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/*********************************************************
This code will create a table Info, Info table consist of names, birth year and End year.
code writes names from a table name.txt and end_date and start_date(between 1900-2000)
using random function.
Another table Birth_Count is created from Info table using count and group by cluase. It
contains the year and count of people born in that year.
Another table End_Count is created from Info table using count and group by cluase. It contains
the year and count of people died in that year.
A table merger is createad which consist of year, birth count , end count and people alive
column. i
I have written a logic to caclulate count of people alive.:: It will be count of people died - count of
people born + people alive from previuos year.
I have written a for loop to implement this.
*****************************************************************/

#include<mysql.h>
#include<my_global.h>
int main(int argc, char **argv)
#define MIN 1900
#define MAX 2000

{
  char line[100];
  int Birth_Year, End_year , i, num;
  char name[10];
  FILE *fp = fopen("name.txt","r");
  MYSQL *conn;
  conn= mysql_init(NULL);
  char Q1[200];
  mysql_real_connect(conn, "localhost", "user", "password", "myDB",0, NULL, 0);

  sprintf(Q1,"create table Info (name varchar(20), Birth_Year integer default 0, End_Year integer
default 0)");
  mysql_query(conn,Q1);

  /******************name.txt is being read and names are writtent from that file to the table
Info********************/
  /***************** i have used random function to get random birth year and end
year.***********************/
  while(fgets(line, sizeof line, fp)!= NULL)
  {
    Birth_Year = rand()%(MAX-MIN)+MIN;
    End_year = rand()%(MAX-MIN)+MIN;
    printf("Birth year %d, End Year %d",Birth_Year,End_year);
    strncpy(name,line,strlen(line) -1);
    sprintf(Q1,"insert into Info values('%s','%d','%d')",name,Birth_Year,End_year);
    mysql_query(conn,Q1);
    printf("%s\n",Q1);
    strncpy(name," ",strlen(name));
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    }

    sprintf(Q1,"create table merger (year integer, birth_count integer default 0, end_count integer
default 0, people_alive integer default 0)");
    mysql_query(conn,Q1);

    for(i=1900;i<=2000;i++)
    {
        sprintf(Q1,"insert into merger(year) values(%d)",i);
        mysql_query(conn,Q1);
    }

    /*************created Birth_Count table and then used count and group by function to get the
count of people born in a particular year*****************************/

    sprintf(Q1,"create table Birth_Count(year integer, birth_count integer default 0)");
    mysql_query(conn,Q1);
    sprintf(Q1,"insert into Birth_Count(year,birth_count) select Birth_Date, count(Name) from Info
group by Birth_Date");
    mysql_query(conn,Q1);

    /*************created End_Count table and then used count and group by function to get the
count of people died in a particular year*****************************/

    sprintf(Q1,"create table End_Count(year integer, end_count integer default 0)");
    mysql_query(conn,Q1);
    sprintf(Q1,"insert into End_Count(year,end_count) select End_date, count(Name) from Info
group by End_date");
    mysql_query(conn,Q1);

    /*************updated merger table with count of people died and alive in a particular
year*****************/
    sprintf(Q1,"update merger inner join Birth_Count on merger.year = Birth_Count.year set
merger.birth_count = Birth_Count.birth_count");
    mysql_query(conn,Q1);

    sprintf(Q1,"update merger inner join End_Count on merger.year = End_Count.year set
merger.end_count = End_Count.end_count");
    mysql_query(conn,Q1);


    for(i=1900;i<=2000;i++)
    {
        if (i==1900)
        {
            mysql_query(conn,Q1);
        }
        else
        {
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        sprintf(Q1,"select people_alive from merger where year=%d",i-1);
        mysql_query(conn,Q1);
        MYSQL_RES *result = mysql_store_result(conn);
        MYSQL_ROW row;
        row = mysql_fetch_row(result);
        num=atoi(row[0]);
        sprintf(Q1,"update merger set people_alive=birth_count-end_count+%d where
year='%d'",num,i);
        mysql_query(conn,Q1);
        mysql_free_result(result);
      }
   }

return 0;
}
```