

```

import java.util.ArrayList;

//import java.util.ArrayList;

//public
abstract class Pizza {
    String name;
    String dough;
    String sauce;
    ArrayList<String> toppings = new ArrayList<String>();

    void prepare() {
        System.out.println("Prepare " + name);
        System.out.println("Tossing dough...");
        System.out.println("Adding sauce...");
        System.out.println("Adding toppings: ");
        for (String topping : toppings) {
            System.out.println("    " + topping);
        }
    }

    void bake() {
        System.out.println("Bake for 25 minutes at 350");
    }

    void cut() {
        System.out.println("Cut the pizza into diagonal
slices");
    }

    void box() {
        System.out.println("Place pizza in official PizzaStore
box");
    }

    public String getName() {
        return name;
    }

    public String toString() {
        StringBuffer display = new StringBuffer();
        display.append("---- " + name + " ----\n");
        display.append(dough + "\n");
        display.append(sauce + "\n");
        for (String topping : toppings) {
            display.append(topping + "\n");
        }
        return display.toString();
    }
}

```

```
//public
class NYStyleCheesePizza extends Pizza {

    public NYStyleCheesePizza() {
        name = "NY Style Sauce and Cheese Pizza";
        dough = "Thin Crust Dough";
        sauce = "Marinara Sauce";

        toppings.add("Grated Reggiano Cheese");
    }
}
```

```
//public
class NYStyleClamPizza extends Pizza {

    public NYStyleClamPizza() {
        name = "NY Style Clam Pizza";
        dough = "Thin Crust Dough";
        sauce = "Marinara Sauce";

        toppings.add("Grated Reggiano Cheese");
        toppings.add("Fresh Clams from Long Island Sound");
    }
}
```

```
//public
class ChicagoStylePepperoniPizza extends Pizza {
    public ChicagoStylePepperoniPizza() {
        name = "Chicago Style Pepperoni Pizza";
        dough = "Extra Thick Crust Dough";
        sauce = "Plum Tomato Sauce";

        toppings.add("Shredded Mozzarella Cheese");
        toppings.add("Black Olives");
    }
}
```

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        toppings.add("Spinach");
        toppings.add("Eggplant");
        toppings.add("Sliced Pepperoni");
    }

    void cut() {
        System.out.println("Cutting the pizza into square
slices");
    }
}

//public
abstract class PizzaStore {

    abstract Pizza createPizza(String item);

    public Pizza orderPizza(String type) {
        Pizza pizza = createPizza(type);
        System.out.println("--- Making a " + pizza.getName() +
" ---");

        pizza.prepare();
        pizza.bake();
        pizza.cut();
        pizza.box();
        return pizza;
    }
}

//public
class ChicagoPizzaStore extends PizzaStore {

    Pizza createPizza(String item) {
        /*if (item.equals("cheese")) {
            return new ChicagoStyleCheesePizza();
        } else*/
        if (item.equals("veggie")) {
            return new ChicagoStyleVeggiePizza();
        } /* else if (item.equals("clam")) {
            return new ChicagoStyleClamPizza();
        } */else if (item.equals("pepperoni")) {
            return new ChicagoStylePepperoniPizza();
        } else return null;
    }
}

```

```

//public
class NYPizzaStore extends PizzaStore {

    Pizza createPizza(String item) {
        if (item.equals("cheese")) {
            return new NYStyleCheesePizza();
        } /* else if (item.equals("veggie")) {
            return new NYStyleVeggiePizza();
        } */ else if (item.equals("clam")) {
            return new NYStyleClamPizza();
        } /*else if (item.equals("pepperoni")) {
            return new NYStylePepperoniPizza();
        } */ else return null;
    }
}

//public
class ChicagoStyleVeggiePizza extends Pizza {
    public ChicagoStyleVeggiePizza() {
        name = "Chicago Deep Dish Veggie Pizza";
        dough = "Extra Thick Crust Dough";
        sauce = "Plum Tomato Sauce";

        toppings.add("Shredded Mozzarella Cheese");
        toppings.add("Black Olives");
        toppings.add("Spinach");
        toppings.add("Eggplant");
    }

    void cut() {
        System.out.println("Cutting the pizza into square
slices");
    }
}

```

```

public class PizzaTestDrive {

    public static void main(String[] args) {
        PizzaStore nyStore = new NYPizzaStore();
        PizzaStore chicagoStore = new ChicagoPizzaStore();

        Pizza pizza = nyStore.orderPizza("cheese");
        System.out.println("First order was a " +
pizza.getName() + "\n");

        pizza = nyStore.orderPizza("cheese");
        System.out.println("Second order was a " +
pizza.getName() + "\n");
    }
}

```

/*

\$java PizzaTestDrive

Preparing NY Style Sauce and Cheese Pizza

Tossing dough...

Adding sauce...

Adding toppings:

Grated Regiano cheese

Bake for 25 minutes at 350

Cutting the pizza into diagonal slices

Place pizza in official PizzaStore box

First order was a NY Style Sauce and Cheese Pizza

Preparing Chicago Style Deep Dish Cheese Pizza

Tossing dough...

Adding sauce...

Adding toppings:

Shredded Mozzarella Cheese

Bake for 25 minutes at 350

Cutting the pizza into square slices

Place pizza in official PizzaStore box

Second order was a Chicago Style Deep Dish Cheese Pizza

Abstract Factor

*/