**AIM:** Create a c++ program that has a class product (prod\_id, name, price), which is inherited by other

classes viz., belt (length, color, width), shoes (size, formal/casual, laced/non laced) and

caps(diameter, water proof/not, color). List out the products available to the user and allow the user

to select the products and the quantity. Overload \* operator for multiplying quantity with objects.

Display the product wise price and total amount.

**PROGRAM:**

#include<iostream>

#include<conio.h>

using namespace std;

class product

{ public:

int p,at; // price,total\_amount

char id[20],n[20]; // id,name

int operator\*(int q) // individual product amount

{ return(q\*p); }

product operator+(product c) // total amount

{ product temp;

temp.at=at+c.at;

return temp;

}

}\*ob1,\*ob2,\*ob3,ob;

class belt:public product

{ public:

int l,w; // length width

char color[5]; // color

belt()

{ strcpy(id,"belt@1");

strcpy(n,"BELTS");

l=7; w=3; at=0;

strcpy(color,"RED");

p=200;

}

void disp()

{ cout<<"ID: "<<id<<"\nNAME: "<<n<<"\nPRICE: "<<p<<endl;

cout<<"LENGTH: "<<l<<"\nWIDTH: "<<w<<"\nCOLOR: "<<color<<endl;

}

};

class caps:public product

{ public:

int d; // dia

char typ1[20],typ2[20],color[5];

caps()

{ strcpy(id,"caps@1");

strcpy(n,"CAPS");

strcpy(color,"RED");

strcpy(typ1,"WATERPROOF");

strcpy(typ2,"NONWATERPROOF");

p=300; at=0; d=90;

}

void disp()

{ cout<<"ID: "<<id<<"\nNAME: "<<n<<"\nPRICE: "<<p<<endl;

cout<<"TYPE1"<<typ1<<"\nTYPE2"<<typ2<<"\nCOLOR: "<<color<<endl;

}

};

class shoes:public product

{ public:

int sz;

char typ1[20],typ2[20],typ3[20],color[5];

shoes()

{ strcpy(id,"shoes@1");

strcpy(n,"SHOES");

strcpy(color,"RED");

strcpy(typ1,"FORMAL");

strcpy(typ2,"SPORTS");

strcpy(typ3,"CASUAL");

at=0; p=800;

}

void disp()

{cout<<"ID: "<<id<<"\nNAME: "<<n<<"\nPRICE: "<<p<<endl;

cout<<"TYPE1: "<<typ1<<"\nTYPE2: "<<typ2<<"\nTYPE3: "<<typ3<<"\nCOLOR: "<<color<<endl;

}

};

int main()

{ belt b; caps c; shoes s;

int ch,qt;

while(1)

{ system("CLS");

cout<<"1.BELT\n2.CAPS\n3.SHOES\n4.TOTAL\_AMOUNT\n5.EXIT "<<endl; cin>>ch;

switch(ch)

{ case 1: system("CLS");

b.disp();

cout<<"QUANTITY: ";

cin>>qt;

b.at=b.at+b\*qt;

cout<<"TOTAL\_AMOUNT: "<<b.at;

break;

case 2: system("CLS");

c.disp();

cout<<"QUANTITY: ";

cin>>qt;

c.at=c.at+c\*qt;

cout<<" TOTAL\_AMOUNT: "<<c.at;

break;

case 3: system("CLS");

s.disp();

cout<<"QUANTITY: ";

cin>>qt;

s.at=s.at+s\*qt;

cout<<" TOTAL\_AMOUNT: "<<s.at;

break;

case 4: system("CLS");

ob1=&b; ob2=&c; ob3=&s;

ob=\*ob1+\*ob2+\*ob3;

cout<<"TOTAL\_COST: "<<ob.at<<endl;

break;

case 5: exit(0);

default: cout<<"INVALID ENTRY!!";

}getch();

}

}