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**Class: BE(AI&DS)**

**Subject: Computer Laboratory III**

**Practical No 6**

Objective:

The objective of this lab assignment is to guide users through the installation process of MongoDB, a popular NoSQL database, and familiarize them with basic CRUD (Create, Read, Update, Delete) operations using MongoDB's shell.

**1. Installation of MongoDB:**

MongoDB can be installed on various operating systems. Here, we will cover installation on a Windows system.

**Step 1:** Download MongoDB:

Navigate to the official MongoDB website (<https://www.mongodb.com/try/download/community>) and download the MongoDB Community Server appropriate for your operating system.

**Step 2:** Install MongoDB:

Double-click the downloaded installer.

Follow the installation wizard instructions.

Choose the Complete setup type for the installation.

Choose whether to install MongoDB Compass (a GUI tool for MongoDB).

Click "Install" to begin the installation process.

Once the installation is complete, click "Finish" to exit the wizard.

**Step 3:** Verify Installation:

Open Command Prompt.

Type mongo --version and press Enter.

If MongoDB is installed correctly, you will see the version number displayed.

**2. Basic CRUD Operations with MongoDB:**

**Step 1:** Start MongoDB Server:

Open Command Prompt.

Type mongod and press Enter to start the MongoDB server.

**Step 2:** Connect to MongoDB:

Open a new Command Prompt window.

Type mongo and press Enter to connect to the MongoDB server.

**Step 3:** Create a Database:

To create a new database, use the use command followed by the name of the database. For example:

use school

**CRUD operations in Python**

**Code:**

from pymongo import MongoClient

host = "localhost"

port = 27017

try:

    client = MongoClient(host,port)

except:

    print("connection failed")

db = client["school"]

collection = db["class"]

""" insert operation """

doc = {"name": "student0", "class": 12, "roll-no": 1, "division": "A", "attendance": 75}

insert = collection.insert\_one(doc)

print("inserted", insert.inserted\_id)

""" read operation """

find = {"name": "student0"}

read = collection.find\_one(find)

print(read)

""" update operation """

query = {"name": "student0"}

values = {"$set": {"division": "C"}}

update = collection.update\_one(query,values)

print("updated", update.acknowledged)

""" delete opetation """

query = {"name": "student0"}

delete = collection.delete\_one(query)

print("deleted", delete.deleted\_count)

**Conclusion:**

This lab provided an overview of installing MongoDB and performing basic CRUD operations using MongoDB's shell. These operations are fundamental for interacting with MongoDB databases and collections. Further exploration and practice are encouraged to deepen understanding.

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