**I'M WORKING ON THE DATABASE PROJECT.**

1. What type of data will you store in your row entries? This could be all of one type (int, float, double, String) as long as the data has some sort of theme or meaning and there are

AT LEAST 3 fields. List the fields that will be stored by your database. For instance, in this

Write up data about 'employees' was stored.

My project will consist on storing animal information on “Animals” table for an animal shelter organization.

All types will be string which will be then, parsed into a Json file so data is not lost.

Table fields: date\_in, name, species, breed, gender, age, status (i.e.: sick, at vet, adopted)

2. What kind of structures will you use to store this data? Will this be a 2D array structure of the data type specified in the first question? Array of custom objects? Explain your approach.

Array of custom objects, Json objects. Data will be parsed into and from a Json file via the Jackson library/API. Data in file will be accessible at any time by using the DBengine API. All commands available can be displayed by typing “help” in the command line.

3. How will you relate a column with a field name? In other words, if you run 'SELECT

Last, First FROM employees;' how will you know which column in your entry row corresponds to the field 'Last' and field 'First'?

The “SELECT” command will be interpreted by the “Interpreter” class which will read the string typed, will scan it for valid commands and return the action to be performed to the “DBengine” class. The fields to be selected for the specified row will be related by the column number and row id.

4. How will generating new row ID's work for the 'INSERT' query?

Row ID’s will auto-increment. When inserting new data into the table, the DBengine will check the last id entered and will increment it by one, will allocate a new empty row for data to be stored and will store the data. If all operations complete successfully, DBengine will return a successful message, otherwise will return an error.

5. Will your database limit the number of entries that can be inserted? If so, why? If not, how will this be done?

Number of entries will be limitless because all entries will be parsed into a Json file as permanent data (limitless meaning, the size of the hard drive).

6. How will deleting a row work?

When deleting a row, the DBengine will look for the row specified, either via the ID column or any other column, in the Json file and will remove it. If all operations complete successfully, DBengine will return a successful message, otherwise will return an error.

7. How will the 'WHERE' clause work? Will it differ from query to query? Explain.

The WHERE clause will be used to specify the value of a field in a certain column where a command is to be performed.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Id** | **date\_in** | **name** | **species** | **breed** | **gender** | **\*age** | **status** |
| 1 | 1-2-2015 | Mike | Dog | Bulldog | Male | 4 | available |
| 2 | 2-6-2015 | Simon | Cat | American shorthair | Male | 2 | Adopted |
| 3 | 3-10-2015 | Abby | Cat | Siamese | Female | 1 | Sick |
| 4 | 4-1-2015 | Alex | Dog | French poodle | Female | 3 | recovering |

\* Age in months.

**Database API:**

SELECT column\_name,column\_name FROM table\_name;

UPDATE table\_name SET column1=value1, column2=value2 WHERE some\_column=some\_value;

DELETE FROM table\_name WHERE some\_column=some\_value;

INSERT INTO table\_name VALUES (value1, value2, value3);