Chapter 14 Assignment

# Enhance the Dice Roller program

## Open and test the program

1. In IDLE, open the dice.py and dice.roller.py files that are in your student download python/exercises/ch14/dice\_roller
2. Review the code and run the program. Note that it starts by displaying an image for each of the 6 possible die values.

## Improve the Die class (4 points for each bullet)

1. In the Die class, modify the roll() method so it returns the \_\_value attribute after it sets it to a random number from 1 to 6
2. In the Die class, modify the constructor so it sets the \_\_value attribute by calling the roll() method. This makes sure that the \_\_value attribute for a new Die object stores a valid number for the die.
3. In the Die class, modify the setter for the value property so it doesn’t allow a value greater than 6.
4. In the Die class, add a read-only property named image that gets a string for the image that represents the die’s current value.

## Improve the Dice Roller program (3 points for each bullet)

1. Open the dice\_roller.py file and run it to make sure the Dice Roller program works correctly.
2. Modify the code that displays the roll so it uses the new image property to display an image for the die instead of displaying the value.
3. At the start of the program, modify the code that displays the 6 die images so it uses a loop to create a Die object for each valid number and to display its image.

## Improve the Dice class (3 points for each bullet)

1. In the Dice class, add a method named getTotal() that gets the total value of all die objects currently stored in the Dice object.
2. In the Dice class, add a method named getAvg() that gets the average value of all die objects currently stored in the Dice object.
3. In the dice\_roller.py file, add the code that displays the total and the average each time the user rolls the dice.