

Hello! It's me, your favorite TA.

I created this little homework for you guys and gave a bunch of hints, so hopefully you guys don't struggle too much!

If you need extra help, feel free to DM me personally @brooklynstitt_ on Discord, or visit me in the tutoring center.

I slaved away making this because, apparently, it is harder than it seems to actually come up with an idea for someone else to code. Anyway, you guys better enjoy...or else...



Today, you will be ordering and customizing your pizza(s)! You can choose your size and toppings and find out how much you will be paying. You can choose your own topping choices (just change your struct variables), size prices, and topping prices. You can order just 1 pizza, or even 6 - 7 pizzas if you're feeling hungry, I won't judge!

PIZZA RESTAURANT HOMEWORK (yippee)

STEP 1: Building Your Struct

```
struct Pizza {  
    string size;  
    int cheese;  
    int pepperoni;  
    int mushrooms;  
    int bacon;  
    int pineapple;  
    double price;  
};
```

Implement your structure just like this. This lets you know what attributes you will need to account for later.

★ You can change the names of the toppings if you would like

STEP 2: Most Expensive Pizza Function

```
// returns pointer to most expensive pizza or nullptr  
Pizza* getMostExpensive(Pizza* arr, int n)  
{  
    if(n == 0)  
    {  
        return nullptr;  
    }  
    Pizza* best = &arr[0];  
  
    //TODO: loop through to compare the prices of each pizza.  
    //If the price of the current pizza is larger than the best->price,  
    //that pizza is the new best.  
}
```

This function gives you the most expensive pizzas out of all the ones we created.

- ★ We check if there are 0 pizzas, meaning no calculations will be made, so we simply return.
- ★ Of data type Pizza, we create a variable 'best' that starts off holding the value of the first pizza made.
- ★ What you need to do is compare the current best to the next pizza. If the next pizza is more expensive than the current one, update the best, and so on.

- ★ To access the price of arr, use the dot (.) operator. To access the price of best, use the arrow (->) operator.

STEP 3: Price Functions

```
9 // returns the base price for each pizza size (Set the prices to your liking)
1 double pizzaPriceSize(const string& size)
2 {
3     //TODO: Use conditional IF statements to return a price depending on the size the user gives.
4 }
5
6 // returns the rolling total price by adding on the price of each topping put on pizza)
7 int pizzaPriceToppings(const Pizza& p)
8 {
9     //TODO: Return a total value adds and saves each topping price if they added it
10    //**HINT** Multiply the topping by your assigned price before adding to the total
11 }
12
13
```

You will be making 2 more functions that return the lump price of each pizza you order.

For PizzaPriceSize:

- ★ Simple IF statements will work. If the size the user inputs is small, medium, or large, return the assigned price. This is where you will assign your own prices.

For PizzaPriceToppings:

- ★ You can use the (+=) operator to add and assign the value of each topping to the running total.
- ★ You can access each topping using the dot (.) operator.
 - Ex: p.cheese will give you a 1 or a 0 (yes or no) based on what the user inputs for cheese.

STEP 4: Main Function

```

int main()
{
    //TODO: Ask and collect user input on how many pizzas they order

    Pizza* orders = new Pizza[n];
    for(int i = 0; i < n; i++)
    {
        // TODO: for each pizza, ask the size and if they want each topping.

        // TODO: Update this line so it works properly:
        //orders[i].price = pizzaPriceSize(____) + pizzaPriceToppings(____);
    }

    //TODO: Update this line so it works properly:
    //Pizza* most = _____
    for(int i = 0; i < n; i++)
    {
        //TODO: For each pizza, print the size and YES or NO next to the toppings that they do or don't get.
        //Then display the total price for each pizza.
    }

    cout << "Most Expensive Pizza: $" << most->price << endl;

    //TODO: Close off with your name!

    //TODO: Don't forget to delete before returning

    return 0;
}

```

Super simple! Ask the user how many pizzas they want. Collect that number. Use the number to iterate through. I put the for loops in place for you (you're welcome).

- ★ In the first loop, you will need multiple statements asking the user what they want, and then the user will input their value. Then, you must uncomment the line I wrote and fill in the parameters of those function calls. Refer to the parameters I gave you in those functions to decide what needs to go in there.
- ★ Uncomment and update the next line I gave you. It is very similar to your recent lab's way of calling a function and immediately storing whatever it returns into a value. The 'most' variable will store the most expensive pizza.
- ★ In the last loop, we are just printing. Refer to my output for inspiration. If you want to make it look prettier, you definitely can!
 - When printing toppings, it MUST print YES or NO in the output, even though the user inputs a 1 or 0.
 - Finally, print the price of pizza.

STEP 5:

Just delete like you did in your last lab.



Congrats! You finished!

OUTPUT:

```
How many pizzas were ordered? 3
PIZZA #1

Enter Pizza Size (Small, Medium, Large): Small
Cheese (1/0)? 1
Pepperoni(1/0)? 0
Mushrooms(1/0)? 1
Bacon(1/0)? 0
Pineapple(1/0)? 1
PIZZA #2

Enter Pizza Size (Small, Medium, Large): Large
Cheese (1/0)? 1
Pepperoni(1/0)? 1
Mushrooms(1/0)? 0
Bacon(1/0)? 1
Pineapple(1/0)? 0
PIZZA #3

Enter Pizza Size (Small, Medium, Large): Medium
Cheese (1/0)? 1
Pepperoni(1/0)? 1
Mushrooms(1/0)? 1
Bacon(1/0)? 0
Pineapple(1/0)? 0
```

```
=== BROOKLYN'S PIZZERIA REPORT ===
PIZZA #1
|Size:Small
| Cheese:YES
| Pepperoni:NO
| Mushrooms:YES
| Bacon:NO
| Pineapple:YES
| Total Price: $11
PIZZA #2
|Size:Large
| Cheese:YES
| Pepperoni:YES
| Mushrooms:NO
| Bacon:YES
| Pineapple:NO
| Total Price: $15
PIZZA #3
|Size:Medium
| Cheese:YES
| Pepperoni:YES
| Mushrooms:YES
| Bacon:NO
| Pineapple:NO
| Total Price: $13
Most Expensive Pizza: $15

Thank you for choosing Brooklyn's Pizzeria
=====
```

If you are spending more than 3 hours on this, message me and I will drop a huge mass hint.