Project 4

The Schaper Deli uses the freshest ingredients for its sandwiches. The Deli makes either a hamburger, ham, or chicken sandwich. The following list shows the ingredients the Deli can use to make a sandwich and the cost of each ingredient.

Meats:
- Hamburger $2.00
- Ham $1.50
- Chicken $2.50

Bread:
- Bun $0.50
- Wheat wrap $0.60

Toppings:
- Sprouts $0.35
- Lettuce $0.30
- Tomato $0.40
- Cheese $0.75
- Onion $0.35

Condiments:
- Mayonnaise $0.25
- Mustard $0.25
- Ketchup $0.25

The Schaper Deli has been very successful and has franchises in Bethlehem, Allentown, and Emmaus. The customer base at each location is different, therefore the Delis make sandwiches differently.

The following table shows how each of the Delis makes each sandwich:

	Bethlehem Store			Allentown Store			Emmaus Store		
	hamburger	ham	chicken	hamburger	ham	chicken	hamburger	ham	chicken
bun	x	x		x	x	x		x	
wheat wrap			x				x		x
cheese			x	x	x			x	
lettuce		x	x	x		x	x		x
tomato		x	x	x	x				x
onion	x				x		x		x
ketchup	x								
mustard	x		x				x	x	
mayonaise		x		x		x			x

Some customers frequent the Delis so often that some stores will make special sandwiches just for them.

For this project you are to create a UML design for a software package that will fill sandwich orders for the stores. The design UML can be (neatly) handwritten. The UML design diagram is due on Monday, April 16, 2018, at the beginning of class.

The software package will take a customer order and output a description of the made sandwich and its cost. The Deli sandwich prices include tax, an idea our customers like. After the design is adopted, you are to implement the package using Java.

You are required to use the Factory and Abstract Factory patterns for the design of your software. To test your software, have main function order every sandwich from every store.

You are to complete this project in teams. Each team must use a GitHub repository to manage development. Once development and testing are complete, add all source code (.java files only) to the gitkeeper repository, commit, and push your solution to gitkeeper. Only one team member needs to submit the team's solution.

You are also required to create a UML diagram for your design. The design UML can be (neatly) handwritten. The UML design diagram is due on Monday, April 16, 2018, at the beginning of class.

The details and requirements of this project may be modified before due date.