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#include <iostream>
#include <mysql/mysql.h>
#include <sstream>

using namespace std;

int pilih;
char kembali;
const char* hostname = "127.0.0.1";
const char* user = "root";
const char* pass = "";
const char* dbname = "neo";
unsigned int port = 3306;
const char* unixsocket = NULL;
unsigned long clientflag = 0;

MYSQL* connectdb(){
    MYSQL * conn;
    conn = mysql_init(0);
    conn = mysql_real_connect(conn, hostname, user, pass, dbname, port, unixsocket, clientflag);
    if (conn) {
        cout<< "Berhasil"<<endl;
        return conn;
    } else {
        cout<< "Gagal"<<endl;
        return conn;
    }
}

void createDatabase(MYSQL* conn){
    string db;
    stringstream createdb, dropdb, createulangdb;
    cout<<"Input nama databasenya: \n";
    cin >> db;
    createdb << "CREATE DATABASE "+db+" ";
    string query = createdb.str();
    const char* q = query.c_str();
    int qstate = mysql_query(conn, q);

    if(qstate==0){
        cout<<"Berhasil create db\n";
    }else if (qstate !=0)
    {
        dropdb << "DROP DATABASE IF EXISTS "+db+" ";
        string query = dropdb.str();
        const char* q = query.c_str();
        int qstate = mysql_query(conn, q);
        cout<<"Berhasil drop\n";
    }
}

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}else{
    createulangdb << "CREATE DATABASE "+db+" ";
    string query = createulangdb.str();
    const char* q = query.c_str();
    int qstate = mysql_query(conn, q);
    cout<<"Create ulang database\n";
}
}

void insertData(MYSQL* conn){
    int qstate =0;
    stringstream inserttodb;
    string nim, nama, id;
    cout << "Insert ID : "<<endl;
    cin>>id;
    cout << "Insert NIM : "<<endl;
    cin>>nim;
    cout << "Insert Nama : "<<endl;
    cin>>nama;
    inserttodb << "INSERT INTO mahasiswa (id, nim, nama) VALUES ('"+id+"','"+nim+"','"+nama+"')";
    string query = inserttodb.str();
    const char* q = query.c_str();
    qstate = mysql_query(conn, q);
    if (qstate == 0){
        cout <<"Berhasil insert"<<endl;
    } else {
        cout <<"Gagal"<<endl;
    }
}

void displayData(MYSQL* conn){
    MYSQL_ROW row;
    MYSQL_RES* res;
    if (conn){
        int qstate = mysql_query(conn, "SELECT * FROM mahasiswa");
        if(!qstate){
            res = mysql_store_result(conn);
            int count = mysql_num_fields(res);
            cout << "=====LIST DATA=====\\n";
            cout <<"\tID\tNama\tStatus\\n";
            while(row = mysql_fetch_row(res)){
                for(int i=0; i<count;i++){
                    cout <<"\t"<<row[i];
                }
                cout<<endl;
            }
        }
    }
} else {

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        cout << "Data Kosong" << endl;
    }
}

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void updateData(MYSQL* conn){
    MYSQL_ROW row;
    MYSQL_RES* res;
    string id;
    cout << "Insert ID : " << endl;
    cin >> id;
    stringstream selectdb, updatedb;
    selectdb << "SELECT * FROM mahasiswa WHERE id = '"+id+"' ";
    string query = selectdb.str();
    const char* q = query.c_str();
    mysql_query(conn, q);
    res = mysql_store_result(conn);
    int count = mysql_num_fields(res);
    my_ulonglong x = mysql_num_rows(res);
    string nim, nama;

    if(x>0){
        cout << "Insert NIM : " << endl;
        cin >> nim;
        cout << "Insert Nama : " << endl;
        cin >> nama;
        updatedb << "UPDATE mahasiswa SET nim = '"+nim+"', nama= '"+nama+"' WHERE id = '"+id+"' ";
        string query = updatedb.str();
        const char* q = query.c_str();
        mysql_query(conn, q);
    }else{
        cout << "error\n";
    }
}

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void deleteData(MYSQL* conn){
    MYSQL_ROW row;
    MYSQL_RES* res;
    string id;
    cout << "Insert ID : " << endl;
    cin >> id;
    stringstream selectdb, deletedb;
    selectdb << "SELECT * FROM mahasiswa WHERE id = '"+id+"' ";
    string query = selectdb.str();
    const char* q = query.c_str();
    mysql_query(conn, q);
    res = mysql_store_result(conn);
    int count = mysql_num_fields(res);
    my_ulonglong x = mysql_num_rows(res);
}

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if(x>0){
    deletedb <<"DELETE FROM mahasiswa WHERE id = '"+id+"' ";
    string query = deletedb.str();
    const char* q = query.c_str();
    mysql_query(conn, q);
}else{
    cout<<"error\n";
}
}
}

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int main(){
    MYSQL* conn = connectdb();
    do{
        cout<<"MENU";
        cout<<"\n 1. Create ";
        cout<<"\n 2. Read ";
        cout<<"\n 3. Update ";
        cout<<"\n 4. Delete ";
        cout<<"\n 5. Exit";

        cout<<"\nPilih : "; cin>>pilih;

        switch(pilih){
            case 1:
                insertData(conn);
                displayData(conn);
                break;
            case 2:
                displayData(conn);
                break;
            case 3:
                updateData(conn);
                displayData(conn);
                break;
            case 4:
                deleteData(conn);
                displayData(conn);
                break;
            case 5:
                cout<<"\nThanks"<<endl;
                return 0;
            default:
                cout<<"Pilihan Salah"<<endl;
                break;
        }
        cout<<"Ingin memilih menu lain (y/t)? ";
        cin>>kembali;
    }
}

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        cout<<endl;
    }
    while (kembali!= 't');
    cout<<"Terima Kasih"<<endl;
    return 0;
}
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