```
#include <iostream>
#include <windows.h>
#include <mysql.h>
#include <string>
#include <ctime>
#include<sstream>
#include<sstream>
#include<cstdio>

using namespace std;

bool insert_status;
MYSQL* conn;
MYSQL_ROW row;
MYSQL_RES *res;
int qstate;
//creating a method my to use in the program

MYSQL* my()
{
conn = mysql_init(NULL);
//connect to a database pharmaccutical_industry
conn = mysql_real_connect(conn,"localhost","root","",
"pharmaccutical_industry",0,NULL,0);
return conn;
}

//create date parameters
struct Date
{
int d, m, y;
};
// To store number of days in all mont
const int monthDays[12] = {31, 28, 31,
30, 31, 30,31,31,30,31,30,31};
// This function counts number of leap
// given date
int countLeapYears(Date d)
{
int years = d.y;
// Check if the current year needs
// for the count of leap years or
if (d.m <= 2)
years--;
// An year is a leap year if it is
// multiple of 400 and not a multi
return years / 4 - years / 100 + years;
}
// This function returns number of days
// dates
int getDifference(Date dt1, Date dt2)
{
// COUNT TOTAL NUMBER OF DAYS BEFO
// initialize count using years and
long int n1 = dt1.y*365 + dt1.d;
// Add days for months in given da
for ( int i=0; i<dt1.m - 1; i++)
n1 += monthDays[i];
// Since every leap year is of 366
// Add a day for every leap year
n1 += countLeapYears(dt1);
// SIMILARLY, COUNT TOTAL NUMBER O
long int n2 = dt2.y*365 + dt2.d;
for ( int i=0; i<dt2.m - 1; i++)
n2 += monthDays[i];
n2 += countLeapYears(dt2);
```

```
 66  // return difference between two co
 67  return (n2 - n1);
 68  }
 69  //create function to get system time and date
 70  string currentTime(){
 71            string tim="";
 72            time_t now = time(0);
 73       tm *current_time = localtime(&now);
 74       //create year month and day
 75       int year = 1900 + current_time->tm_year;
 76       int month = 1+ current_time->tm_mon;
 77       int day = current_time->tm_mday;
 78  //     tim = year"-"+month+"-"+day;
 79       char buff[11];
 80       sscanf(tim.c_str(), "%d-%d-%d", &year,&month, &day);
 81       sprintf(buff, "%02d-%d-%d", year,month,day);
 82       return buff;
 83  }
 84  // create function drug duration to calculate how long the
 85  //drug expiring days
 86  void drug_duration(int i){
 87   //convert integer to string
 88            ostringstream idd;
 89          idd<<i;
 90          string id = idd.str();
 91          //select id column from database to able to get numbers
 92          //of days of each drugs expiring date
 93          string  sel = "SELECT* FROM drug WHERE id = '"+id+"'";
 94          const char* s = sel.c_str();
 95            //querying the database
 96          qstate = mysql_query(my(), s);
 97          //getting the database result
 98          res =  mysql_store_result(conn);
 99          row = mysql_fetch_row(res);
100          string expire = row[4];
101
102       char buff[11];
103       int a,b,c;
104       sscanf(expire.c_str(), "%d-%d-%d", &a,&b, &c);
105       sprintf(buff, "%02d-%d-%d", a,b,c);
106
107       //calculate current time and date to have the numbers of days of
drugs
108       time_t now = time(0);
109       tm *current_time = localtime(&now);
110       int year = 1900 + current_time->tm_year;
111       int month = 1+ current_time->tm_mon;
112       int day = current_time->tm_mday;
113       Date f = {day, month,year};
114       Date g ={a, b,c};
115       //get day difference between expiring date and the current today
116       //I mean the system current time and date
117       int da= getDifference(f, g);
118
119       ostringstream st;
120          st<<da;
121          string days = st.str();
122         // update database everyday on to reduce each day to the
expiring date
123            string update = "UPDATE drug SET day= '"+days+"' WHERE id =
'"+id+"'";
124          const char* t = update.c_str();
125           qstate = mysql_query(my(), t);
126  }
127       //call the function var to insert to the table
128          bool var(string nu,string drugname,string manufacturer,string
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```
date_of_stock,string expiry_date,string detail){
129                 //add item to the database
130           string query="INSERT INTO
drug(id,drugname,manufacturer,date_of_stock,expiry_date,detail) VALUES ('"
+nu+"','"+drugname+"','"+manufacturer+"','"+date_of_stock+"','"+
expiry_date+"','"+detail+"')";
131           const char* q = query.c_str();
132           qstate=mysql_query(my(),q);
133           if(!qstate){
134                insert_status=true;
135           }else{
136               insert_status=false;
137           }
138              return insert_status;
139           }
140
141
142       void AboutToExpire(){
143             // function to display the drug that about to expire in a
month time
144      cout<<"\n\n************************ DRUG WITH ABOUT A MONTH TO
EXPIRE **********************\n\n";
145           string  sel = "SELECT* FROM drug WHERE day < 31";
146
147           const char* s = sel.c_str();
148
149           qstate = mysql_query(my(), s);
150           res =  mysql_store_result(conn);
151
152       cout<<"id \t Drug name "<<" \t Manufacturer"<<" \t Date of stock
"<<"\t Expiry date "<<"\t Detail \n";
153             //display database content where the condition is satisfies
that days less than 30 days
154             while (row = mysql_fetch_row(res)){
155                  cout<<row[0]<<"\t"<<row[1]<<" \t  "<<row[2]<<"\t "<<
row[3]<<"\t"<<row[4]<<"\t"<<row[5]<<"\t"<<"\n\n";
156           }
157           cout<<"\n\n";
158       }
159
160  //function or method to register new drug to store or database
161       void register_drug(){
162             string drug_name;
163             cout<<"\n\n****************** REGISTER NEW DRUG TO DATABASE
******************\n\n";
164
165           cout<<"Enter the drug name you want to add to database:\n";
166           getline(cin,drug_name);
167           getline(cin,drug_name);
168           //select all drugs from database
169           string que="SELECT *FROM drug WHERE drugname ='"+drug_name+
"'";
170
171           const char* qu = que.c_str();
172
173           qstate=mysql_query(conn, qu);
174           res = mysql_store_result(conn);
175           //fetch rows of the database to get each of the element
176           row=mysql_fetch_row(res);
177           if(row==0){
178               time_t now = time(0);
179              tm *ltm = localtime(&now);
180
181                   //register the drug manufacturer into the database
182               string manufacturer;
183               cout<<"Enter the manufacturer of the drug:\n";
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184             //getline is used to obtain data from input
185           getline(cin, manufacturer);
186           //get and set the system date as date of stock
187          int x=ltm->tm_mday;//get the system day
188          int y=ltm->tm_mon+1;//get the system month
189          int z=ltm->tm_year+1900;//get the system year
190           stringstream ss;
191            ss<<x;
192            string s;
193            ss>>s;
194          string x1=s;
195
196           stringstream sos;
197
198            sos<<y;
199            sos>>s;
200          string y1=s;
201           stringstream soso;
202
203            soso<<z;
204            soso>>s;
205
206
207           string z1=s;
208           //the stock date is the default date of the system;
209              string date_of_stock=z1+"-"+y1+"-"+x1;
210              string expiry_date;
211              //enter the expire date of the drug
212              cout<<"Enter the expiring date of the drug:
(DD-MM-YYYY)\n";
213            getline(cin, expiry_date);
214            //description of the drug on hat kind of work its doing
215              string detail;
216              cout<<"Enter the details of the drug:\n";
217            getline(cin, detail);
218             // string nu="6";
219
220          bool u=var("NULL",drug_name,manufacturer,date_of_stock,
expiry_date,detail);
221          if(u){
222              cout<<"\n "<<drug_name<<" is registered successfully";
223          }else{
224              cout<<"\n unable to register"<<drug_name<<"\n";
225          }
226
227
228              //row=mysql_fetch_row(res);
229
230
231            } else{
232                cout<<"\n"<<drug_name<<" Aready exist\n";
233
234
235
236            }
237
238       }
239       //function to display drugs registered to the database
240       void display_drug(){
241            cout<<"\n\n****************** REGISTERED DRUG IN THE
DATABASE ******************\n\n";
242
243            string que="SELECT* FROM drug ";
244          const char* qu = que.c_str();
245
246          qstate=mysql_query(conn, qu);
```

```
247          res = mysql_store_result(conn);
248          cout<<"Drugname "<<" \t Manufacturer"<<" \t Date of stock "<<
"\t Expiry date "<<"\t Detail \n";
249          int i = 1;
250         // MYSQL_ROW cou = mysql_fetch_row(res);
251         // row = mysql_fetch_row(res);
252          while(row=mysql_fetch_row(res)){
253              cout<<row[1]<<"\t  "<<row[2]<<" \t"<<row[3]<<"  \t  "<<
row[4]<<" \t  "<<row[5]<<"\n\n";
254          }
255  //while(cou){
256  //     drug_duration(i);
257  //     i++;
258  //}
259       }
260       //function to create table in the database
261       void table(){
262            my();
263            string query=" CREATE TABLE IF NOT EXISTS drug(id INT(10)
UNSIGNED AUTO_INCREMENT PRIMARY KEY,drugname VARCHAR(40) NOT
NULL,manufacturer VARCHAR(40) NOT NULL,date_of_stock VARCHAR(40) NOT
NULL,expiry_date VARCHAR(40) NOT NULL,detail VARCHAR(40) NOT NULL, day
INT(11)) ";
264          const char* q = query.c_str();
265          mysql_query(conn, q);
266
267       }
268
269  //main method
270  //this is where the execution of the program begin
271          int main()
272          {
273              // item();
274              //call the above method
275              //i.e call the database function
276          MYSQL* conn=my();
277          if(conn)
278          {
279            //display options to choose the type of action the use want
perform
280          cout<<"\n\n1) Press 1 to insert data to the database\n\n";
281          cout<<"2) Press 2 to display drugname registered on the
database\n\n";
282          cout<<"3) press 3 to check the the drug with 30 days to
expire \n\n";
283           int n;
284          do{
285          cout<<"\nEnter choice\n";
286          cin>>n;
287          switch(n){
288            case 1: register_drug();
289            break;
290            case 2: display_drug();
291            break;
292            case 3: AboutToExpire();
293            break;
294            default: cout<<"Invalid Selection \n";
295          }
296          }while(n!=0);
297             }  else
298                  cout<<"connection problem: "<<mysql_error(conn)<<endl
;
299
300             // cout << "Hello world!" << endl;
301              return 0;
302          }
```