Static dsa

```
#include <iostream>

using namespace std;

#include"Book.h"


/* run this program using the console pauser or add your own getch, system("pause") or input loop
*/


int main() {

	Book b(101,"Prachiti",405.5,"Thakur");

	cout<<Book::getcount();

	return 0;

}

#include<iostream>

using namespace std;

#include"Book.h"

//define static variable

int Book::count=0;

Book::Book()

{

	Book :: count++;

	this->bid=0;

	strcpy(this->bname,"Book");

	this->price=0;

	strcpy(this->authour,"XYZ");

	}

Book::Book(int i,char* nm,double p, char* ath){

	Book :: count++;

	this->bid=0;

	strcpy(this->bname,nm);

	this->price=0;
```

```
		strcpy(this->authour,ath);
}
void Book::setbid(int i){
		this->bid=i;
}
void Book::setname(char* nm)
{
		strcpy(this->bname,nm);
}
void Book::setprice(double p){
		this->price=p;
}
void Book::setauthour(char* ath){
		strcpy(this->authour,ath);
}

int Book::getbid(){
		return this->bid;
}
char* Book::getbname(){
		return this->bname;
}
double Book::getprice(){
		return this->price;
}
char* Book::getauthour(){
		return this->authour;
}

//for static members
 int Book::getcount(){
        return Book :: count;
}

#include<iostream>
using namespace std;
class Book{
        int bid;
        char bname[20];
        double price;
        char authour[20];
        static int count;


        public:
                Book();
                Book(int ,char*,double, char*);
                void setbid(int);
                void setname(char*);
                void setprice(double);
                void setauthour(char*);

                int getbid();
                char* getbname();
                double getprice();
                char* getauthour();

                //for static members
                static int getcount();

};
```

```
#include"product.h"


/* run this program using the console pauser or add your own getch, system("pause") or input loop
*/


int main() {
    Product p(101,"product",8900,90);
    double price=p.applyDis();
    cout<<"price:"<<price;
    return 0;
}
#include<iostream>
using namespace std;
class Product{
    int pid;
    char pname[20];
    double price;
    int quantity;
    static double discount;

    public:
        Product();
        Product(int,char*,double,int);
        int getId();
        char* getName();
        double getPrice();
        int getQuantity();

        void setId(int);
        void setName(char*);
        void setPrice(double);
```

```
                void setQuantity(int);
                ~Product();

                static int getdiscount();
                double  applyDis();



};
#include"product.h"

double Product::discount=0.1;

Product::Product(){
        this->pid=0;
        strcpy(this->pname,"Product");
        this->price=0;
        this->quantity=0;
}
Product::Product(int i,char* nm,double p,int q){
        this->pid=i;
        strcpy(this->pname,nm);
        this->price=p;
        this->quantity=q;
}
int Product::getId(){
        return this->pid;
}
char* Product::getName(){
        return this->pname;
}
double Product::getPrice(){
	return this->price;
}
int Product::getQuantity(){
	return this->quantity;

}

void Product::setId(int i) {
	this->pid=i;
}
void Product::setName(char* nm){
	strcpy(this->pname,nm);
}
void Product::setPrice(double p){
	this->price=p;
}
void Product::setQuantity(int q){
	this->quantity=q;
}
Product::~Product(){
	cout<<"\ndestructor gets called!!";
}
int Product::getdiscount(){
	return Product::discount;
}
double  Product::applyDis(){
	this->price=this->price-(this->price*discount);
}
#include "shirt.h"
```

```
/* run this program using the console pauser or add your own getch, system("pause") or input loop
*/


int main(int argc, char** argv) {
	Shirt s1(101,"prachiti",'n',1000,'x');
	cout<<s1.Discount();
	return 0;
}
#include<iostream>
using namespace std;
class Shirt{
	int sid;
	char sname[20];
	char type;//f->formal c->casual
	double price;
	char size;//s->small,m->medium,l->large ,xl->extra large
	static double change;
	public:
	Shirt();
	Shirt(int,char*,char,double,char);
	void setId(int);
	void setSname(char*);
	void setType(char);
	void setPrice(double);
	void setSize(char);

	int getId();
	char* getName();
	char getType();
	double getPrice();
	char getSize();
```

```
        double Discount();
        ~Shirt();



};
#include"shirt.h"
double Shirt::change=0.1;
Shirt::Shirt(){
        this->sid=0;
        strcpy(this->sname,"Shirt");
        this->price=0;
        this->size='\0';
        this->type='\0';
}
Shirt::Shirt(int i,char* nm,char t,double p,char s){
        this->sid=i;
        strcpy(this->sname,nm);
        this->type=t;
        this->price=p;
        this->size=s;
}
void Shirt::setId(int s){
        this->sid=s;
}
void Shirt::setSname(char* nm){
        strcpy(this->sname,nm);
}
void Shirt::setType(char t){
        this->type=t;
}
```

```
void Shirt::setPrice(double p){
        this->price=p;
}
void Shirt::setSize(char s){
        this->size=s;

}

int Shirt::getId(){
        return this->sid;
}
char* Shirt::getName(){
        return this->sname;
}
char Shirt::getType(){
        return this->type;
}
double Shirt::getPrice(){
        return this->price;
}
char Shirt::getSize(){
        return this->size;
}

double Shirt::Discount(){
        if(this->size=='s'||this->size=='S'){
                this->price=this->price+(this->price*change*0);
        }
        else{
                if(this->size=='m'||this->size=='M'){
                        this->price=this->price+(this->price*change*1);
        }
        else{
            if(this->size=='l'||this->size=='L'){
                this->price=this->price+(this->price*change*2);
            }
            else{
                if(this->size=='x'||this->size=='X'){
                    this->price=this->price+(this->price*change*3);
                }
            }
        }
    }

    return this->price;
}

Shirt::~Shirt()
{
    cout<<"\nDestructor gets called!!";
}
```