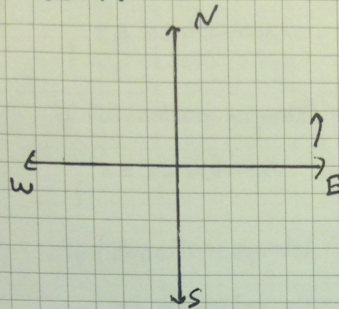


10/12/2015

Robot:



what can we do?

→ direction: x, y

→ turn

→ distance

→ power Area overlap.

- Java -

```
public class Robot {
```

```
    int x;
```

```
    int y;
```

```
    String direction;
```

```
    // constructor
```

```
    public Robot() { // Default Constructor
```

```
        x = 0;
```

```
        direction = "east";
```

```
        y = 0;
```

```
    }
```

```
    public Robot(int x, int y, String direction) { // Constructor !
```

```
        x = this.x;
```

```
        y = this.y;
```

```
        direction = this.direction;
```

```
    }
```

```
    public void move(int distance) { // Distance method
```

```
        if (direction.equals("north")) {
```

```
            y = y + distance;
```

```
            ...
```

(38)

```

    if (direction.equals("East")) {
        x = x + distance;
    }
    if (direction.equals("West")) {
        x = x - distance;
    }
    if (direction.equals("South")) {
        y = y - distance;
    }
}

public void turn (String rot Direction) // rotation Left, Right
{
    // Alihan's Method
    // north = 0, east = 1, south = 2, west = 3
    if (rot Direction.equals("right"))
    {
        direction = direction + 1;
    }
    else
    {
        direction = direction - 1;
    }
    direction
    direction = direction % 4;
}

```

Suggested Methods:

- Power Area overlap - clone & equals - distance.

Int Vector:

```
public class IntVector {
```

```
    int[] array;
```

```
    public IntVector()
    {
        array = null;
    }
```

```
    public IntVector(int[] array)
```

```
    {
        this.array = new int[array.length];
        for (int i = 0; i < array.length; i++) {
            this.array[i] = array[i];
        }
    }
```

```
    public void addElement(int ele)
```

```
    {
        // Note that:
```

```
        int[] temp = new int[array.length + 1]; // to the more productive
```

```
        if (array == null)
```

```
            length = 0;
```

```
        else
```

```
            length = array.length;
```

```
            int[] temp = new int[length + 1];
```

```
            for (int i = 0; i < length; i++)
```

```
            {
                temp[i] = array[i];
```

```
            }
            temp[length] = ele;
```

```
        }
```

↓

size() → ArrayList

length() → String

length() → int[]

// Note that:

what we want is

myVect.addElement(10);

$\begin{bmatrix} 8 \\ 7 \end{bmatrix} \rightarrow \begin{bmatrix} 8 \\ 7 \\ 10 \end{bmatrix}$