookeeper, ephemeral node can't be deleted if the session in which the node was created has disconnected.

- True
- False

No, the answer is incorrect.

Score: 0

Accepted Answers:
- False