Project 3

For this project you will provide java style documentation for all methods and class headers. Comment your code appropriately.

1. Write a class Critter that simulates a critter moving. The critter can:
   a. move forward
   b. turn right
   c. turn left

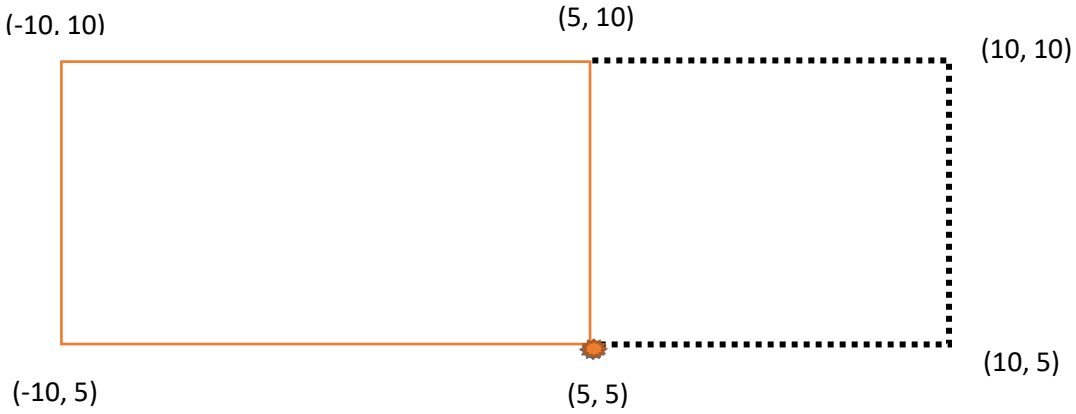
Assume initial direction of critter to be north facing. Each position change will be **one unit** in the current direction. Write necessary mutator and accessor methods. Also, include a toString method.

2. Write a tester class where your main method should construct a critter "**beetle**" with an initial position (5, 5) and make it walk on a pattern given below:

   a. Print out the initial position and direction of **beetle**, and at each turn print the status of the **beetle**. So essentially the **beetle** must come back to its starting position. Status will look like:

      Name: **beetle**
      Direction: **North**
      Position: **(5, 5)**

   b. Make another critter "**bentley**" by assigning beetle to bentley.
   c. **Declare** critter "**blackhawk**".
   d. Next, construct "**mustang**" and make mustang move along the pattern below starting and ending at (5, 5):



Print **mustang's** status at each turn.

e. If the position of beetle and mustang end up being the same print "beetle and mustang are in a race!"
f. Check with **==** if beetle likes to be called bentley by printing "beetle also goes by bentley"
g. Check with **!=** if beetle and mustang hold the same views by printing "beetle and mustang are in competition with each other".
h. Check with == if "**blackhawk**" wants to enter the competition. If value is null say "blackhawk is getting ready"
i. In your tester class document answers to the following questions:
    i. How many object variables/references have been created?
    ii. How many objects have been constructed/instantiated?
    iii. How many aliases/shared references have been created?
    iv. How many variables point to no object at all?