**LAB-SHEET 8**

Constructor in inheritance:

1. To be familiar with use of constructor in inheritance.
2. To understand about the working mechanism of constructor and destructor inheritance.

1.SOURCE CODE:

#include <iostream>

using namespace std;

class alpha{

private:

int a;

public:

alpha( int x){

a = x;

}

void showa(){

cout<<"The value of a is => "<<a<<endl;

}

};

class beta: public alpha{

private:

int b;

public:

beta(int x, int y):alpha(x){

b = y;

}

void showb(){

cout<<"The value of b is => "<<b<<endl;

}

};

int main(){

beta b(738,23);

b.showa();

b.showb();

return 0;

}

OUTPUT:

The value of a is => 738

The value of b is => 23

--------------------------------

Process exited after 0.05528 seconds with return value 0

Press any key to continue . . .

2.SOURCE CODE:

#include <iostream>

using namespace std;

class alpha{

private:

int a;

public:

alpha( int x){

a = x;

}

void showa(){

cout<<"The value of a is => "<<a<<endl;

}

};

class beta: public alpha{

private:

int b,c;

public:

beta(int x, int y, int z):alpha(x){

b = y;

c = z;

}

void showb(){

cout<<"The value of b is => "<<b<<endl;

cout<<"The value of c is => "<<c<<endl;

}

};

class gamma: public beta{

private:

int d, e;

public:

gamma(int x, int y, int z, int m, int n):beta(x,y,z){

d = m;

e = n;

}

void showg(){

cout<<"The value of d is => "<<d<<endl;

cout<<"The value of e is => "<<e<<endl;

}

};

int main(){

gamma g(3,455, 436, 907,64);

g.showa();

g.showb();

g.showg();

return 0;

}

OUTPUT:

The value of a is => 3

The value of b is => 455

The value of c is => 436

The value of d is => 907

The value of e is => 64

--------------------------------

Process exited after 0.0493 seconds with return value 0

Press any key to continue . . .

3.SOURCE CODE:

#include <iostream>

using namespace std;

class alpha{

private:

int a;

public:

alpha( int x){

a = x;

}

void showa(){

cout<<"The value of a is => "<<a<<endl;

}

};

class beta{

private:

int b,c;

public:

beta( int y, int z){

b = y;

c = z;

}

void showb(){

cout<<"The value of b is => "<<b<<endl;

cout<<"The value of c is => "<<c<<endl;

}

};

class gamma: public alpha,public beta{

private:

int d, e;

public:

gamma(int x, int y, int z, int m, int n):alpha(x),beta(y,z){

d = m;

e = n;

}

void showg(){

cout<<"The value of d is => "<<d<<endl;

cout<<"The value of e is => "<<e<<endl;

}

};

int main(){

gamma g(3,455, 436, 907,64);

g.showa();

g.showb();

g.showg();

return 0;

}

OUTPUT:

The value of a is => 3

The value of b is => 455

The value of c is => 436

The value of d is => 907

The value of e is => 64

--------------------------------

Process exited after 0.06047 seconds with return value 0

Press any key to continue . . .

4.SOURCE CODE:

#include <iostream>

#include <string.h>

using namespace std;

class college{

private:

char name[30], location[30];

public:

college(char n[], char l[]){

strcpy(name, n);

strcpy(location, l);

}

void display(){

cout<<"College name => "<<name<<endl;

cout<<"Location => "<<location<<endl;

}

};

class student: virtual public college{

private:

char sname[30];

int roll;

public:

student(char n[], char l[], char stn[], int r):college(n,l){

strcpy(sname,stn);

roll = r;

}

void display(){

cout<<"Name of student => "<<sname <<endl;

cout<<"Roll no => "<<roll<<endl;}

};

class teacher: virtual public college{

private:

char tname[30];

int code;

public:

teacher(char n[], char l[], char tn[], int c):college(n,l){

strcpy(tname,tn);

code = c;

}

void display(){

cout<<"Name of teacher => "<<tname<<endl;

cout<<"Code => "<<code<<endl;

}

};

class book: public student, public teacher{

private:

char book\_name[30];

char writer\_name[30];

int bcode;

public:

book(char n[], char l[], char stn[], int r, char tn[], int c, char bn[], char wn[], int cb):student(n,l,stn,r),teacher(n,l,tn,c),college(n,l){

strcpy(book\_name,bn);

strcpy(writer\_name,wn);

bcode = cb;

}

void display(){

cout<<"Name of book => "<<book\_name<<endl;

cout<<"Name of writer => "<<writer\_name<<endl;

cout<<"Book code => "<<bcode<<endl;

}

};

int main(){

book b("Omega","Kumaripati","Bikash",34, "Balendra", 433859, "Historyoftime","StephenHawkins", 934005833);

b.college::display();

b.student::display();

b.teacher::display();

b.display();

return 0;

}

OUTPUT:

College name => Omega

Location => Kumaripati

Name of student => Bikash

Roll no => 34

Name of teacher => Balendra

Code => 433859

Name of book => Historyoftime

Name of writer => StephenHawkins

Book code => 934005833

--------------------------------

Process exited after 0.06954 seconds with return value 0

Press any key to continue . . .

5.SOURCE CODE:

#include<iostream>

#include<string.h>

using namespace std;

class person{

private:

char name[30], address[30];

int age;

public:

person(char n[], char add[], int a ){

strcpy(name,n);

strcpy(address,add);

age = a;

}

void showdata(){

cout<<"Name of person => "<<name<<endl;

cout<<"Address => "<<address<<endl;

cout<<"Age => "<<age<<endl;

}

};

class teacher: public person{

private:

char qualification[20];

char department[50];

public:

teacher(char n[], char add[], int a, char q[], char d[]): person(n,add,a){

strcpy(qualification, q);

strcpy(department,d);

}

void showdata(){

cout<<"Teacher's qualification => "<<qualification<<endl;

cout<<"Department affiliated to => "<<department<<endl;

}

};

class student : public person{

private:

char program[30];

int semester;

public:

student(char n[], char add[], int a, char p[], int s):person(n,add,a){

strcpy(program,p);

semester = s;

}

void showdata(){

cout<<"Program => "<<program<<endl;

cout<<"Semester => "<<semester<<endl;

}};

int main(){

student s("Anuz", "Jumla", 19, "Computer\_Engineering", 2);

teacher t("Bungo", "Silantar", 34, "BE\_Computer", "IT");

s.person::showdata();

s.showdata();

t.person::showdata();

t.showdata();

return 0;

}

OUTPUT:

Name of person => Anuz

Address => Jumla

Age => 19

Program => Computer\_Engineering

Semester => 2

Name of person => Bungo

Address => Silantar

Age => 34

Teacher's qualification => BE\_Computer

Department affiliated to => IT

--------------------------------

Process exited after 0.05914 seconds with return value 0

Press any key to continue . . .