```xml
1  <?xml version="1.0" encoding="UTF-8"?>
2  <form xmlns="http://www.intellij.com/uidesigner/form/" version="1" bind-to-class="DynamicButtonsGUI">
3    <grid id="27dc6" binding="PanelMain" layout-manager="GridLayoutManager" row-count="2" column-count="3" same-
   size-horizontally="false" same-size-vertically="false" hgap="-1" vgap="-1">
4      <margin top="20" left="20" bottom="20" right="20"/>
5      <constraints>
6        <xy x="20" y="20" width="500" height="400"/>
7      </constraints>
8      <properties/>
9      <border type="none"/>
10     <children>
11       <vspacer id="a48da">
12         <constraints>
13           <grid row="1" column="2" row-span="1" col-span="1" vsize-policy="6" hsize-policy="1" anchor="0" fill
   ="2" indent="0" use-parent-layout="false"/>
14         </constraints>
15       </vspacer>
16       <grid id="a4830" binding="PanelDynamicButtons" layout-manager="GridLayoutManager" row-count="1" column-
   count="1" same-size-horizontally="false" same-size-vertically="false" hgap="-1" vgap="-1">
17         <margin top="0" left="0" bottom="0" right="0"/>
18         <constraints>
19           <grid row="1" column="0" row-span="1" col-span="2" vsize-policy="3" hsize-policy="3" anchor="0" fill
   ="3" indent="0" use-parent-layout="false"/>
20         </constraints>
21         <properties/>
22         <border type="none"/>
23         <children/>
24       </grid>
25       <component id="d2671" class="javax.swing.JTree" binding="TreeOptions">
26         <constraints>
27           <grid row="0" column="0" row-span="1" col-span="1" vsize-policy="6" hsize-policy="6" anchor="0" fill
   ="3" indent="0" use-parent-layout="false">
28             <preferred-size width="150" height="50"/>
29           </grid>
30         </constraints>
31         <properties>
```

```xml
                    <dropMode value="USE_SELECTION"/>
                    <editable value="false"/>
                  </properties>
                </component>
                <grid id="a1159" binding="PanelGenerateButtons" layout-manager="GridLayoutManager" row-count="3" column-
count="1" same-size-horizontally="false" same-size-vertically="false" hgap="-1" vgap="-1">
                  <margin top="0" left="0" bottom="0" right="0"/>
                  <constraints>
                    <grid row="0" column="1" row-span="1" col-span="2" vsize-policy="3" hsize-policy="3" anchor="0" fill
="3" indent="0" use-parent-layout="false"/>
                  </constraints>
                  <properties/>
                  <border type="none"/>
                  <children>
                    <component id="1d5c1" class="javax.swing.JLabel">
                      <constraints>
                        <grid row="0" column="0" row-span="1" col-span="1" vsize-policy="0" hsize-policy="0" anchor="8"
fill="0" indent="0" use-parent-layout="false"/>
                      </constraints>
                      <properties>
                        <enabled value="false"/>
                        <font size="16"/>
                        <text value="How many buttons do you want ? "/>
                      </properties>
                    </component>
                    <component id="28fd1" class="javax.swing.JTextField" binding="TextFieldButtonsCount">
                      <constraints>
                        <grid row="1" column="0" row-span="1" col-span="1" vsize-policy="0" hsize-policy="6" anchor="8"
fill="1" indent="0" use-parent-layout="false">
                          <preferred-size width="150" height="-1"/>
                        </grid>
                      </constraints>
                      <properties/>
                    </component>
                    <component id="27437" class="javax.swing.JButton" binding="ButtonGenerateButtons">
                      <constraints>
```

```
64                <grid row="2" column="0" row-span="1" col-span="1" vsize-policy="0" hsize-policy="3" anchor="0"
   fill="1" indent="0" use-parent-layout="false"/>
65              </constraints>
66              <properties>
67                <text value="Generate Buttons"/>
68              </properties>
69            </component>
70          </children>
71        </grid>
72      </children>
73    </grid>
74  </form>
75
```

```java
import javax.swing.*;
import javax.swing.tree.DefaultMutableTreeNode;
import javax.swing.tree.DefaultTreeModel;
import javax.swing.tree.TreePath;
import java.awt.*;
import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
import java.awt.event.MouseListener;

public class DynamicButtonsGUI extends JFrame{
    private JTree TreeOptions;
    private JPanel PanelDynamicButtons;
    private JPanel PanelMain;
    private JTextField TextFieldButtonsCount;
    private JButton ButtonGenerateButtons;
    private JPanel PanelGenerateButtons;


    public DynamicButtonsGUI(){
        this.add(PanelMain);
        this.setSize(1000,1000);
        this.setTitle("Dynamic Buttons Homework");
        this.setDefaultCloseOperation(EXIT_ON_CLOSE);

        PanelDynamicButtons.setLayout(new GridLayout(10,10));

        PanelDynamicButtons.setVisible(false);
        PanelGenerateButtons.setVisible(false);

        DefaultMutableTreeNode settings=
                new DefaultMutableTreeNode("Ayarlar");
        DefaultMutableTreeNode closeApp=
                new DefaultMutableTreeNode("Kapat");

        DefaultMutableTreeNode generateButtons=
                new DefaultMutableTreeNode("Buton Oluşturma Paneli Aç");
```

```java
37  settings.add(closeApp);
38  settings.add(generateButtons);
39
40  DefaultTreeModel model=new DefaultTreeModel(settings);
41  TreeOptions.setModel(model);
42
43  MouseListener ml = new MouseAdapter() {
44      public void mousePressed(MouseEvent e) {
45          int selRow = TreeOptions.getRowForLocation(e.getX(), e.getY());
46          TreePath selPath = TreeOptions.getPathForLocation(e.getX(), e.getY());
47          if(selRow != -1) {
48              if(e.getClickCount() == 2) {
49                  String option = TreeDoubleClickStringReturn(selPath);
50                  if (option.equals("Buton Oluşturma Paneli Aç"))
51                      PanelGenerateButtons.setVisible(true);
52                  else if(option.equals("Kapat"))
53                      System.exit(1);
54              }
55          }
56      }
57  };
58
59  TreeOptions.addMouseListener(ml);
60
61  ButtonGenerateButtons.addActionListener(e->{
62      try{
63          GenerateButtons(TextFieldButtonsCount.getText());
64      } catch (Exception exception) {
65          JOptionPane.showMessageDialog(this,exception.getMessage());
66      }
67
68      PanelDynamicButtons.setVisible(true);
69
70  });
```

```java
73      }
74
75      public void GenerateButtons(String countText) throws Exception{
76
77          PanelDynamicButtons.removeAll();
78          PanelDynamicButtons.revalidate();
79          PanelDynamicButtons.repaint();
80
81          if (countText.equals(""))
82              throw new NullPointerException("Lütfen değer giriniz");
83          else if (Integer.parseInt(countText) < 0)
84              throw new IllegalArgumentException("Lütfen 0'dan büyük rakam giriniz");
85
86          int count = Integer.parseInt(countText);
87
88          for(int i = 0; i < count ; i++){
89              JButton button = new JButton();
90              button.setText("Button"+i);
91              String message =  "Hello from Button "+i;
92              button.addActionListener(e->{
93                  JOptionPane.showMessageDialog(this,message);
94              });
95              button.setSize(100,100);
96              PanelDynamicButtons.add(button);
97          }
98      }
99
100     private String TreeDoubleClickStringReturn(TreePath selPath) {
101         return selPath.getLastPathComponent().toString();
102     }
103
104     public static void main(String[] args){
105         //Set Windows's Component To Your Project
106         try {
107             UIManager.setLookAndFeel(UIManager.getSystemLookAndFeelClassName());
108         } catch (ClassNotFoundException e) {
```

```java
109                e.printStackTrace();
110            } catch (InstantiationException e) {
111                e.printStackTrace();
112            } catch (IllegalAccessException e) {
113                e.printStackTrace();
114            } catch (UnsupportedLookAndFeelException e) {
115                e.printStackTrace();
116            }
117
118
119            //Set UI Thread to another thread
120            SwingUtilities.invokeLater(() -> {
121                DynamicButtonsGUI gui = new DynamicButtonsGUI();
122                gui.setVisible(true);
123            });
124        }
125 }
126
```