**PRACTICAL NO:02**

**PROGRAM**:

#include <iostream>

#include <cstring>

#include <iomanip>

using namespace std;

class db {

int roll;

char name[20];

char Class[10];

char Div[10];

char dob[10];

char bg[3], contact[10];

char phone[10], license[12];

public:

static int stdno;

static void count() {

cout << "\nNo. of objects created: " << stdno;

}

void fin() { cout << "\nInline Function!"; }

db() {

roll = 0;

strcpy(name, "Sachin");

strcpy(Class, "I");

strcpy(Div, "A");

strcpy(dob, "11/11/1111");

strcpy(bg, "A");

strcpy(contact, "city");

strcpy(phone, "9000000000");

strcpy(license, "A0101010");

++stdno;

}

db(db \*ob) {

strcpy(name, ob->name);

strcpy(dob, ob->dob);

strcpy(Class, ob->Class);

strcpy(Div, ob->Div);

strcpy(bg, ob->bg);

strcpy(contact, ob->contact);

strcpy(phone, ob->phone);

strcpy(license, ob->license);

++stdno;

}

void getdata() {

cout << "\nEnter Name Of Student: ";

cin >> name;

cout << "\nEnter Roll Number: ";

cin >> roll;

cout << "\nEnter Class: ";

cin >> Class;

cout << "\nEnter Division: ";

cin >> Div;

cout << "\nEnter Date Of Birth: ";

cin >> dob;

cout << "\nEnter Blood Group: ";

cin >> bg;

cout << "\nEnter Address: ";

cin >> contact;

cout << "\nEnter Contact Number: ";

cin >> phone;

cout << "\nEnter License No.: ";

cin >> license;

}

friend void display(const db &d);

~db() {

cout << "\n\n" << this->name << "(Object) is destroyed!";

}

};

void display(const db &d) {

cout << setw(12) << d.name << setw(5) << d.roll << setw(4) << d.Class << setw(3) << d.Div << setw(12) <<

d.dob << setw(4) << d.bg << setw(12) << d.contact << " " << setw(12) << d.phone << " " << setw(12) <<

d.license << endl;

}

int db::stdno = 0;

int main() {

db defaultObj;

cout << "\nDefault values of the object:\n";

display(defaultObj);

int n, i, delIndex;

cout << "\nHow many objects do you want to create?: ";

cin >> n;

db\*\* ptr = new db\*[n];

for (i = 0; i < n; i++) {

ptr[i] = new db();

ptr[i]->getdata();

}

cout << "\n" << setw(12) << "Index" << setw(12) << "name" << setw(5) << "roll" << setw(4) << "Class" << setw(4) << "Div" << setw(12) <<

"dob" << setw(4) << "bg" << setw(12) << "contact" << setw(12) << "phone" << setw(12) << "license" << endl;

for (i = 0; i < n; i++) {

cout << setw(12) << i;

display(\*ptr[i]);

}

db::count();

char choice;

do {

cout << "\nMenu:\n";

cout << "1. Add new object\n";

cout << "2. Delete an object\n";

cout << "3. Exit\n";

cout << "Enter your choice: ";

cin >> choice;

switch (choice) {

case '1': {

db\*\* newPtr = new db\*[n + 1];

for (i = 0; i < n; i++) {

newPtr[i] = ptr[i];

}

newPtr[n] = new db();

newPtr[n]->getdata();

ptr = newPtr;

n++;

cout << "\n" << setw(12) << "Index" << setw(12) << "name" << setw(5) << "roll" << setw(4) << "Class" << setw(4) << "Div" << setw(12) <<

"dob" << setw(4) << "bg" << setw(12) << "contact" << setw(12) << "phone" << setw(12) << "license" << endl;

for (i = 0; i < n; i++) {

cout << setw(12) << i;

display(\*ptr[i]);

}

db::count();

break;

}

case '2': {

cout << "\nEnter the index of the object you want to delete (0 to " << n-1 << "): ";

cin >> delIndex;

if (delIndex >= 0 && delIndex < n) {

delete ptr[delIndex];

ptr[delIndex] = NULL;

cout << "\nObject at index " << delIndex << " deleted!";

} else {

cout << "\nInvalid index!";

}

cout << "\nRemaining objects:";

for (i = 0; i < n; i++) {

if (ptr[i] != NULL) {

cout << setw(12) << i;

display(\*ptr[i]);

}

}

break;

}

case '3':{

cout << "\nExiting program.";

break;

default:

cout << "\nInvalid choice!";

break;

}

}

} while (choice != '3');

for (i = 0; i < n; i++) {

if (ptr[i] != NULL) {

break;

}

break;

}

int z;

delete[] ptr[z];

return 0;

}

**OUTPUT**:

Default values of the object:

Sachin 0 I A 11/11/1111A A city 9000000000A0101010 A0101010

How many objects do you want to create?: 2

Enter Name Of Student: abc

Enter Roll Number: 22

Enter Class: se

Enter Division: a

Enter Date Of Birth: 00000

Enter Blood Group: ab

Enter Address: ashta

Enter Contact Number: 00000

Enter License No.: 000

Enter Name Of Student: jkl

Enter Roll Number: 00

Enter Class: fe

Enter Division: a

Enter Date Of Birth: 000

Enter Blood Group: ab

Enter Address: kendur

Enter Contact Number: 000

Enter License No.: 00

Index name rollClass Div dob bg contact phone license

0 abc 22 se a 00000 ab ashta 00000 000

1 jkl 0 fe a 000 ab kendur 000 00

No. of objects created: 3

Menu:

1. Add new object

2. Delete an object

3. Exit

Enter your choice: 1

Enter Name Of Student: xyz

Enter Roll Number: 00

Enter Class: 1st

Enter Division: a

Enter Date Of Birth: 0000

Enter Blood Group: o

Enter Address: pune

Enter Contact Number: 00000

Enter License No.: 000

Index name rollClass Div dob bg contact phone license

0 abc 22 se a 00000 ab ashta 00000 000

1 jkl 0 fe a 000 ab kendur 000 00

2 xyz 0 1st a 0000 o pune 00000 000

No. of objects created: 4

Menu:

1. Add new object

2. Delete an object

3. Exit

Enter your choice: 2

Enter the index of the object you want to delete (0 to 2): 1

jkl(Object) is destroyed!

Object at index 1 deleted!

Remaining objects: 0 abc 22 se a 00000 ab ashta 00000 000

2 xyz 0 1st a 0000 o pune 00000 000

Menu:

1. Add new object

2. Delete an object

3. Exit

Enter your choice: 3

Exiting program.