Fill in the Blanks

1. JSON stands for _____.
2. JSON is a lightweight data-interchange format based on _____ object syntax.
3. To define a column of JSON data type in MySQL, the syntax is `CREATE TABLE table_name (... json_column_name _____, ...);`.
4. The function used to retrieve the value of a specific key from a JSON column is _____.
5. The function to append data to a JSON document is _____.
6. To update or insert data in a JSON column, you use the _____ function.
7. The JSON function that returns the length of a JSON array or object is _____.
8. To remove a key from a JSON document, you can use the _____ function.

True or False

1. JSON data can only be stored in string columns in MySQL. (True/False)
2. MySQL automatically validates JSON data to ensure it is properly formatted. (True/False)
3. JSON columns in MySQL support indexing directly. (True/False)
4. The JSON data type is more storage-efficient compared to traditional data types. (True/False)
5. The function `JSON_REPLACE()` can be used to add new keys to a JSON document. (True/False)
6. `JSON_EXTRACT()` is used to retrieve data from a JSON column based on a path expression. (True/False)
7. To delete a row from a table based on JSON column values, you use the `JSON_REMOVE()` function. (True/False)
8. The `JSON_PRETTY()` function formats JSON data to be more human-readable. (True/False)

Multiple Choice

1. Which function is used to insert new key-value pairs into a JSON document in MySQL?

   - a) JSON_SET()
   - b) JSON_INSERT()
   - c) JSON_REPLACE()
   - d) JSON_REMOVE()

2. How do you extract the value of the "name" key from a JSON column called "browser"?

   - a) `SELECT browser->'$.name' FROM events;`
   - b) `SELECT JSON_EXTRACT(browser, '$.name') FROM events;`

- c) `SELECT browser->>'$.name' FROM events;`
- d) `SELECT JSON_VALUE(browser, '$.name') FROM events;`

3. Which function would you use to update the value of an existing key in a JSON document?

- a) JSON_INSERT()
- b) JSON_REPLACE()
- c) JSON_APPEND()
- d) JSON_REMOVE()

4. What is the function to remove a key from a JSON column?

- a) JSON_REMOVE()
- b) JSON_DELETE()
- c) JSON_DISCARD()
- d) JSON_ERASE()

5. If you want to combine two JSON documents, which function would you use?

- a) JSON_MERGE()
- b) JSON_APPEND()
- c) JSON_SET()
- d) JSON_PRETTY()

6. To format JSON data to make it more readable, which function would you use?

- a) JSON_PRETTY()
- b) JSON_FORMAT()
- c) JSON_READ()
- d) JSON_VISUALIZE()

Short Answer

1. Explain why JSON is commonly used in web applications.
2. What are some of the limitations of using JSON data type in MySQL?
3. Describe how you would use `JSON_SET()` to update multiple fields in a JSON document.
4. How can you use `JSON_LENGTH()` in MySQL? Provide an example.
5. Discuss the differences between `JSON_INSERT()` and `JSON_REPLACE()` functions.