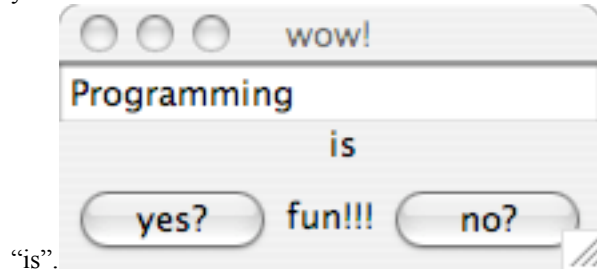


CS100J Fall 2005 Sample answers for prelim 3

1a. You didn't need to put in the 3 round buttons, and you didn't need to center



```
1b. public MyGUI() {
    Container cp= getContentPane();
    cp.add(new JTextField("text field 1"),
           BorderLayout.NORTH);
    cp.add(new JButton("button 1"),
           BorderLayout.WEST);
    cp.add(new JButton("button 2"),
           BorderLayout.CENTER);
    cp.add(new JButton("button 3"),
           BorderLayout.EAST);
    cp.add(new JTextField("text field 2"),
           BorderLayout.SOUTH);
    pack(); setVisible(true);
}
```

```
2. if (opinions.size() == 0)
    return -1;
    int total= 0;
    // inv: total = sum of ratings in v[0..i-1]
    for (int i= 0; i != opinions.size(); i= i+1) {
        Opinion op= (Opinion) opinions.get(i);
        int v= op.getRating();
        total= total + v;
    }
    return total / opinions.size();
```

```
3. private int findMax(int h, int k) {
    int i;
    int theMax= h+1;
    double m= db[h].getOverAllRating();
    // inv: movie[theMax] is max of movie[h..i-1]
    // and m is its average rating.
    for (i= h+1; i != db.length; i= i+1) {
        if (db[i].getOverAllRating() > m)
            theMax= i;
    }

    return theMax;
}
```

```
public void sortByRating() {
    // inv: db[0..t-1] is sorted and db[0..t-1] > db[t..]
    for (int t= 0; t != db.length; t= t+1) {
        int j= findMax(t, db.length-1);
        // Swap movie[t] with movie[j]
        Movie m= db[t];
        db[t]= db[j];
```

```
        db[j]= m;
    }
}
```

```
4. (a) double[] b= {8, 5, 3, 2, 1};
```

```
(b) k= b[i];
    while (k > 0 && b[k] < 32) {
        b[k-1]= k;
        k= k - 3;
    }
```

```
(c) stayAtHome= !(raining || snowing);
```

(d) 1. Create a frame for the call.

2. Assign the value 5 to parameter x.

3. Execute the method body

4. Erase the frame for the call.

Parameter x and local variables y and z are created during step 1, when the frame for the call is created.

5. (a) this.f= f;

(b) super(c / 43.66);

(c) return 43.66 \* getDollar();

(e) a. f1= new Dollar(32); legal

b. f2= new Rupee(6); legal

c. String s1= f1.toString(); legal

d. String s2= f2.toString(); legal

e. double x= f2.getRupee(); illegal

