Lab 8
Integer Roll Assignment

   Your team's goal is to program a robot to perform an "integer walk," such as that described in Post 9. Your robot should read directions from an array, and keep track of it's relative position. Turns should be 90 degrees and the robot should travel 6 inches for each direction given. Use the format described in Post 9 for the arrays (1 – North, 2 – East, etc.), with the assumption that the robot always starts pointing North.

   Once your robot is functioning correctly, you need to try some experiments. With an integer walk that is closed (that is, ends at the same point it begins), how close does your robot end up being to the actual starting location? Compare the results for walks of length 2, 4, 8, and 16.

   Perform these steps on a lab computer (logged into Windows). Save the files on you T: drive, in a new directory in CSCI1111. Only one group member must create these files.

1. Create a file "IntegerRoll.java" with the following contents:

```
import edu.gwu.Jobot.agents.standalone.LejosAgent;
import javax.microedition.lcdui.Graphics;
import lejos.nxt.*;

public class IntegerRoll extends LejosAgent
{
    public static void main(String[] args)
    {
        IntegerRoll hal = new IntegerRoll();
        hal.perform();
    }

    public void perform()
    {
        int x = 0, y = 0; // The robot's approximate position
        int[] A = {1, 2, 3, 4}; // A simple square walk


        System.exit(0);
    }
}
```

2. In your source file, include a comment that explains the robot's performance on the closed walks. How close was it to the starting location? How did the robot do on short walks versus long walks? Do you think it could perform well on a walk with 100 commands? 1000 commands? Write a 2-3 paragraph response.

3. Remember to upload your program at the end of lab (don't forget the comment with your names and roles).

Methods:
```
    void move(int amount)
    void turn(int degrees)
```
Commands:
```
    nxjc -cp C:\Jobot.jar IntegerRoll.java
    nxj -cp .;C:\Jobot.jar IntegerRoll
```