

Pizza Are Us LLC

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1 Introduction

You have been assigned to develop a Java program that will teach pizza enthusiasts how to make different types of pizza. The major features of your tutorial program are:

- Teach how to make the pizza dough.
- Provide bake instructions.
- Provide a list of toppings for each kind of pizza.

It is your responsibility of develop this program using as much Java OOP concepts as possible, such as creating:

- A super class for the general pizza (a super class)
- A class for each type of pizza (inheritance)
- Specific constructors for each pizza type
- Getters (also known as mutators) and Setters (also known as accessors) methods (encapsulation)
- Allowing the customer to modify few things on a given pizza, such as adding or removing toppings.

2 General Pizza Class

So, let's think about this job assignment of yours: The first question you should ask yourself is: what are the general pizza features?

Below is a list of features that all the pizza types have in common:

- They have a dough (so knowing how to prepare a dough would be great!)
- They have different toppings (what about we create an array or list of toppings?)
- They have different sizes (small, medium, and large)
- They can be slightly modified by the customer (such as adding or removing a topping)
- They can be very similar to other existing pizza (so we can inherit most of the other pizza features and just add the differences into the other one)
- They have a "description" of what their names are and what their toppings, etc.

Since the above features are common to all the pizza types, let's create a Java Class named Pizza with those features, shall we?

3 General Information on how to make a pizza

Two things that we should tell the pizza enthusiast about are:

- 1) How to prepare the pizza dough
- 2) The process of baking it

Since they are things that all pizza share in common, we also should put them into the overall Pizza Class.

Are you ready to learn how to do it yourself? Let's dig in...

3.1 How to prepare the pizza dough

The process of preparing the pizza dough are as follows:

- 1) Whisk 3 3/4 cups flour and 1 1/2 teaspoons salt.
- 2) Make a well and add 1 1/3 cups warm water, 1 tablespoon sugar and 1 packet yeast.
- 3) When foamy, mix in 3 tablespoons olive oil; knead until smooth, 5 minutes.
- 4) Brush with olive oil, cover in a bowl and let rise until doubled, about 1 hour 30 minutes.
- 5) Divide into two 1-pound balls.
- 6) Use 1 pound per recipe unless noted.

3.2 The steps for baking any pizza

The process of baking a pizza dough can be divided into the following steps:

- 1) Place a pizza stone or an inverted baking sheet on the lowest oven rack and preheat to 500 degrees.
- 2) Stretch 1 pound dough on a floured pizza peel, large wooden cutting board or parchment paper.
- 3) Top as desired, then slide the pizza (with the parchment paper, if using) onto the stone or baking sheet. Bake until golden, about 15 minutes.

4 Types of pizza

Now that we have learned the general topics/features of a pizza. Let's get more specific. Let's talk about few different types of pizza. Basically the difference between them is the types of toppings. What we want is to create a class for each type of pizza. All these new pizza classes will extend the overall Pizza class, in what we call "inheritance". This avoid code duplication, remember?

4.1 Margherita

Toppings:

- crushed San Marzano tomatoes
- dried oregano
- mozzarella
- torn basil

Preparation:

- a) Stretch dough into two thin 9-inch rounds.
- b) Top each with 1/2 cup crushed San Marzano tomatoes, dried oregano, salt, pepper and olive oil
- c) bake until golden
- d) Sprinkle with 1/2 pound diced mozzarella
- e) Torn basil and salt
- f) Bake until the cheese melts
- g) Drizzle with olive oil.

4.2 Tomato Pie

Tomato Pie pizza is based on the Margherita pizza. The additional toppings are shown in blue. The removed toppings are shown in red.

Toppings:

- crushed San Marzano tomatoes
- dried oregano
- ~~mozzarella~~
- ~~tom basil~~
- olives
- artichoke hearts
- ham
- sauteed mushrooms

Preparation:

- a) Follow instructions provided in the Margherita pizza without mozzarella or basil
- b) Use extra oregano

4.3 Puttanesca

Puttanesca pizza is based on the Margarita pizza. The additional toppings are shown in blue.

Toppings:

- crushed San Marzano tomatoes
- dried oregano
- mozzarella
- tom basil
- garlic clove
- capers
- olives
- parsley
- tomatoes

Preparation:

- a) Follow instructions provided in the Margherita pizza
- b) chop 1 garlic clove
- c) 6 anchovies
- d) 1 tablespoon capers
- e) 1/4 cup olives
- f) some parsley
- g) scatter over the tomatoes

4.4 New York-Style

Toppings:

- tomato sauce
- mozzarella
- pecorino
- dried oregano
- olive oil

Preparation:

- a) Press dough into an oiled 15-inch pizza pan
- b) Drizzle with olive oil
- c) top with 1/2 cup tomato sauce
- d) add 2 cups shredded mozzarella
- e) Bake it
- f) garnish with pecorino, dried oregano and olive oil

4.5 Pepperoni-Mushroom

Pepperoni-Mushroom pizza is based on the New York Style pizza. The additional toppings are shown in blue.

Toppings:

- tomato sauce
- mozzarella
- pecorino
- dried oregano
- olive oil
- sauteed mushrooms
- sliced pepperoni

Preparation:

- g) Press dough into an oiled 15-inch pizza pan
- h) Drizzle with olive oil
- i) top with 1/2 cup tomato sauce
- j) add 2 cups shredded mozzarella
- k) top with sauteed mushrooms and sliced pepperoni
- l) Bake it
- m) garnish with pecorino, dried oregano and olive oil