

```
...

public class KeyCreator extends JFrame {
    public static final String COPYRIGHT =
        "© Copyright My Company 2010";
    private static final long serialVersionUID = 7161652286598836114L;

    // a name for each program
    private static String[] program = {"HelloWorld"};
    // a unique ID for each program
    private static final int PROGRAM_HELLOWORLD = 0;

    // GUI elements
    private JComboBox programChoices = null;
    private JTextField registrationName = null;
    private JTextField key = null;

    public static void main(String[] args) {
        KeyCreator keyCreator = new KeyCreator();
        keyCreator.initGUI();
        keyCreator.setTitle("Key Creator");
        keyCreator.pack();
        keyCreator.setVisible(true);
        keyCreator.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }

    private void initGUI() {
        // define the main panel of the window and its layout
        JPanel mainPanel = new JPanel();
        mainPanel.setLayout(new GridBagLayout());
        GridBagConstraints c = new GridBagConstraints();
        add(mainPanel);

        // a combo box of the program choices
        c.gridx=0;
        c.gridy=0;
        c.gridwidth=2;
        programChoices = new JComboBox(program);
        mainPanel.add(programChoices,c);

        // a field to enter the registration name
        c.gridx=0;
        c.gridy+=1;
        c.gridwidth=1;
        mainPanel.add(new JLabel("Name:"), c);
        c.gridx+=1;
        registrationName = new JTextField(30);
        mainPanel.add(registrationName, c);

        // a field to display the generated key
        c.gridx=0;
        c.gridy+=1;
        mainPanel.add(new JLabel("Key:"), c);
        c.gridx+=1;
        key = new JTextField(30);
        key.setEditable(false);
        mainPanel.add(key,c);
    }
}
```

```

// the button to generate the key
c.gridx=0;
c.gridy+=1;
c.gridwidth = 2;
JButton okButton = new JButton("OK");
okButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        generateKey();
    }
});
mainPanel.add(okButton, c);
}

// generate and display the key
private void generateKey() {
    String validKey = "";
    String name = registrationName.getText();
    switch (programChoices.getSelectedIndex()) {
        case PROGRAM_HELLOWORLD : {
            for(int i=name.length()-1; i>-1 ;i--) {
                validKey += name.charAt(i);
            }
            break;
        }
    }
    key.setText(validKey);
}
}

```

Listing 21.2

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...

// a name for each program
private static String[] program = {"HelloWorld", "NextProgram"};
// a unique ID for each program
private static final int PROGRAM_HELLOWORLD = 0;
private static final int PROGRAM_NEXTPROGRAM = 1;

...

switch (programChoices.getSelectedIndex()) {
    case PROGRAM_HELLOWORLD : {
        for(int i=name.length()-1; i>-1 ;i--) {
            validKey += name.charAt(i);
        }
        break;
    }
    case PROGRAM_NEXTPROGRAM : {
        for(int i=name.length()-1; i>-1 ;i--) {
            validKey += name.charAt(i);
        }
        break;
    }
}

...

```

Listing 21.3

<?xml version="1.0"?>

```
<project name="Key Creator" default="BuildAll">
  <description> "Build File for the Key Creator" </description>

  <property name="debug" value="true"/>

  <target name="BuildAll"
    description="Full Build"
    depends="-Init, Compile, KeyCreatorJar, Backup">
    <echo message="Build complete"/>
  </target>

  <target name="-Init">
    <!-- delete output directories -->
    <delete dir="bin"/>
    <delete dir="dist/lib"/>
    <!-- create output directories -->
    <mkdir dir="bin"/>
    <mkdir dir="dist/lib"/>
    <echo message="-Init Complete"/>
  </target>

  <target name="Compile" depends="-Init">
    <javac srcdir="src" destdir="bin" debug="${debug}">
    </javac>
    <echo message="Compile Complete with debug ${debug}"/>
  </target>

  <target name="KeyCreatorJar"
    description="Build the Key Creator jar file">
    <jar destfile="dist/lib/KeyCreator.jar" basedir="bin"
      includes="com/mydomain/keys/*.class">
      <manifest>
        <attribute name="Main-Class"
          value="com.mydomain.keys.KeyCreator"/>
      </manifest>
    </jar>
    <echo message="KeyCreatorJar Complete"/>
  </target>

  <target name="Backup" depends="Date"
    description="Backup all source files into a jar">
    <jar destfile="backup/KeyCreatorSrc-${build.date}.jar">
      <fileset dir="src/com/mydomain/keys" includes="*.java"/>
      <fileset dir="" includes="build.xml"/>
    </jar>
    <echo message="Backup Complete"/>
  </target>

  <target name="Date">
    <tstamp>
      <format pattern="yyyyMMdd" property="build.date"/>
      <format pattern="hhmmss" property="build.time"/>
    </tstamp>
  </target>

</project>
```
