

## CODE :-

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/*
 * Problem Statement :-
 * Database Connectivity:
 * Write a program to implement Mongo DB database connectivity with any front end
 * language to implement Database navigation operations(add, delete, edit etc.)
 */

package assignmentNo_B4;

import com.mongodb.client.FindIterable;
import com.mongodb.client.MongoCollection;
import com.mongodb.client.MongoDatabase;
import com.mongodb.client.model.Filters;
import com.mongodb.client.model.Updates;
import java.util.Scanner;
import java.util.Iterator;
import org.bson.Document;
import com.mongodb.MongoClient;

public class AssignmentNo_B4
{
    public static void main( String args[] )
    {
        try
        {
            Scanner sc = new Scanner(System.in);

            int studentID = 0, UG_POYear = 0;
            String fName = "", lName = "", UG_Dept = "", curr_city = "", email = "";

            MongoClient mongo = new MongoClient( "localhost" , 31448 );

            System.out.println("\n\t Connected to the database successfully...!!");

            MongoDatabase database = mongo.getDatabase("assignment_no_12");

            MongoCollection<Document> collection = database.getCollection("Student");

            System.out.println("\n\t Collection Student selected successfully...!!");

            int choice;
            while(true)
            {
                System.out.println("\n\t === Main Menu === \n\t\t 1. Insert Data"
                    + "\n\t\t 2. Display Data"
                    + "\n\t\t 3. Update Document"
                    + "\n\t\t 4. Delete Document"
                    + "\n\t\t 5. Drop Collection"
                    + "\n\t\t 6. Exit");

                System.out.print("\n\t Enter Choice : ");
                choice = sc.nextInt();

                switch(choice)
                {

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case 1:
    System.out.print("\n\t Enter the ID of Student : ");
    studentID = sc.nextInt();
    System.out.print("\n\t Enter the First Name of Student : ");
    fName = sc.next();
    System.out.print("\n\t Enter the Last Name of Student : ");
    lName = sc.next();
    System.out.print("\n\t Enter the UG_POYear of Student : ");
    UG_POYear = sc.nextInt();
    System.out.print("\n\t Enter the UG_Dept of Student : ");
    UG_Dept = sc.next();
    System.out.print("\n\t Enter the curr_city of Student : ");
    curr_city = sc.next();
    System.out.print("\n\t Enter the email of Student : ");
    email = sc.next();

    Document document = new Document("_id", studentID)
        .append("fName", fName)
        .append("lName", lName)
        .append("UG_POYear", UG_POYear)
        .append("UG_Dept", UG_Dept)
        .append("curr_city", curr_city)
        .append("email", email);

    collection.insertOne(document);

    System.out.println("\n\t Document Inserted Successfully...!! \n");
    break;

case 2:
    FindIterable<Document> iterDoc = collection.find();
    Iterator<Document> it = iterDoc.iterator();
    while (it.hasNext()) {
        System.out.println(it.next());
    }
    break;

case 3:
    int ch = 0;
    System.out.print("\n\t Enter ID of student to update Data : ");
    studentID = sc.nextInt();
    System.out.print("\n\t\t == UPDATE == \n\t\t\t 1. fName"
        + "\n\t\t\t 2. lName \n\t\t\t 3. UG_POYear"
        + "\n\t\t\t 4. UG_Dept \n\t\t\t 5. curr_city"
        + "\n\t\t\t 6. email \n\t\t\t 7. Cancel"
        + "\n\t\t Enter Choice = ");
    ch = sc.nextInt();
    if(ch == 1)
    {
        System.out.print("\n\t Enter new First name of student : ");
        fName = sc.next();
        collection.updateOne(Filters.eq("_id", studentID),
Updates.set("fName", fName));
        System.out.println("\n\t Document Updated Successfully...!!
\n");
    }
    else if(ch == 2)
    {

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        System.out.print("\n\t Enter new Last name of student : ");
        lName = sc.next();
        collection.updateOne(Filters.eq("_id", studentID),
Updates.set("lName", lName));
        System.out.println("\n\t Document Updated Successfully...!!
\n");
    }
    else if(ch == 3)
    {
        System.out.print("\n\t Enter new UG PassOut Year of student :
");
        UG_POYear = sc.nextInt();
        collection.updateOne(Filters.eq("_id", studentID),
Updates.set("UG_POYear", UG_POYear));
        System.out.println("\n\t Document Updated Successfully...!!
\n");
    }
    else if(ch == 4)
    {
        System.out.print("\n\t Enter new UG Department of student :
");
        UG_Dept = sc.next();
        collection.updateOne(Filters.eq("_id", studentID),
Updates.set("UG_Dept", UG_Dept));
        System.out.println("\n\t Document Updated Successfully...!!
\n");
    }
    else if(ch == 5)
    {
        System.out.print("\n\t Enter new Current City of student : ");
        curr_city = sc.next();
        collection.updateOne(Filters.eq("_id", studentID),
Updates.set("curr_city", curr_city));
        System.out.println("\n\t Document Updated Successfully...!!
\n");
    }
    else if(ch == 6)
    {
        System.out.print("\n\t Enter new email of student : ");
        email = sc.next();
        collection.updateOne(Filters.eq("_id", studentID),
Updates.set("email", email));
        System.out.println("\n\t Document Updated Successfully...!!!");
    }
    else if(ch == 7)
    {
        System.out.println("\n\t Operation Cancelled
Successfully...!!!");
        break;
    }
    else
    {
        System.out.println("\n\t Invalid Choice...!!! \n");
        break;
    }
}
break;

case 4:

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        System.out.print("\n\t Enter ID of student to delete Data : ");
        studentID = sc.nextInt();
        collection.deleteOne(Filters.eq("_id", studentID));
        System.out.println("\n\t Document Deleted Successfully...!!\n");
        break;

    case 5:
        collection.drop();
        System.out.println("\n\t\t\t\t\t_____Thank You ..!_____ \n");
        sc.close();
        mongo.close();
        System.exit(0);
        break;

    case 6:
        System.out.println("\n\t\t\t\t\t_____Thank You ..!_____ \n");
        sc.close();
        mongo.close();
        System.exit(0);

    default:
        System.out.println("\n\t Invalid Choice...!!! \n");
        break;
    }
}
}
catch(Exception e)
{
    e.printStackTrace();
}

}
```

## OUTPUT :-

Connected to the database successfully...!!

Collection Student selected successfully...!!

=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 1

Enter the ID of Student : 1

Enter the First Name of Student: Tejas

Enter the Last Name of Student: Padhiyar

Enter the UG\_POYear of Student : 2024

Enter the UG\_Dept of Student : Computer

Enter the curr\_city of Student : Pune

Enter the email of Student : [tejaspad232@gmail.com](mailto:tejaspad232@gmail.com)

Document Inserted Successfully...!!

=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 1

Enter the ID of Student : 2

Enter the First Name of Student : Harsh

Enter the Last Name of Student : Patni

Enter the UG\_POYear of Student : 2024

Enter the UG\_Dept of Student : EnTc

Enter the curr\_city of Student : Pune

Enter the email of Student : [harshpatni66@gmail.com](mailto:harshpatni66@gmail.com)

Document Inserted Successfully...!!

=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 2

Document{{\_id=1, fName=Tejas, lName=Padhiyar, UG\_POYear=2024, UG\_Dept=Computer, curr\_city=Pune, [email=tejaspad232@gmail.com](mailto:tejaspad232@gmail.com)}}

Document{{\_id=2, fName=Harsh, lName=Patni, UG\_POYear=2024, UG\_Dept=EnTC, curr\_city=Pune, [email=harshpatni66@gmail.com](mailto:harshpatni66@gmail.com)}}

=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 3

Enter ID of student to update Data : 1

== UPDATE ==

1. fName
2. lName
3. UG\_POYear
4. UG\_Dept
5. curr\_city
6. email
7. Cancel

Enter Choice = 1

Enter new First name of student : Ayush

Document Updated Successfully...!!

=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 2

Document{{\_id=1, fName=Ayush, lName=Padhiyar, UG\_POYear=2024, UG\_Dept=Computer, curr\_city=Pune, [email=tejaspad232@gmail.com](mailto:tejaspad232@gmail.com)}}

Document{{\_id=2, fName=Harsh, lName=Patni, UG\_POYear=2024, UG\_Dept=EnTC, curr\_city=Pune, [email=harshpatni66@gmail.com](mailto:harshpatni66@gmail.com)}}



=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 4

Enter ID of student to delete Data : 1

Document Deleted Successfully...!!

=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 2

Document({\_id=2, fName=Harsh, lName=Patni, UG\_POYear=2024, UG\_Dept=EnTC, curr\_city=Pune, [email=harshpatni66@gmail.com](mailto:harshpatni66@gmail.com)})

=== Main Menu ===

1. Insert Data
2. Display Data
3. Update Document
4. Delete Document
5. Drop Collection
6. Exit

Enter Choice : 5

\_\_\_\_\_Thank You ..! \_\_\_\_\_