Worksheet: Using class & objects (continued); Security
COSC 101, 2018-04-20

1) Warm-up
Assume you are given the following class definition:

class Pizza:
    def __init__(self, style, size):
        self.style = style
        self.size = size
        self.toppings = []
    
    def add_topping(self, topping):
        self.toppings.append(topping)
    
    def larger(self):
        p = Pizza(self.style, self.size + 4)
        for topping in self.toppings:
            p.add_topping(topping)
        return p
    
    def __str__(self):
        description = str(self.size) + '"
        description += str(self.style) + ' pizza'
        description += ' with ' + ', '.join(self.toppings)
        return description

What is the output of each of the following programs?

a) def overlap(p1, p2):
    for topping in p1.toppings:
        if topping in p2.toppings:
            return True
    return False

one = Pizza('New York', 10)
one.add_topping('pepperoni')
one.add_topping('green pepper')
two = Pizza('Chicago', 10)
two.add_topping('green pepper')
two.add_topping('sausage')
print(overlap(one, two))

b) personal = Pizza('New York', 8)
personal.add_topping('mushrooms')
group = personal.larger()
personal.add_topping('hot peppers')
print(personal)
print(group)
2) Common errors
What is wrong with the following class?
```python
class sample:
    def init(self, a, b):
        self.alpha = a
        self.gamma = 10

    def getAlpha():
        return self.alpha

    def setBeta(self):
        beta = b

    def __str__(self):
        return self.gamma
```

3) Writing secure programs
Write a program that displays a secret message if a valid password is entered.