FirstbitSolutions

Assignment on Static

1. Create a class Book with members as bid,bname,price and author.Add following methods:

   a. Constructor (Support both parameterized and parameterless)
   b. Destructor
   c. ShowBook

   d. Add static variable count and also maintain count of objects created.

2. Create a class Product with members as pid,pname,price and quantity .Add following methods:

   e. Constructor (Support both parameterized and parameterless)
   f. Destructor
   g. ShowBook

   h. Add static member discount.

   i. Provide methods for applying discount on price of product.

3. Create a class Shirt with members as sid,sname,type(formal etc), price and size(small,large etc) .Add following methods:

   j. Constructor (Support both parameterized and parameterless)
   k. Destructor
   l. ShowBook

m. For each size of shirt price should change by 10%.
(eg. If 1000 is price then small price = 1000, medium = 1100,large=1200 and xlarge=1300) Use static concept.

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1.Book

Main.cpp File

```
#include "bookheader.h"

int main()
{

        Book::showcount();
        Book b1(1,1499,"Bhagwat Gita","Shri. Prabhu");
        b1.showbook();



        Book b2(2,1999,"Gravity","James");
        b2.showbook();

        Book::showcount();
        return 0;
```

```
}
```

Header.h File

```
#include<iostream>
#include<stdio.h>
#include<string.h>


using namespace std;

class Book
{
        int bid;
        double bprice;
        char bname[50];
        char bauthor[50];
        static int count;
        public:

        Book();
        Book(int,double,char*,char*);
        ~Book();

        void setbid(int);
        void setbname(char*);
```

```
        void setbprice(double);
        void setbauthor(char*);

        int getbid();
        double getbprice();
        char* getbname();
        char* getbauthor();

        void showbook();
        static void showcount();

};
```

Defination.cpp File

```
#include "bookheader.h"

        int Book::count=0;

        Book::Book()
        {
                bid=0;
                //bname=0;
                strcpy(bname,"Not given");
                strcpy(bauthor,"Not Given");
                //bauthor=0;
```

```
        bprice=0;
        count++;
}
Book::Book(int i,double p,char* n,char* a)
{
        this->bid=i;
        strcpy(this->bname,n);
        strcpy(this->bauthor,a);
        this->bprice=p;
        count++;
}

Book::~Book()
{
        cout<<"\n its getting deleted";
        cout<<count--;

}

void Book::setbid(int i)
{
        this->bid=i;
}

void Book::setbname(char* n)
{
        strcpy(this->bname,n);
}
```

```
void Book::setbprice(double p)
{
        this->bprice=p;
}

void Book::setbauthor(char* a)
{
        strcpy(this->bauthor,a);
}


int Book::getbid()
{
        return this->bid;
}

double Book::getbprice()
{
        return this->bprice;
}

char * Book::getbname()
{
        return this->bname;
}

char * Book::getbauthor()
{
        return this->bauthor;
```

```
}



void Book::showbook()
{
        cout<<"\nBook Id       :"<<this->bid;
        cout<<"\nBook Name     :"<<this->bname;
        cout<<"\nBook Author   :"<<this->bauthor;
        cout<<"\nBook Price    :"<<this->bprice;
        cout<<"\n_____________________________________________";
}
void Book::showcount()
{
        cout<<"\nCount        :"<<count;
        cout<<"\n_____________________________________________";
}
```

……

2.Product.

Main.cpp File

```
#include "productheader.h"
int main()
{

	Product p(1,2,"hiiii",1);
	p.showProduct();
	Product::showdiscount();

	return 0;
}
```

Header.h File

```
#include<iostream>
#include<stdio.h>
#include<string.h>


using namespace std;

class Product
{
	static double discount;

	int pid;
	double pprice;
```

```
        char pname[50];
        long int pquantity;

        public:

        Product();

        Product(int,double,char*,long int);

        ~Product();

        void setpid(int);
        void setpname(char*);
        void setpprice(double);
        void setpquantity(long int);

        int getpid();
        double getpprice();
        char* getpname();

        long int getpquantity();

        void showProduct();


        static void showdiscount();

};
```

Defination.cpp File

```
#include "productheader.h"

        double Product::discount=0.1;

        Product::Product()
        {
                pid=0;
                strcpy(pname,"Not given");
                pquantity=0;
                pprice=0;

        }
        Product::Product(int i,double p,char* n,long int q)
        {
                this->pid=i;
                strcpy(this->pname,n);
                this->pprice=p;
                this->pquantity=q;

        }



        Product::~Product()
        {
```

```
        cout<<"\nbyee..";

}

void Product::setpid(int i)
{
        this->pid=i;
}

void Product::setpname(char* n)
{
        strcpy(this->pname,n);
}

void Product::setpprice(double p)
{
        this->pprice=p;
}

void Product::setpquantity(long int q)
{
        this->pquantity=q;
}


int Product::getpid()
{
        return this->pid;
}
```

```
double Product::getpprice()
{
        return this->pprice;
}

char * Product::getpname()
{
        return this->pname;
}

long int Product::getpquantity()
{
        return this->pquantity;
}



void Product::showProduct()
{

        cout<<"\nProduct Id        :"<<this->pid;
        cout<<"\nProduct Name      :"<<this->pname;
        cout<<"\nProduct Quanity    :"<<this->pquantity;
        cout<<"\nProduct Price     :"<<this->pprice;
        cout<<"\nDiscounted Price   :"<<pprice-(pprice*discount);

        cout<<"\n_____________________________________________";
}
```

```
void Product::showdiscount()
{
        cout<<"\n"<<discount;

        cout<<"\n_____";
}
```

……

3.Shirt.

Main.cpp File

```
#include "header.h"

int main()
{

        Shirt s(1,3499,"Peter England","Formal","large");
        s.show();
        Shirt s1;
        s1.setsid(1);
        s1.setssize("Medium");
        s1.setsprice(1233);
        s1.setstype("Formal");
        s1.setsname("Raymond");
        s1.show();
        return 0;
```

```
}
```

Header.h File

```
#include<stdio.h>
#include<iostream>
#include<string.h>
using namespace std;

class Shirt
{
        int sid;
        char sname[40];
        char stype[40];
        char ssize[40];
        int sprice;

        public:

                Shirt();

                Shirt(int,int,char*,char*,char*);

                ~Shirt();


void setsid(int );

void setsname(char* );

void setstype(char* );
```

```
void setssize(char* );

void setsprice(int);


int getsid();

int getsprice();

char* getsname();

char* getstype();

char* getssize();


void show();


};
```

Defination.cpp File

```
#include "header.h"

Shirt::Shirt()
{

        this->sid=0;
```

```
	this->sprice=0;
	strcpy(this->sname,"Not yet");
	strcpy(this->stype,"Not yet Given");
	strcpy(this->ssize,"Not yet Given");

}

Shirt::Shirt(int i,int p,char * n, char * t,char * s)
{
	this->sid=i;
	this->sprice=p;
	strcpy(this->sname,n);
	strcpy(this->stype,t);
	strcpy(this->ssize,s);

}

Shirt::~Shirt()
{
	cout<<"\ni am going";
}


void Shirt::setsid(int i)
{
	this->sid=i;

}

void Shirt::setsname(char* n)
{
	strcpy(this->sname,n);
```

```
}
void Shirt::setstype(char* t)
{
	strcpy(this->stype,t);
}

void Shirt::setssize(char* s)
{
	strcpy(this->ssize,s);

}

void Shirt::setsprice(int p)
{
	this->sprice=p;

}


int Shirt::getsid()
{
	return this->sid;
}

int Shirt::getsprice()
{
	return this->sprice;
}

char* Shirt::getsname()
{
```

```
        return this->sname;
}

char* Shirt::getstype()
{
        return this->stype;
}

char* Shirt::getssize()
{
        return this->ssize;
}


void Shirt::show()
{

        cout<<"\nShirt Price  :"<<this->sprice;

        cout<<"\nShirt id     :"<<this->sid;
        cout<<"\nShirt Name   :"<<this->sname;
        cout<<"\nShirt Type   :"<<this->stype;
        cout<<"\nShirt Size   :"<<this->ssize;

        if(strcasecmp(ssize,"Small")==0)
        cout<<"\nShirt Price  :"<<(sprice+(sprice*0.1));

        if(strcasecmp(ssize,"Medium")==0)
        cout<<"\nShirt Price  :"<<sprice+sprice*0.2;

        if(strcasecmp(ssize,"Large")==0)
        cout<<"\nShirt Price  :"<<sprice+sprice*0.3;
```

```
        cout<<"\n_____";


}
```