

Emerald Bay Hotel Reservation

 Emerald Bay Hotel Reservation

Name:

Select room type: Regular(170\$ per night) Deluxe(330\$ per night) Honeymoon Suite(500\$ per night)

Staying period (nights):

Additional services: Breakfast (20\$) Spa (150\$) Limousine (120\$)

Discount Code:

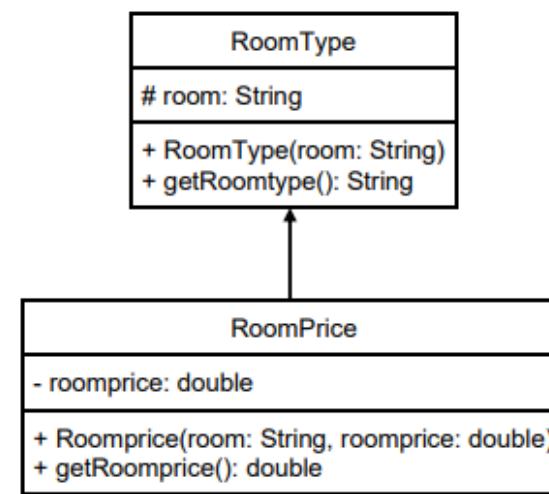
Proceed

Nathakorn A.

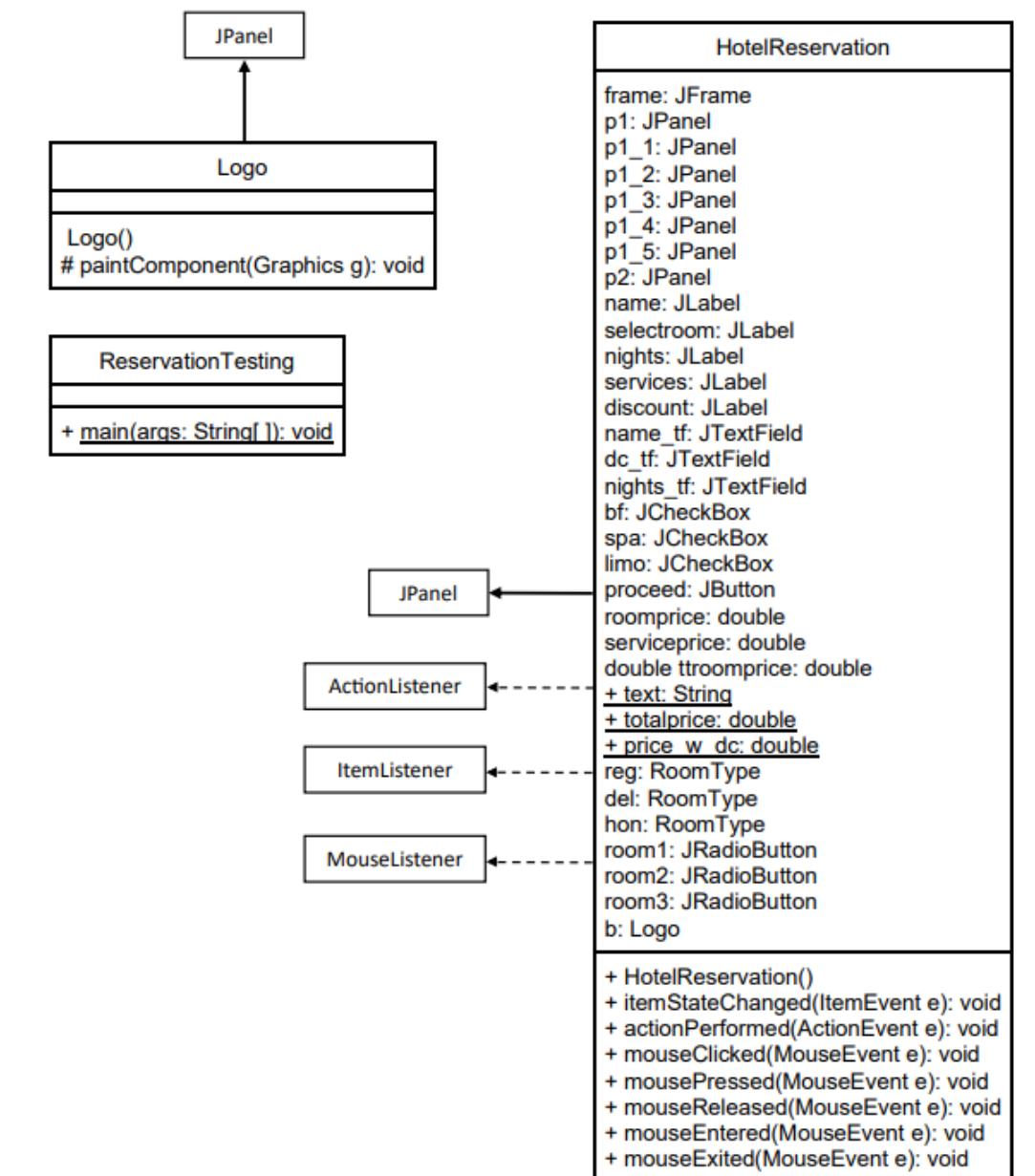
6522771169

UML

Package A



Package B



Frame 1

 Emerald Bay Hotel Reservation

B
A
Y

Name:

Select room type: Regular(170\$ per night) Deluxe(330\$ per night) Honeymoon Suite(500\$ per night)

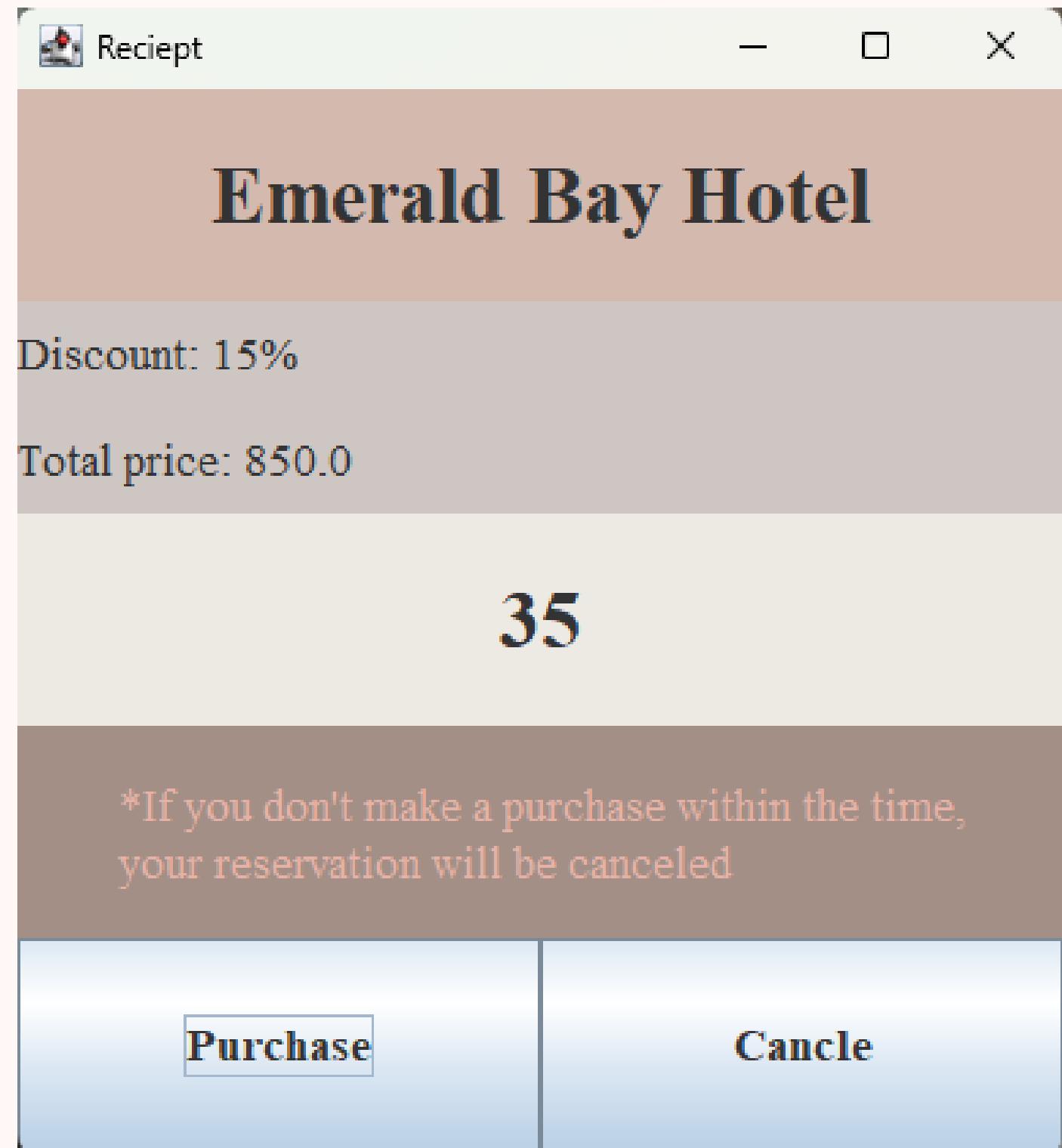
Staying period (nights):

Additional services: Breakfast (20\$) Spa (150\$) Limousine (120\$)

Discount Code:

Proceed

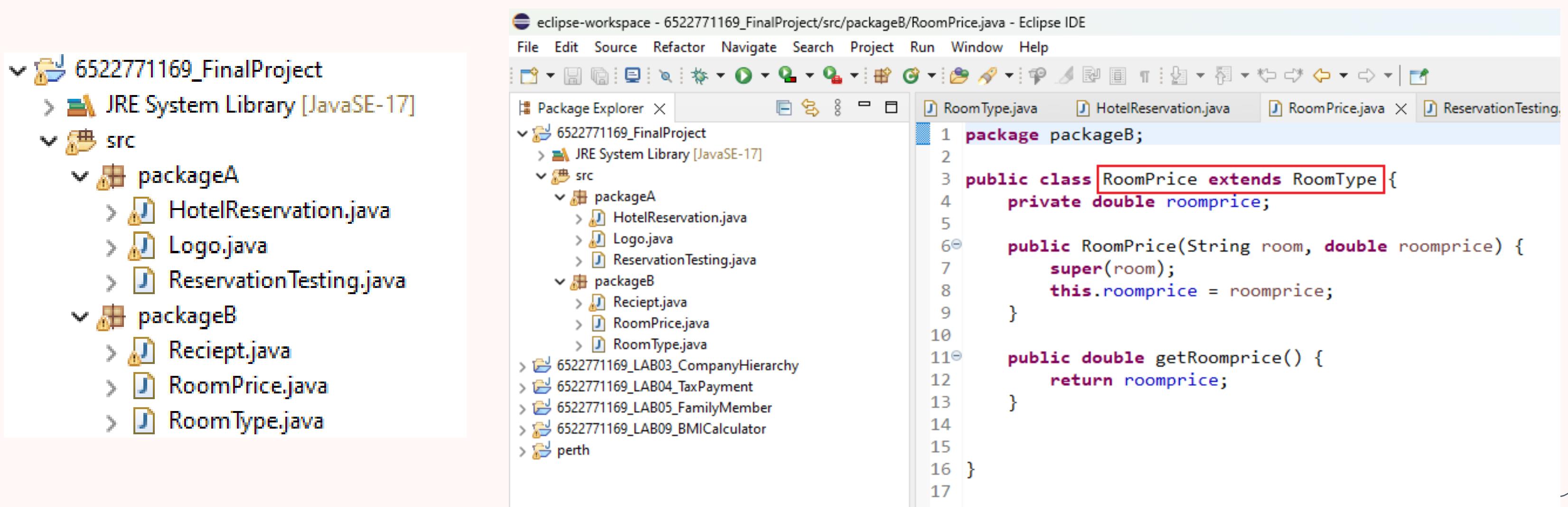
Frame 2



Check List



At least 3 classes & at least 1 class is derived from one of the other classes



The screenshot shows the Eclipse IDE interface with a Java project named "6522771169_FinalProject". The project structure is as follows:

- JRE System Library [JavaSE-17]**
- src**
 - packageA**
 - HotelReservation.java
 - Logo.java
 - ReservationTesting.java
 - packageB**
 - Receipt.java
 - RoomPrice.java
 - RoomType.java

The code editor displays the **RoomPrice.java** file, which contains the following code:

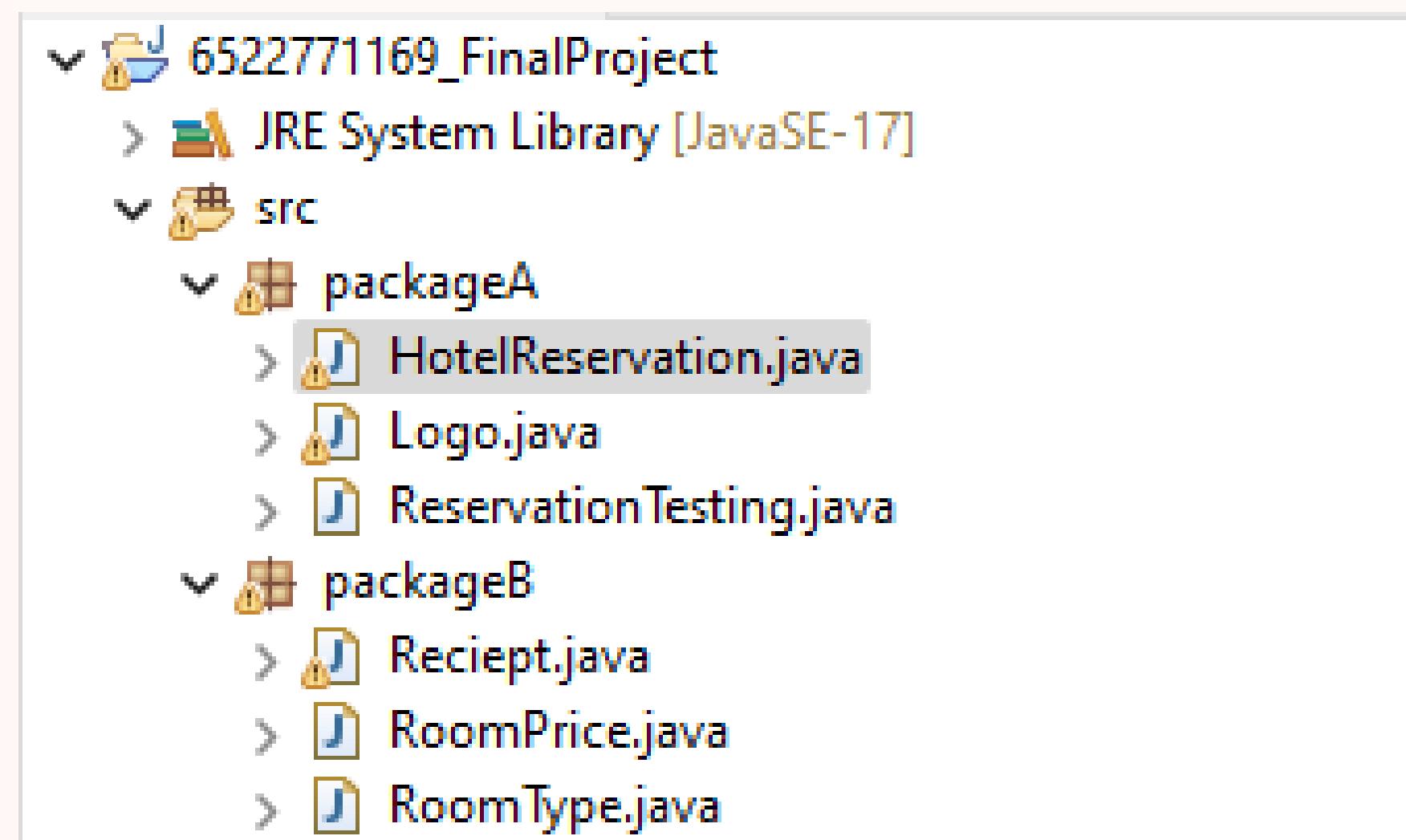
```
1 package packageB;
2
3 public class RoomPrice extends RoomType {
4     private double roomprice;
5
6     public RoomPrice(String room, double roomprice) {
7         super(room);
8         this.roomprice = roomprice;
9     }
10
11    public double getRoomprice() {
12        return roomprice;
13    }
14
15
16 }
17
```

The line `public class RoomPrice extends RoomType {` is highlighted with a red box.

Implicit & explicit casting

```
-- -----
31 double roomprice;
32 double serviceprice;
33 double ttroomprice;
34 public static String text = "";
35 public static double totalprice;
36 public static double price_with_dc;
37
38 //implicit casting
39 RoomType reg = new RoomPrice("Regular", 170);
40 RoomType del = new RoomPrice("Deluxe", 330);
41 RoomType hon = new RoomPrice("Honeymoon Suite", 500);
42
43 JRadioButton room1 = new JRadioButton(reg.getRoomtype() + "(170$ per night)");
44 JRadioButton room2 = new JRadioButton(del.getRoomtype() + "(330$ per night)");
45 JRadioButton room3 = new JRadioButton(hon.getRoomtype() + "(500$ per night)");
46
47 Logo b = new Logo();
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102@override
103 public void itemStateChanged(ItemEvent e) {
104     // TODO Auto-generated method stub
105
106     if(e.getSource() == room1 && e.getStateChange() == 1) {
107         room1.setSelected(true);
108         room2.setSelected(false);
109         room3.setSelected(false);
110         roomprice = ((RoomPrice) reg).getRoomprice(); //explicit casting
111         //System.out.println(roomprice);
112     }
113     else if(e.getSource() == room2 && e.getStateChange() == 1) {
114         room1.setSelected(false);
115         room2.setSelected(true);
116         room3.setSelected(false);
117         roomprice = ((RoomPrice) del).getRoomprice(); //explicit casting
118         //System.out.println(roomprice);
119     }
120     else if(e.getSource() == room3 && e.getStateChange() == 1) {
121         room1.setSelected(false);
122         room2.setSelected(false);
123         room3.setSelected(true);
124         roomprice = ((RoomPrice) hon).getRoomprice(); //explicit casting
125         //System.out.println(roomprice);
126     }
127 }
```

At least 2 packages



public, protected, private, this and super

```
1 package packageB;
2
3 public class RoomType {
4     protected String room;
5
6     public RoomType(String room) {
7         this.room = room;
8     }
9
10    public String getRoomtype() {
11        return room;
12    }
13
14
15 }
```

```
1 package packageB;
2
3 public class RoomPrice extends RoomType {
4     private double roomprice;
5
6     public RoomPrice(String room, double roomprice) {
7         super(room);
8         this.roomprice = roomprice;
9     }
10
11    public double getRoomprice() {
12        return roomprice;
13    }
14
15
16 }
17
```

At least 3 containers

```
RoomType.java HotelReservation.java X RoomPrice.java ReservationTesting.java Logo.java Reciept.java

1 package packageA;
2
3+import java.awt.*;
4
5
6
7
8
9
10 public class HotelReservation extends JPanel implements ActionListener, ItemListener, MouseListener {
11     JFrame frame = new JFrame("Emerald Bay Hotel Reservation");
12     JPanel p1 = new JPanel();
13     JPanel p1_1 = new JPanel();
14     JPanel p1_2 = new JPanel();
15     JPanel p1_3 = new JPanel();
16     JPanel p1_4 = new JPanel();
17     JPanel p1_5 = new JPanel();
18     JPanel p2 = new JPanel();
19     JLabel name = new JLabel("Name: ");
20     JLabel selectroom = new JLabel("Select room type: ");
21     JLabel nights = new JLabel("Staying period (nights): ");
22     JLabel services = new JLabel("Additional services: ");
23     JLabel discount = new JLabel("Discount Code: ");
24     JTextField name_tf = new JTextField(20);
```

```
RoomType.java HotelReservation.java X RoomPrice.java ReservationTesting.java Logo.java Reciept.java

1 package packageB;
2
3+import javax.swing.*;
4
5
6
7
8
9 public class Reciept extends JFrame implements ActionListener {
10     JPanel p1 = new JPanel();
11     JPanel p2 = new JPanel();
12     JPanel p3 = new JPanel();
13     JPanel p4 = new JPanel();
14     JLabel lb1 = new JLabel("Discount: " );
15     JLabel lb2 = new JLabel("Total price: ");
16     JLabel em = new JLabel("Emerald Bay Hotel", JLabel.CENTER);
17     JLabel notice = new JLabel("<html> *If you don't make a purchase within the time,<br/> *you will receive a 10% discount</html>");
18     JLabel time = new JLabel("", SwingConstants.CENTER);
19     JButton purchase = new JButton("Purchase");
20     JButton cancel = new JButton("Cancel");
21     Timer timer = new Timer(1000, this);
```

At least 4 distinct components

```
RoomType.java HotelReservation.java RoomPrice.java ReservationTesting.java Logo.java Receipt.java
10 public class HotelReservation extends JPanel implements ActionListener, ItemListener, MouseListener {
11     JFrame frame = new JFrame("Emerald Bay Hotel Reservation");
12     JPanel p1 = new JPanel();
13     JPanel p1_1 = new JPanel();
14     JPanel p1_2 = new JPanel();
15     JPanel p1_3 = new JPanel();
16     JPanel p1_4 = new JPanel();
17     JPanel p1_5 = new JPanel();
18     JPanel p2 = new JPanel();
19     JLabel name = new JLabel("Name: ");
20     JLabel selectroom = new JLabel("Select room type: ");
21     JLabel nights = new JLabel("Staying period (nights): ");
22     JLabel services = new JLabel("Additional services: ");
23     JLabel discount = new JLabel("Discount Code: ");
24     JTextField name_tf = new JTextField(20);
25     JTextField dc_tf = new JTextField(20);
26     JTextField nights_tf = new JTextField(20);
27     JCheckBox bf = new JCheckBox("Breakfast (20$)");
28     JCheckBox spa = new JCheckBox("Spa (150$)");
29     JCheckBox limo = new JCheckBox("Limousine (120$)");
30     JButton proceed = new JButton("Proceed");
31     double roomprice;
32     double serviceprice;
33     double ttroomprice;
34     public static String text = "";
35     public static double totalprice;
36     public static double price_with_dc;
37
38     //implicit casting
39     RoomType reg = new RoomPrice("Regular", 170);
40     RoomType del = new RoomPrice("Deluxe", 330);
41     RoomType hon = new RoomPrice("Honeymoon Suite", 500);
42
43     JRadioButton room1 = new JRadioButton(reg.getRoomtype() + "(170$ per night)");
44     JRadioButton room2 = new JRadioButton(del.getRoomtype() + "(330$ per night)");
45     JRadioButton room3 = new JRadioButton(hon.getRoomtype() + "(500$ per night)");
```

2 distinct layout managers

```
RoomType.java  HotelReservation.java  RoomPrice.java  ReservationTesting.java  Logo.java
48
49  public HotelReservation() {
50      super();
51      p1.setLayout(new GridLayout(5,1));
52
53      p1_1.setLayout(new FlowLayout(FlowLayout.LEFT));
54      p1_2.setLayout(new FlowLayout(FlowLayout.LEFT));
55      p1_3.setLayout(new FlowLayout(FlowLayout.LEFT));
56      p1_4.setLayout(new FlowLayout(FlowLayout.LEFT));
57      p1_5.setLayout(new FlowLayout(FlowLayout.LEFT));
58
```

```
92      frame.setLayout(new BorderLayout());
93      frame.add(b);
94      frame.add(p1, BorderLayout.EAST);
95      frame.add(p2, BorderLayout.SOUTH);
96      frame.setSize(920,400);
97      frame.setVisible(true);
98      frame.setLocationRelativeTo(null);
99      frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

At least 2 distinct geometric shapes & 2 different colors are used in these shapes

```
RoomType.java  HotelReservation.java  RoomPrice.java  ReservationTesting.java
19             g.drawString("A", 130, 180);
20             g.drawString("Y", 130, 240);
21
22             g.setColor(new Color(0,200,0));
23             g.fillRect(40, 130, 50, 70);
24
25             g.setColor(new Color(0,250,0));
26             int[] x = {40, 30, 20};
27             int[] y = {130, 110, 120};
28             g.fillPolygon(x, y, 3);
29             int[] x2 = {100, 110, 90};
30             int[] y2 = {110, 120, 130};
31             g.fillPolygon(x2, y2, 3);
32             int[] x4 = {90, 110, 100};
33             int[] y4 = {200, 210, 220};
34             g.fillPolygon(x4, y4, 3);
35             int[] x6 = {40, 30, 20};
36             int[] y6 = {200, 220, 210};
37             g.fillPolygon(x6, y6, 3);
38
39             g.setColor(new Color(0,115,0));
40             int[] x1 = {30, 100, 90, 40};
41             int[] y1 = {110, 110, 130, 130};
42             g.fillPolygon(x1, y1, 4);
43             int[] x3 = {90, 110, 110, 90};
44             int[] y3 = {130, 120, 210, 200};
45             g.fillPolygon(x3, y3, 4);
46             int[] x5 = {90, 100, 30, 40};
47             int[] y5 = {200, 220, 220, 200};
48             g.fillPolygon(x5, y5, 4);
49             int[] x7 = {40, 20, 20, 40};
50             int[] y7 = {200, 210, 120, 130};
51             g.fillPolygon(x7, y7, 4);
52
53             g.setColor(new Color(163,143,133)); //latte
54             g.fillOval(10,10,30,30);
```

```
RoomType.java  HotelReservation.java  RoomPrice.java  ReservationTesting.java  Logo.java X
19             g.drawString("A", 130, 180);
20             g.drawString("Y", 130, 240);
21
22             g.setColor(new Color(0,200,0));
23             g.fillRect(40, 130, 50, 70);
24
25             g.setColor(new Color(0,250,0));
26             int[] x = {40, 30, 20};
27             int[] y = {130, 110, 120};
28             g.fillPolygon(x, y, 3);
29             int[] x2 = {100, 110, 90};
30             int[] y2 = {110, 120, 130};
31             g.fillPolygon(x2, y2, 3);
32             int[] x4 = {90, 110, 100};
33             int[] y4 = {200, 210, 220};
34             g.fillPolygon(x4, y4, 3);
35             int[] x6 = {40, 30, 20};
36             int[] y6 = {200, 220, 210};
37             g.fillPolygon(x6, y6, 3);
38
39             g.setColor(new Color(0,115,0));
40             int[] x1 = {30, 100, 90, 40};
41             int[] y1 = {110, 110, 130, 130};
42             g.fillPolygon(x1, y1, 4);
43             int[] x3 = {90, 110, 110, 90};
44             int[] y3 = {130, 120, 210, 200};
45             g.fillPolygon(x3, y3, 4);
46             int[] x5 = {90, 100, 30, 40};
47             int[] y5 = {200, 220, 220, 200};
48             g.fillPolygon(x5, y5, 4);
49             int[] x7 = {40, 20, 20, 40};
50             int[] y7 = {200, 210, 120, 130};
51             g.fillPolygon(x7, y7, 4);
52
53             g.setColor(new Color(163,143,133)); //latte
54             g.fillOval(10,10,30,30);
```



At least 3 sources fire events and at least 1 listener monitor the events

```
RoomType.java  HotelReservation.java X RoomPrice.java ReservationTesting.java Logo.java Receipt.java
12 JPanel p1 = new JPanel();
13 JPanel p1_1 = new JPanel();
14 JPanel p1_2 = new JPanel();
15 JPanel p1_3 = new JPanel();
16 JPanel p1_4 = new JPanel();
17 JPanel p1_5 = new JPanel();
18 JPanel p2 = new JPanel();
19 JLabel name = new JLabel("Name: ");
20 JLabel selectroom = new JLabel("Select room type: ");
21 JLabel nights = new JLabel("Staying period (nights): ");
22 JLabel services = new JLabel("Additional services: ");
23 JLabel discount = new JLabel("Discount Code: ");
24 JTextField name_tf = new JTextField(20);
25 JTextField dc_tf = new JTextField(20);
26 JTextField nights_tf = new JTextField(20);
27 JCheckBox bf = new JCheckBox("Breakfast (20$)");
28 JCheckBox spa = new JCheckBox("Spa (150$)");
29 JCheckBox limo = new JCheckBox("Limousine (120$)");
30 JButton proceed = new JButton("Proceed");
31 double roomprice;
32 double serviceprice;
33 double ttroomprice;
34 public static String text = "";
35 public static double totalprice;
36 public static double price_with_dc;
37
38 //implicit casting
39 RoomType reg = new RoomPrice("Regular", 170);
40 RoomType del = new RoomPrice("Deluxe", 330);
41 RoomType hon = new RoomPrice("Honeymoon Suite", 500);
42
43 JRadioButton room1 = new JRadioButton(reg.getRoomtype() + "(170$ per night)");
44 JRadioButton room2 = new JRadioButton(del.getRoomtype() + "(330$ per night)");
45 JRadioButton room3 = new JRadioButton(hon.getRoomtype() + "(500$ per night)");
46
47 Logo b = new Logo();
```

```
RoomType.java  HotelReservation.java X RoomPrice.java ReservationTesting.java Logo.java Receipt.java
73 p1_2.add(selectroom); p1_2.add(room1); p1_2.add(room2);
74 p1_3.add(nights); p1_3.add(nights_tf);
75 p1_4.add(services); p1_4.add(bf); p1_4.add(spa); p1_4.add(dc_tf);
76 p1_5.add(discount); p1_5.add(dc_tf);
77
78 p1.add(p1_1); p1.add(p1_2); p1.add(p1_3); p1.add(p1_4);
79
80 p2.add(proceed);
81
82 room1.addItemListener(this);
83 room2.addItemListener(this);
84 room3.addItemListener(this);
85 bf.addActionListener(this);
86 spa.addActionListener(this);
87 limo.addActionListener(this);
88 proceed.addActionListener(this);
89 dc_tf.addActionListener(this);
90 b.addMouseListener(this);
91
92 frame.setLayout(new BorderLayout());
93 frame.add(b);
94 frame.add(p1, BorderLayout.EAST);
95 frame.add(p2, BorderLayout.SOUTH);
96 frame.setSize(920,400);
97 frame.setVisible(true);
98 frame.setLocationRelativeTo(null);
99 frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

At least 3 types of events

```
RoomType.java  *HotelReservation.java  RoomPrice.java  ReservationTesting.java  Logo.java  Reciept.java
 1 package packageA;
 2
 3 import java.awt.*;
 4 import javax.swing.*;
 5 import java.awt.event.*;
 6 import packageB.*;
 7
 8
 9
10 public class HotelReservation extends JPanel implements ActionListener, ItemListener, MouseListener {
11     JFrame frame = new JFrame("Emerald Bay Hotel Reservation");
12     JPanel p1 = new JPanel();
13     JPanel p1_1 = new JPanel();
14     JPanel p1_2 = new JPanel();
15     JPanel p1_3 = new JPanel();
16     JPanel p1_4 = new JPanel();
17     JPanel p1_5 = new JPanel();
18     JPanel p2 = new JPanel();
19     JLabel name = new JLabel("Name: ");
20     JLabel selectroom = new JLabel("Select room type: ");
21     JLabel nights = new JLabel("Staying period (nights): ");
22     JLabel services = new JLabel("Additional services: ");
23     JLabel discount = new JLabel("Discount Code: ");
24     JTextField name_tf = new JTextField(20);
25     JTextField dc_tf = new JTextField(20);
26     JTextField nights_tf = new JTextField(20);
27     JCheckBox bf = new JCheckBox("Breakfast (20$)");
28     JCheckBox spa = new JCheckBox("Spa (150$)");
29     JCheckBox limo = new JCheckBox("Limousine (120$)");
30     JButton proceed = new JButton("Proceed");
31     double roomprice;
32     double serviceprice;
33     double ttroomprice;
34     public static String text = "";
35     public static double totalprice;
36     public static double price_with_dc;
37 }
```

**At least 1 static method
in the Math class is called
by an overridden method
of a listener**

```
RoomType.java *HotelReservation.java X RoomPrice.java Reservati
129
130    }
131    @Override
132    public void actionPerformed(ActionEvent e) {
133        // TODO Auto-generated method stub
134        if(e.getSource() == bf) {
135            if(e.getSource() == bf && bf.isSelected()) {
136                serviceprice += 20;
137            }
138            else {
139                serviceprice -= 20;
140            }
141            //System.out.println(serviceprice);
142        }
143        if(e.getSource() == spa) {
144            if(e.getSource() == spa && spa.isSelected()) {
145                serviceprice += 150;
146            }
147            else {
148                serviceprice -= 150;
149            }
150            //System.out.println(serviceprice);
151        }
152        if(e.getSource() == limo) {
153            if(e.getSource() == limo && limo.isSelected()) {
154                serviceprice += 120;
155            }
156            else {
157                serviceprice -= 120;
158            }
159            //System.out.println(serviceprice);
160        }
161        if(e.getSource() == proceed) {
162            double n = Double.parseDouble(nights_tf.getText());
163            ttroomprice = roomprice*n;
164            totalprice = ttroomprice + serviceprice;
165            //System.out.println(totalprice = ttroomprice + serviceprice);
166
167            text = dc_tf.getText();
168            if(text.equals("LINS")) {
169                price_with_dc = Math.round(totalprice * 0.85);
170                //System.out.println(true);
171                //System.out.println(price_with_dc);
172            }
173            else {
174                totalprice = ttroomprice + serviceprice;
175                //System.out.println(false);
176                //System.out.println(dc_tf.getText());
177            }
178
179            JFrame Receipt = new Receipt();
180            Receipt.setVisible(true);
181        }
182    }
183}
```

Timer

```
RoomType.java  *HotelReservation.java  RoomPrice.java  ReservationTesting.java  Logo.java  *Receipt.java X
1 package packageB;
2
3 import javax.swing.*;
4 import java.awt.*;
5 import java.awt.event.*;
6 import packageA.HotelReservation;
7
8
9 public class Receipt extends JFrame implements ActionListener {
10     JPanel p1 = new JPanel();
11     JPanel p2 = new JPanel();
12     JPanel p3 = new JPanel();
13     JPanel p4 = new JPanel();
14     JLabel lb1 = new JLabel("Discount: " );
15     JLabel lb2 = new JLabel("Total price: ");
16     JLabel em = new JLabel("Emerald Bay Hotel", JLabel.CENTER);
17     JLabel notice = new JLabel("<html> *If you don't make a purchase within the time,<br> yo");
18     JLabel time = new JLabel("", SwingConstants.CENTER);
19     JButton purchase = new JButton("Purchase");
20     JButton cancel = new JButton("Cancel");
21     Timer timer = new Timer(1000, this);
22     int i = 40;
23
24 public Receipt() {
25
26     timer.start();
27     time.setFont(new Font("Times New Roman", Font.BOLD, 30));
28     em.setFont(new Font("Times New Roman", Font.BOLD, 30));
29     lb1.setFont(new Font("Times New Roman", Font.PLAIN, 17));
30     lb2.setFont(new Font("Times New Roman", Font.PLAIN, 17));
31     purchase.setFont(new Font("Times New Roman", Font.BOLD, 17));
32     cancel.setFont(new Font("Times New Roman", Font.BOLD, 17));
33     notice.setFont(new Font("Times New Roman", Font.PLAIN, 17));
34     notice.setForeground(new Color(230,178,167));
35 }
```

Thank
You