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By using Inheritance and Polymorphism, we’re able to create arrays of classes that aren’t the same type, but inherit from a common type. This program would be much more difficult to write if there was no way to put the animals in their own array, or if we couldn’t keep track of foods in a different array. In addition, it saves us from having to write five overloaded methods in every animals file for different foods given to it. Instead we can just pass a Food type and use instanceof to check within the method.

The animal that I chose is a Monkey. What makes this animal unique is that it is the only one that can directly interact with any other animals. It is capable of flinging its feces at the other animals, reducing the targets happiness by 30 the next day. There is only a one in ten chance of this happening. Even though this method is called when the animals go to sleep, the happiness isn’t affected until the next day.

In order to implement this class, we would need to use instanceof in the ZooDriver class. When endDay() is called, the endDay() method itself would generate the random chance for the fling() method to occur. It would also pass one of the animals, also randomly chosen. This can benefit from polymorphism, because it only has to pass an Animal and not a subtype.