**Computer Science Term 1 Project**

**Project Title “PizzaPal: Automate Your Pizza Orders”**

**Objective:**

In this project, you will develop a Python-based **pizza ordering system** for a fictional pizza shop. The goal is to use Python's basic input/print functionality, operators and selection statements to create an automated system that can:

* Display a menu with pizza options and prices.
* Allow customers to select items and specify quantities.
* Calculate the total bill, including options like discounts and taxes.
* Optionally offer toppings or sides as customizations.

By the end of the project, you will have built a functional, user-friendly pizza ordering program that simulates how real-world ordering systems work.

**What You Need to Do:**

**Project Requirements:**

Your Python project should fulfill the following requirements. Make sure to divide your project into **stages** as listed:

**1. Menu Display:**

You will need to create a menu system that displays pizza options to the user. The menu should have:

* **Different pizza sizes** (Small, Medium, Large).
* **At least 3 types of pizza** (e.g., Margherita, Pepperoni, Veggie).
* Prices for each pizza based on size.

**2. Taking Customer Orders:**

Your program should allow customers to:

* **Select the pizza size** they want to order.
* **Choosing an item** (e.g., one small Margherita or one medium Veggie).
* **Specify the quantity** of each pizza.
* **Add or skip optional toppings** (Extra Cheese, Olives, etc.).

**3. Calculating the Total Cost:**

You need to calculate the total cost of the order:

* Add up the prices for each pizza.
* Apply **any special discounts** (if applicable) such as "Buy 2 Large Pizzas, get 1 Small Pizza free".
* Include **sales tax** (e.g., 10% tax on the total).

**Task:**

* Create functions to calculate the total amount.
* Display the **final bill** to the customer, showing the breakdown (base price, tax, discounts, final total).

**4. Handling Edge Cases:**

* Your program should account for **invalid inputs** (e.g., when the user enters a pizza size that doesn’t exist).
* Handle cases where the user enters **negative quantities** or makes **invalid choices**.

**Grading Criteria:**

Your project will be assessed based on:

1. **Functionality (50%)** – Does the program work as expected? Does it calculate the correct bill and handle customer orders effectively?
2. **Code Structure (30%)** – Are you using proper input/output with type casting and conditional statements appropriately? Is your code organized and easy to read?
3. **User Experience (20%)** – Is the program user-friendly and interactive? Is the menu clear and easy to follow?

**Project Submission:**

* **Submit your Python code** via class dojo in private by 7th November 2024.
* **Ensure your code is well-commented** to explain the logic behind your solution.

**Good Luck!**

Use your creativity and programming skills to develop a functional and interactive pizza ordering system. Feel free to add your own flair to the project and make it your own!