**public** **abstract** **class** Item {

**protected** String name;

**public** Item()

{

name="";

}

**public** Item(String name1)

{

name=name1;

}

**public** String getName()

{

**return** name;

}

**public** **void** setName(String name1)

{

name=name1;

}

**public** **abstract** **double** getCost();

}

**package** oops;

**public** **class** Candy **extends** Item {

**private** **double** weight;

**private** **double** pricePerPound;

**public** Candy()

{

**super**();

weight=0;

pricePerPound=0;

}

**public** Candy(String name, **double** w, **double** prc)

{

**super**(name);

weight=w;

pricePerPound=prc;

}

**public** **double** getWeight()

{

**return** weight;

}

**public** **void** setWeight(**double** weight)

{

**this**.weight=weight;

}

**public** **double** getPricePerPound()

{

**return** pricePerPound;

}

**public** **void** setPricePerPound(**double** pricePerPound)

{

**this**.pricePerPound=pricePerPound;

}

**public** **double** getCost()

{

**double** total=weight\*pricePerPound;

total=Math.*round*(total\*100);

**return** total;

}

**public** String toString()

{

String s=String.*format*("%-50s$%2f\n\t%.2f lbs@$.2f",getName(),getCost()/100,weight,pricePerPound);

**return** s;

}

}

**package** oops;

**public** **class** Cookie **extends** Item {

**private** **int** quantity;

**private** **double** pricePerDozen;

**public** Cookie()

{

**super**();

quantity=0;

pricePerDozen=0;

}

**public** Cookie(String name ,**int** qty, **double** prc)

{

**super**(name);

quantity=qty;

pricePerDozen=prc;

}

**public** **double** getQuantity()

{

**return** quantity;

}

**public** **double** getPricePerDozen()

{

**return** pricePerDozen;

}

**public** **void** setPricePerDozen(**double** pricePerDozen)

{

**this**.pricePerDozen=pricePerDozen;

}

**public** **void** setQuantity(**int** quantity)

{

**this**.quantity=quantity;

}

**public** **double** getCost()

{

**double** total=pricePerDozen/12\*quantity;

total=Math.*round*(total\*100);

**return** total;

}

**public** String toString()

{

String s=String.*format*("%-50s$.%2f\n\t%dcookies@$%.2f per Dozen",getName(),getCost()/100,quantity,pricePerDozen);

**return** s;

}

}

**package** oops;

**public** **class** Icecream **extends** Item

{

**private** **int** numberOfScoops;

**private** **double** pricePerScoop;

**private** **double** toppingPrice;

**public** Icecream()

{

**super**();

numberOfScoops=0;

pricePerScoop=0;

toppingPrice=0;

}

**public** Icecream(String name,**int** scoops,**double** prcPerScoop,**double** toppings)

{

**super**(name);

numberOfScoops=scoops;

pricePerScoop=prcPerScoop;

toppingPrice=toppings;

}

**public** **int** getnumberOfScoops()

{

**return** numberOfScoops;

}

**public** **void** setnumberOfScoops(**int** numberOfScoops)

{

**this**.numberOfScoops=numberOfScoops;

}

**public** **double** getPricePerScoop()

{

**return** pricePerScoop;

}

**public** **void** setPricePerScoop(**double** pricePerScoop) {

**this**.pricePerScoop=pricePerScoop;

}

**public** **double** getToppingPrice()

{

**return** toppingPrice;

}

**public** **void** setToppingPrice(**double** toppingPrice)

{

**this**.toppingPrice=toppingPrice;

}

**public** **double** getCost()

{

**double** total=(numberOfScoops\*pricePerScoop+toppingPrice);

**return** Math.*round*(100\*total);

}

**public** String toString()

{

String s=String.*format*("%-50s$%.2f\n\t%dscoops@$%.2f/scoop+$%.2f",getName(),getCost()/100,numberOfScoops,pricePerScoop,toppingPrice);

**return** s;

}

}

**package** oops;

**public** **class** Shop {

**public** **static** **void** main(String arg[])

{

Candy item1=**new** Candy("Peanut Butter Fudge",2.25,3.99);

Cookie item2=**new** Cookie("Oatmeal Raisin cookies",4,3.99);

Icecream item3=**new** Icecream("Vanilla Ice Cream",2,1.05,0.45);

System.***out***.println(item1);

System.***out***.println(item2);

System.***out***.println(item3);

}

}