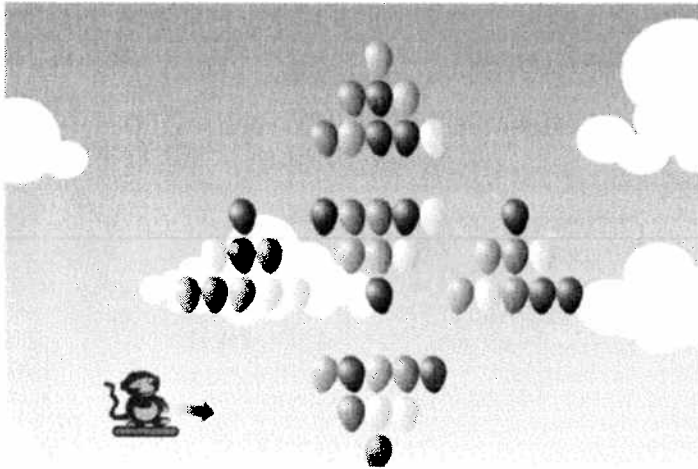


Unit 4: Arrays
Analysis and Design
Choose your own assignment

A. Options

Balloons



- *Description:* The monkey aims the arrow at the balloons and shoots. The balloons in the path of the arrow pop. The more balloons pop, the more points you get.
- *Positives:* It is a fun game. I know it well because I play it. The balloons are clearly in an array.
- *Negatives:* It involves movement (monkey's arrow moves in the balloons. Bouncing off the side will involve angle calculation. These are two very hard concepts that we haven't learned in class.

- *Array Functions:*
 - Reset – the user will be able to play again, so the array will be reset up.
 - Count – to find out how many balloons are left
 - Delete/Pop Balloons – to trace the path of the arrow through the balloon array.
 - Win – check that there are no more balloons in the array.
 - Round 2 – the array is set up in a new way

B. Choice

- Of the three games you described in section A (note that I only have one, you need to have three), select one.
- Explain why you selected it.
- Do not choose on that is too hard. Do not choose anything with movement.

C. Game Screen

- In this section you should lay out the game screen.
- Include reset, instructions, titles.
- Pictures selections are also helpful.


















































D. Array Types

The Balloons game will need two arrays.

- A JLabel array to hold pictures of the balloons
- A String array to track what is in the JLabels. This is the array that will be used to count the balloons and determine whether or not there is a win.
- This means that we have a set of **parallel arrays**: the String array will parallel the JLabel array.
- Both arrays will be **2-dimensional**.

JLabel Array:

```
JLabel pics[][]=new JLabel [7][7];
```





	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]							
[1]							
[2]							
[3]							
[4]							
[5]							
[6]							

String array:

```
String name[][]=new String[7][7];
```


















































	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]	B.gif	Y.gif	G.gif	B.gif	Y.gif	R.gif	R.gif
[1]	R.gif	Y.gif	G.gif	R.gif	B.gif	R.gif	Y.gif
[2]	R.gif	B.gif	Y.gif	B.gif	B.gif	B.gif	R.gif
[3]	R.gif	Y.gif	G.gif	B.gif	Y.gif	R.gif	B.gif
[4]	G.gif	Y.gif	G.gif	R.gif	Y.gif	B.gif	Y.gif
[5]	R.gif	B.gif	R.gif	B.gif	Y.gif	R.gif	R.gif
[6]	R.gif	Y.gif	G.gif	B.gif	Y.gif	G.gif	R.gif

The picture names:


























R.gif  Y.gif  G.gif  B.gif 

The arrays will be completely full in round 1, but will be partially full in round 2.

Round 1 Starting:

	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]							
[1]							
[2]							
[3]							
[4]							
[5]							
[6]							

Round 2 Starting:

	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]							
[1]							
[2]							
[3]							
[4]							
[5]							
[6]							

However, the user will not be able to add balloons whenever they want.
Delete will be popping the balloons.

After a balloon is aimed at position [6][2]:

Points: 0

	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]							
[1]							
[2]							
[3]							
[4]							
[5]							
[6]							

All popped locations change to P.gif

	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]	B.gif	Y.gif	G.gif	P.gif	Y.gif	R.gif	R.gif
[1]	R.gif	Y.gif	P.gif	R.gif	P.gif	R.gif	Y.gif
[2]	R.gif	P.gif	Y.gif	B.gif	B.gif	P.gif	R.gif
[3]	P.gif	Y.gif	G.gif	B.gif	Y.gif	R.gif	P.gif
[4]	P.gif	Y.gif	G.gif	R.gif	Y.gif	B.gif	P.gif
[5]	R.gif	P.gif	R.gif	B.gif	Y.gif	P.gif	R.gif
[6]	R.gif	Y.gif	P.gif	B.gif	P.gif	G.gif	R.gif

After the monkey is clicked again, the popped pictures go away:

Points: 13

	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]							
[1]							
[2]							
[3]							
[4]							
[5]							
[6]							

All blank locations change to N.gif

	[0]	[1]	[2]	[3]	[4]	[5]	[6]
[0]	B.gif	Y.gif	G.gif	N.gif	Y.gif	R.gif	R.gif
[1]	R.gif	Y.gif	N.gif	R.gif	N.gif	R.gif	Y.gif
[2]	R.gif	N.gif	Y.gif	B.gif	B.gif	N.gif	R.gif
[3]	N.gif	Y.gif	G.gif	B.gif	Y.gif	R.gif	N.gif
[4]	N.gif	Y.gif	G.gif	R.gif	Y.gif	B.gif	N.gif
[5]	R.gif	N.gif	R.gif	B.gif	Y.gif	N.gif	R.gif
[6]	R.gif	Y.gif	N.gif	B.gif	N.gif	G.gif	R.gif