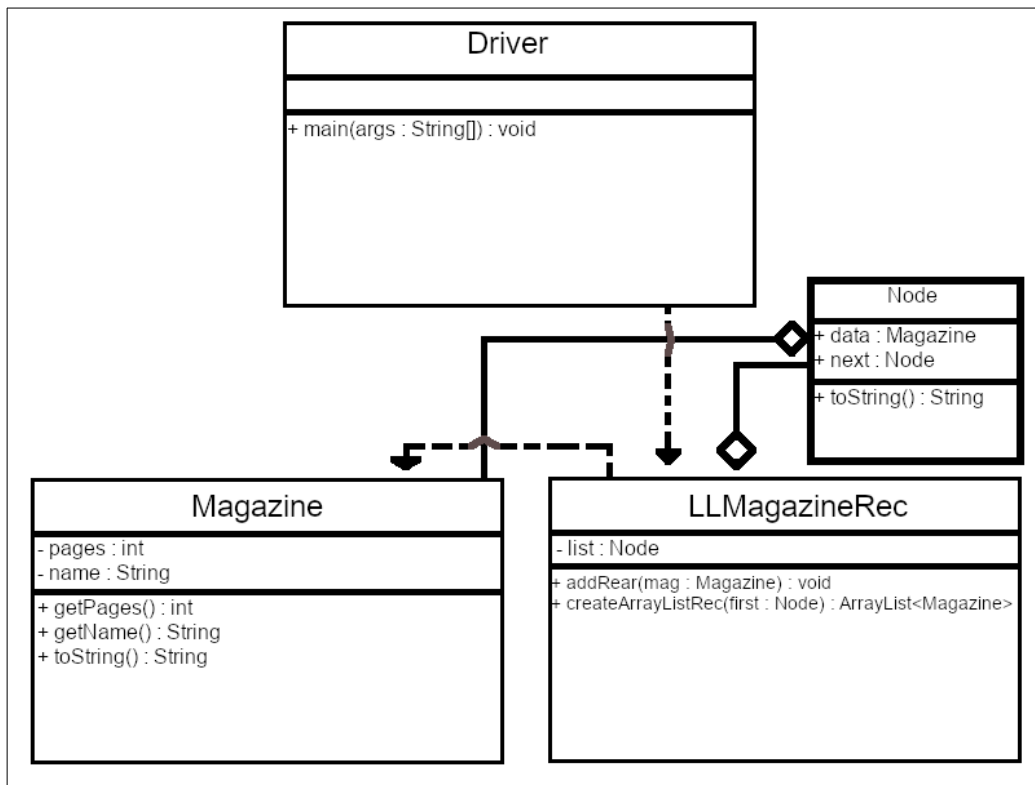


UML



Output

```
Options
Creating linked list myList
Printing resulting ArrayList
Vogue    133
Time     105
Sports Illustrated    41
Golf Digest    39

Can only enter input while your programmi
BlueJ: Terminal Window - LinkedListRecursion
```

Driver.java

```
/**
 * Class Driver tests methods from LLMagazineRec class.
 * @author (Irena) and (Kyle Guarco)
 * @version (July, 19, 2020)
 */
public class Driver
{
    public static void main(String[] args)
    {
        System.out.println("Creating linked list myList");
        LLMagazineRec myList = new LLMagazineRec();
        myList.addRear(new Magazine(39, "Golf Digest"));
        myList.addRear(new Magazine(41, "Sports Illustrated"));
        myList.addRear(new Magazine(105, "Time"));
        myList.addRear(new Magazine(133, "Vogue"));

        System.out.println("\nPrinting resulting ArrayList");
        myList.createArrayListRec(myList.getList()).forEach(System.out::println);
    }
}
```

LLMagazineRec.java

```
import java.util.ArrayList;

/**
 * Class LLMagazineRec defines linked list of magazine objects. It includes
 * recursive methods to print all magazines, to calculate sum pages in all
 * magazines, and to find longest magazine in linked list.
 *
 * @author (Irena) and (Kyle Guarco)
 * @version (July 19, 2020)
 */
public class LLMagazineRec
{
    private Node list;

    public LLMagazineRec()
    {
        list = null;
    }

    public Node getList()
    {
        return list;
    }

    public void addRear(Magazine mag)
    {
        Node node = new Node(mag);
        if (list == null)
            list = node;
        else
        {
            Node curr = list;
            while (curr.next != null)
                curr = curr.next;
            curr.next = node;
        }
    }

    // Returns ArrayList<Magazine> storing all Magazine objects from the linked
    // list. Method accepts reference to the beginning of the linked list. It
    // must be recursive, and should work for empty and for non-empty list.
    public ArrayList<Magazine> createArrayListRec(Node first)
    {
        ArrayList<Magazine> list;
```

```
    if (first.next == null)
        list = new ArrayList<Magazine>();
    else
        list = new ArrayList<Magazine>( createArrayListRec(first.next) );

    list.add(first.data);
    return list;
}
```

```
private class Node
{
    public Magazine data;
    public Node next;

    public Node(Magazine mag)
    {
        data = mag;
        next = null;
    }

    public String toString()
    {
        return data.toString();
    }
}
}
```

Magazine.java

```
/**
 * Class Magazine describes magazine object that has title and number of pages
 *
 * @author (Irena)
 * @version (July 17, 2020)
 */
public class Magazine
{
    private int pages; //number of pages
    private String name; // magazine name or title

    public Magazine(int p, String n)
    {
        pages = p;
        name = n;
    }

    public int getPages()
    {
        return pages;
    }

    public String getName()
    {
        return name;
    }

    public String toString()
    {
        return name + "\t" + pages;
    }
}
```