

22C:16 Quiz 13

Implement a class called `shapes`. Each instance of the `shapes` class contains some number of circles, some number of quadrilaterals, and some number of triangles. Here is an example of how I would construct an instance of the `shapes` class:

```
x = shapes(4, 2, 7)
```

This assignment creates an instance of the `shapes` class called `x` that contains 4 circles, 2 quadrilaterals, and 7 triangles.

The `shapes` class should provide one method called `select` that “selects” *at random* one shape from the `shapes` instance, deletes it from the `shapes` instance and returns a string "C", "Q" or "T" indicating the color of the ball selected. Here is an example of how I would call this method:

```
print x.select()
```

Given that `x` has 4 circles, 2 quadrilaterals, and 7 triangles, the call to the above method would return "C" with probability $4/13$, "Q" with probability $2/13$ and "T" with probability $7/13$. You can assume that the `shapes` instance contains at least one shape before `select` is called.

Suggestion. My suggestion would be to use three `int` attributes to keep track of how many circles, quadrilaterals, and triangles the `shapes` instance contains.

What to write. You have to write down the implementation of the `shapes` class with one constructor method and one method called `select`.