Lab assignment #

Object Oriented Programming

# Submitted by

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# Github link

[https://github.com/imtanan-m/OOP21.git]

# Scenario

Create a class named Pizza that stores information about a single pizza. It should contain the following:

* Private instance variables to store the size of the pizza (either small, medium, or large), the number of cheese toppings, the number of pepperoni toppings, and the number of ham toppings.
* Constructor(s) that set all of the instance variables.
* Public methods to get and set the instance variables.
* A public method named calcCost( ) that returns a double that is the cost of the pizza. Pizza cost is determined by:
  + Small: $10 + $2 per topping
  + Medium: $12 + $2 per topping
  + Large: $14 + $2 per topping
* public method named getDescription( ) that returns a String containing the pizza size, quantity of each topping.

Write test code to create several pizzas and output their descriptions. For example, a large pizza with one cheese, one pepperoni and two ham toppings should cost a total of $22.

Now Create a PizzaOrder class that allows up to three pizzas to be saved in an order. Each pizza saved should be a Pizza object. Create a method calcTotal() that returns the cost of order.

In the runner order two pizzas and return the total cost.

# Code

**Pizza Class:**

public class Pizza {

private String size;

private int cheeseToppings;

private int pepperoniToppings;

private int hamToppings;

public Pizza(String size, int cheeseToppings, int pepperoniToppings, int hamToppings)

{

this.size = size;

this.cheeseToppings = cheeseToppings;

this.pepperoniToppings = pepperoniToppings;

this.hamToppings = hamToppings;

}

public void setSize(String size)

{

this.size = size;

}

public void setCheeseToppings(int cheeseToppings)

{

this.cheeseToppings = cheeseToppings;

}

public void setPepperoniToppings(int pepperoniToppings)

{

this.pepperoniToppings = pepperoniToppings;

}

public void setHamToppings(int hamToppings)

{

this.hamToppings = hamToppings;

}

public String setSize()

{

this.size = size;

return null;

}

public int setCheeseToppings()

{

this.cheeseToppings = cheeseToppings;

return 0;

}

public int setPepperoniToppings()

{

this.pepperoniToppings = pepperoniToppings;

return 0;

}

public int setHamToppings()

{

this.hamToppings = hamToppings;

return 0;

}

public String getSize()

{

return size;

}

public int getCheeseToppings()

{

return cheeseToppings;

}

public int getPepperoniToppings()

{

return pepperoniToppings;

}

public int getHamToppings()

{

return hamToppings;

}

public double calcCost()

{

int cost = 0;

if ("Small".equals(getSize()))

cost = 10 + (2\*(getCheeseToppings() + getPepperoniToppings() + getHamToppings()));

else if ("Medium".equals(getSize()))

cost = 12 + (2\*(getCheeseToppings() + getPepperoniToppings() + getHamToppings()));

else if ("Large".equals(getSize()))

cost = 14 + (2\*(getCheeseToppings() + getPepperoniToppings() + getHamToppings()));

return cost;

}

public String getDescription()

{

return "Pizza size: "+ getSize() + "\nQuantity of topings: " + "\nCheese Toppings: " + getCheeseToppings() + "\nPepperoni Toppings: " + getPepperoniToppings() + "\nHam Toppings: " + getHamToppings();

}

}

**PizzaOrder Class:**

public class PizzaOrder {

private Pizza pizza1;

private Pizza pizza2;

private Pizza pizza3;

public PizzaOrder(Pizza pizza1, Pizza pizza2, Pizza pizza3)

{

this.pizza1 = pizza1;

this.pizza2 = pizza2;

this.pizza3 = pizza3;

}

public double calcTotal()

{

return pizza1.calcCost() + pizza2.calcCost() + pizza3.calcCost();

}

**Main:**

public static void main(String[] args) {

Pizza P1 = new Pizza("Small", 1, 2, 3);

Pizza P2 = new Pizza("Large", 3, 2, 1);

Pizza P3 = new Pizza("Empty", 0, 0, 0);

System.out.println("Total cost of Pizzas:\nSmall Pizza: " + P1.calcCost() + "\nLarge Pizza: " + P2.calcCost() + "\nOut of order: " + P3.calcCost());

}

}

# Output

Total cost of Pizzas:

Small Pizza: 22.0

Large Pizza: 26.0

Out of order: 0.0

