

```

1 package edu.cpp.cs5800.pizza;
2
3 import java.util.List;
4
5 public class Pizza {
6     public enum Size {
7         SMALL("Small"),
8         MEDIUM("Medium"),
9         LARGE("Large");
10
11     private final String size;
12
13     Size(String size) {
14         this.size = size;
15     }
16
17     @Override
18     public String toString() {
19         return size;
20     }
21 }
22
23 public enum Topping {
24     PEPPERONI("Pepperoni"),
25     SAUSAGE("Sausage"),
26     MUSHROOMS("Mushrooms"),
27     BACON("Bacon"),
28     ONIONS("Onions"),
29     EXTRA_CHEESE("Extra Cheese"),
30     PEPPERS("Peppers"),
31     CHICKEN("Chicken"),
32     OLIVES("Olives"),
33     SPINACH("Spinach"),
34     TOMATO_AND_BASIL("Tomato and Basil"),
35     BEEF("Beef"),
36     HAM("Ham"),
37     PESTO("Pesto"),
38     SPICY_PORK("Spicy Pork"),
39     HAM_AND_PINEAPPLE("Ham and Pineapple");
40
41     private final String toppingName;
42
43     Topping(String toppingName) {
44         this.toppingName = toppingName;
45     }
46
47     @Override
48     public String toString() {
49         return toppingName;
50     }
51 }
52
53 private Size size;

```

```
54     private List<Topping> toppings;
55     private String chainName;
56
57     public Pizza(Size size, List<Topping> toppings, String chainName) {
58         this.size = size;
59         this.toppings = toppings;
60         this.chainName = chainName;
61     }
62
63     public String eat() {
64         String msgTmpl = "Eating a %s pizza at %s with %d toppings: %s";
65         return String.format(msgTmpl, this.size, this.chainName, this.toppings.size(),
66             this.toppings);
67     }
68 }
```

```
1 package edu.cpp.cs5800.pizza;
2
3 public class Dominos extends PizzaChain {
4     private static final String name = "Dominos";
5
6     protected String getName() {
7         return name;
8     }
9 }
10
```

```
1 package edu.cpp.cs5800.pizza;  
2  
3 public class PizzaHut extends PizzaChain {  
4     private static final String name = "Pizza Hut";  
5  
6     protected String getName() {  
7         return name;  
8     }  
9 }  
10
```

```
1 package edu.cpp.cs5800.pizza;
2
3 import java.util.ArrayList;
4 import java.util.List;
5
6 public abstract class PizzaChain {
7     private Pizza.Size size;
8     private List<Pizza.Topping> toppings = new ArrayList<>();
9
10    public PizzaChain setSize(Pizza.Size size) {
11        this.size = size;
12        return this;
13    }
14
15    public PizzaChain addPepperoni() {
16        this.toppings.add(Pizza.Topping.PEPPERONI);
17        return this;
18    }
19
20    public PizzaChain addSausage() {
21        this.toppings.add(Pizza.Topping.SAUSAGE);
22        return this;
23    }
24
25    public PizzaChain addMushrooms() {
26        this.toppings.add(Pizza.Topping.MUSHROOMS);
27        return this;
28    }
29
30    public PizzaChain addBacon() {
31        this.toppings.add(Pizza.Topping.BACON);
32        return this;
33    }
34
35    public PizzaChain addOnions() {
36        this.toppings.add(Pizza.Topping.ONIONS);
37        return this;
38    }
39
40    public PizzaChain addExtraCheese() {
41        this.toppings.add(Pizza.Topping.EXTRA_CHEESE);
42        return this;
43    }
44
45    public PizzaChain addPeppers() {
46        this.toppings.add(Pizza.Topping.PEPPERS);
47        return this;
48    }
49
50    public PizzaChain addChicken() {
51        this.toppings.add(Pizza.Topping.CHICKEN);
52        return this;
53    }
```

```
54
55 public PizzaChain addOlives() {
56     this.toppings.add(Pizza.Topping.OLIVES);
57     return this;
58 }
59
60 public PizzaChain addSpinach() {
61     this.toppings.add(Pizza.Topping.SPINACH);
62     return this;
63 }
64
65 public PizzaChain addTomatoAndBasil() {
66     this.toppings.add(Pizza.Topping.TOMATO_AND_BASIL);
67     return this;
68 }
69
70 public PizzaChain addBeef() {
71     this.toppings.add(Pizza.Topping.BEEF);
72     return this;
73 }
74
75 public PizzaChain addHam() {
76     this.toppings.add(Pizza.Topping.HAM);
77     return this;
78 }
79
80 public PizzaChain addPesto() {
81     this.toppings.add(Pizza.Topping.PESTO);
82     return this;
83 }
84
85 public PizzaChain addSpicyPork() {
86     this.toppings.add(Pizza.Topping.SPICY_PORK);
87     return this;
88 }
89
90 public PizzaChain addHamAndPineapple() {
91     this.toppings.add(Pizza.Topping.HAM_AND_PINEAPPLE);
92     return this;
93 }
94
95 public Pizza build() {
96     return new Pizza(this.size, this.toppings, this.getName());
97 }
98
99 protected abstract String getName();
100 }
101
```

```
1 package edu.cpp.cs5800.pizza;
2
3 public class PizzaDriver {
4     public static void main(String[] args) {
5         Pizza smallPizza = new PizzaHut()
6             .setSize(Pizza.Size.SMALL)
7             .addBacon()
8             .addMushrooms()
9             .addMushrooms()
10            .build();
11
12        Pizza mediumPizza = new PizzaHut()
13            .setSize(Pizza.Size.MEDIUM)
14            .addOlives()
15            .addChicken()
16            .addSausage()
17            .addBacon()
18            .addPesto()
19            .addPepperoni()
20            .build();
21
22        Pizza largePizza = new PizzaHut()
23            .setSize(Pizza.Size.LARGE)
24            .addHamAndPineapple()
25            .addOlives()
26            .addSpinach()
27            .addChicken()
28            .addPesto()
29            .addSausage()
30            .addBacon()
31            .addOnions()
32            .addPepperoni()
33            .build();
34
35        System.out.println(smallPizza.eat());
36        System.out.println(mediumPizza.eat());
37        System.out.println(largePizza.eat());
38
39        Pizza pizzaHutLarge = new PizzaHut()
40            .setSize(Pizza.Size.LARGE)
41            .addOnions()
42            .addPesto()
43            .addPepperoni()
44            .build();
45
46        Pizza pizzaHutSmall = new PizzaHut()
47            .setSize(Pizza.Size.SMALL)
48            .addPeppers()
49            .addTomatoAndBasil()
50            .build();
51
52        Pizza littleCaesarsMedium = new LittleCaesars()
53            .setSize(Pizza.Size.MEDIUM)
```

```

54         .addExtraCheese()
55         .addOnions()
56         .addBeef()
57         .addPesto()
58         .addSausage()
59         .addPepperoni()
60         .addSpicyPork()
61         .addOlives()
62         .build();
63
64     Pizza littleCaesarsSmall = new LittleCaesars()
65         .setSize(Pizza.Size.SMALL)
66         .addSausage()
67         .addBeef()
68         .addHamAndPineapple()
69         .addPeppers()
70         .addTomatoAndBasil()
71         .addHam()
72         .build();
73
74     Pizza dominosSmall = new Dominos()
75         .setSize(Pizza.Size.MEDIUM)
76         .addSpicyPork()
77         .build();
78
79     Pizza dominosLarge = new Dominos()
80         .setSize(Pizza.Size.SMALL)
81         .addHamAndPineapple()
82         .addPeppers()
83         .addTomatoAndBasil()
84         .build();
85
86     System.out.println("-----Print for each pizza chain-----");
87     System.out.println(pizzaHutLarge.eat());
88     System.out.println(pizzaHutSmall.eat());
89     System.out.println(littleCaesarsMedium.eat());
90     System.out.println(littleCaesarsSmall.eat());
91     System.out.println(dominosSmall.eat());
92     System.out.println(dominosLarge.eat());
93 }
94 }
95

```



```
1 package edu.cpp.cs5800.pizza;  
2  
3 public class LittleCaesars extends PizzaChain {  
4     private static final String name = "Little Caesars";  
5  
6     protected String getName() {  
7         return name;  
8     }  
9 }  
10
```