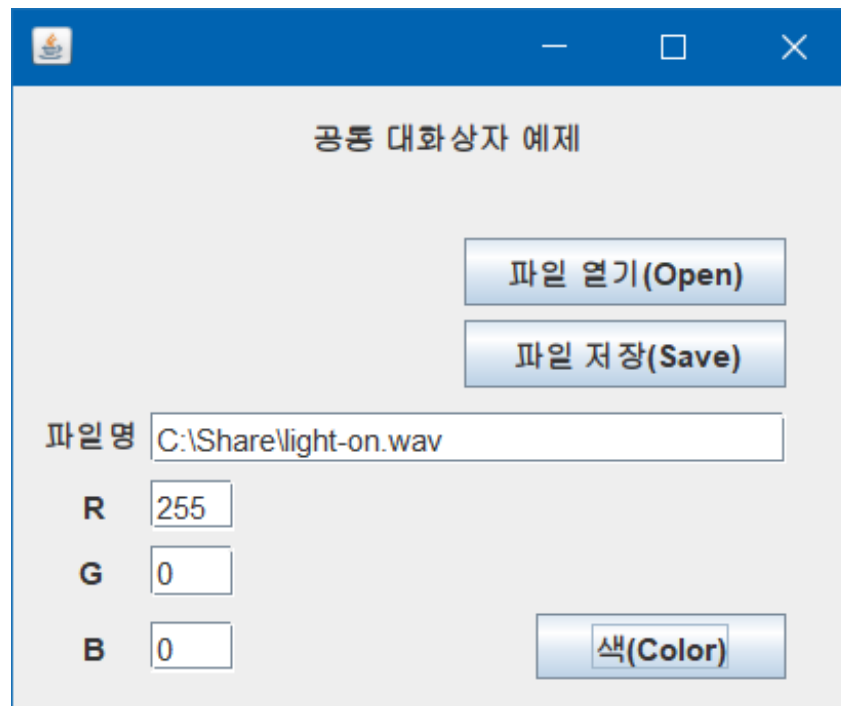




Dialog





학습 목표

■ 이 강의를 마치면 학생들은

- ❖ Dialog에 대하여 설명할 수 있다.
- ❖ FileDialog에 대하여 설명할 수 있다.
- ❖ ColorDialog에 대하여 설명할 수 있다.
- ❖ Frame에 대하여 설명할 수 있다.



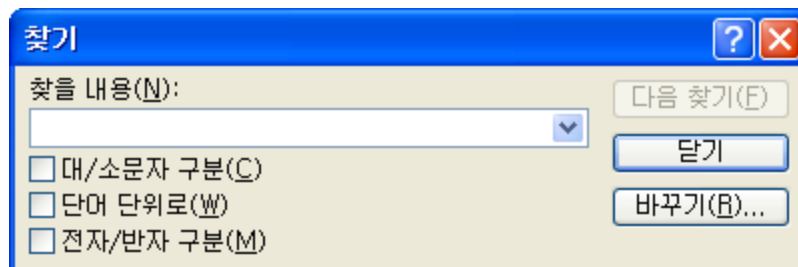
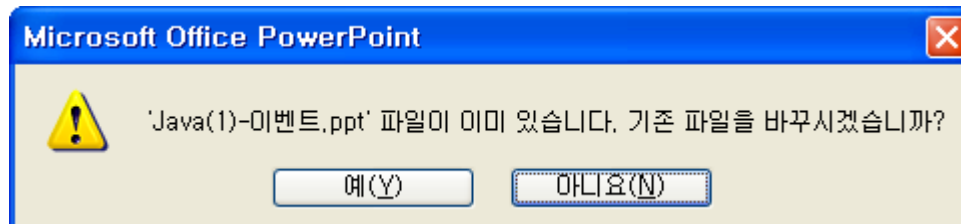


Dialog (1)

■ Dialog

❖ Function

- ◆ Pop Up 윈도우 형태로 메시지를 출력하거나,
사용자 입력을 받는 Function을 구현할 때 사용



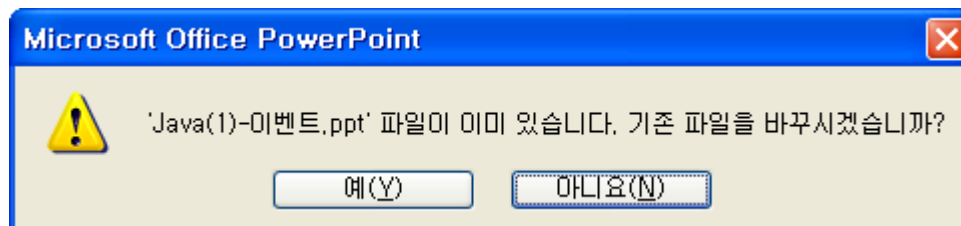


Dialog (2)

대화상자

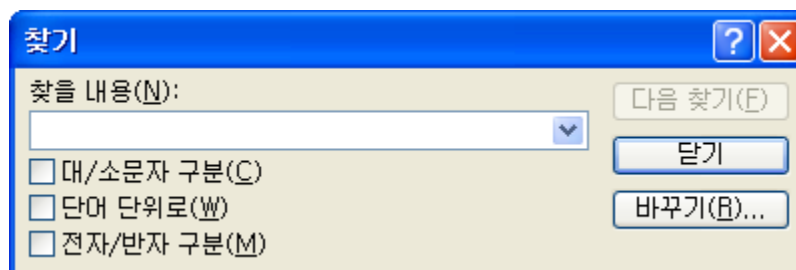
❖ Modal 형

- ◆ 대화상자를 OK, Cancel 버튼을 사용하여 닫기 전에 다른 윈도우로 전환 불가
- ◆ 예
 - MessageBox



❖ Modeless 형

- ◆ 대화상자를 열어 놓은 상태에서 다른 윈도우로 전환 가능.
- ◆ 예
 - 찾기 대화상자





Dialog (3)

❖ Constructor

```
public Dialog(Frame parent)
```

```
public Dialog(Frame parent, boolean flag)
```

```
public Dialog(Frame parent, String title)
```

```
public Dialog(Frame parent, String title,  
              boolean flag)
```

- Parent : 부모 frame instance
- flag = true/false
(Modal/Modeless)
- title : 대화상자에 출력 문자열

❖ 형식

```
Dialog dlgInput = new Dialog(owner, Text, true)
```

owner

부모 Dialog 지정

Text

Dialog 제목 지정

True(False)

Modal(Modeless) 지정





Dialog (4)

■ Method

Method	Function
public void show()	Dialog를 화면에 출력
public void dispose()	Dialog 종료
public void setVisible(boolean b)	Dialog 화면 출력 여부 지정





Practice 1 : Dialog

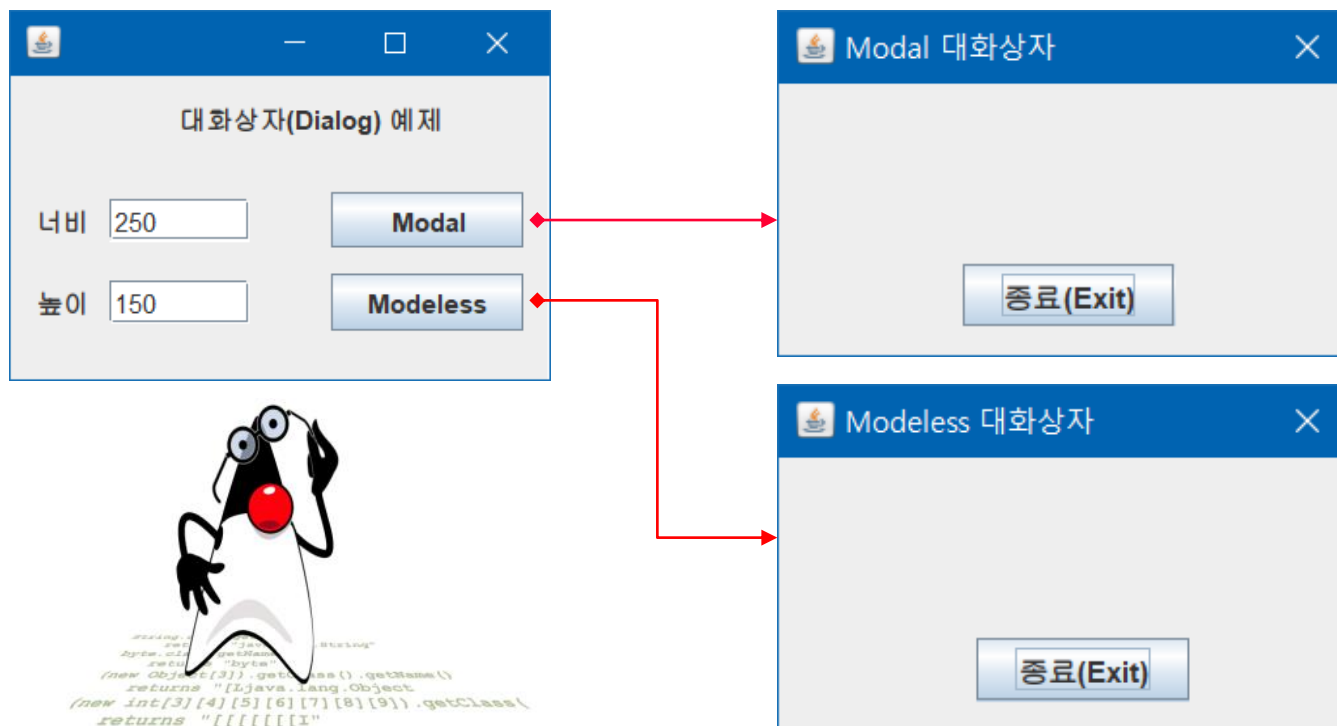
❖ Project Name: Dialog_Source(Time: 20 min)

■ [Modal] Button

- 너비와 높이 입력값의 크기에 맞는 Modal형 대화상자를 나타낸다.

■ [Modeless] Button

- 너비와 높이 입력값의 크기에 맞는 Modeless형 대화상자를 나타낸다.





Practice 1 : Dialog (1)

Create Project

1. Click

2. Click

3. Click

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help Apache NetBeans IDE 14 Search (Ctrl+I)

New Project... Ctrl+Shift+N

New File... Ctrl+N

Open Project... Ctrl+Shift+O

Open Recent Project

Close Project

Close Other Projects

Close All Projects

Open File...

Open Recent File

Project Groups...

Project Properties

Import Project

Export Project

Save Ctrl+S

Save As...

Save All Ctrl+Shift+S

Page Setup...

Print... Ctrl+Alt+Shift+P

Print to HTML...

Exit

New Project

Steps

1. Choose Project
2. ...

Choose Project

Filter:

Categories:

- Java with Maven
- Java with Gradle
- Java with Ant
- JavaFX
- Java Web
- Java Enterprise
- NetBeans Modules
- HTML5/JavaScript
- C/C++
- PHP

Projects:

- Java Application
- Java Class Library
- Java Project with Existing Sources
- Java Modular Project
- Java Free-Form Project

Description:

Creates a new Java SE application in a standard IDE project. You can also generate a main class in the project. Standard projects use an IDE-generated Ant build script to build, run, and debug your project.

< Back Next > Finish Cancel Help





Practice 1 : Dialog (2)

■ Project Name and Location

❖ Project name: Dialog_Source

New Java Application

Steps

1. Choose Project
2. **Name and Location**

Name and Location

Project Name: Dialog_Source

Project Location: C:\Java_Project Browse...

Project Folder: C:\Java_Project\Dialog_Source

☐ Use Dedicated Folder for Storing Libraries

Libraries Folder: Browse...

Different users and projects can share the same compilation libraries (see Help for details).

☐ Create Main Class dialog_source.Dialog_Source

4. Input Project Name

5. Reset check

6. Click

< Back Next > **Finish** Cancel Help

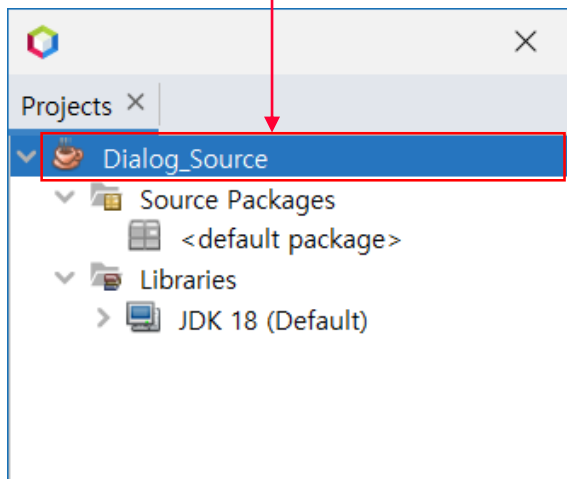




Practice 1 : Dialog (3)

Create JFrame Form

7. Mouse right-button Click



New

Build
Clean and Build

8. Click

Run
Debug
Profile
Test
Set Configuration

Set as Main Project
Open Required Projects
Close

Rename...
Move...
Copy...
Delete

Find...
Versioning
Local History

Properties

9. Click

JFrame Form...

Java Class...

Java Package...

Java Module...

Java Project...

JP...

Entity Class...

Entity Classes from Database...

Other...





Practice 1 : Dialog (4)

■ Setting JFrame Form Name

❖ Create MainFrame.java

New JFrame Form

Steps

1. Choose File Type
2. **Name and Location**

Name and Location

Class Name: MainFrame

Project: Dialog_Source

Location: Source Packages

Package:

Created File: C:\Java_Project\Dialog_Source\src\MainFrame.java

Superclass: Browse...

Interfaces: Browse...

Warning: It is highly recommended that you do not place Java classes in the default package

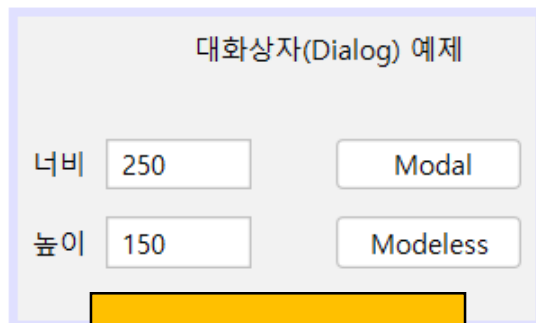
< Back Next > **Finish** Cancel Help



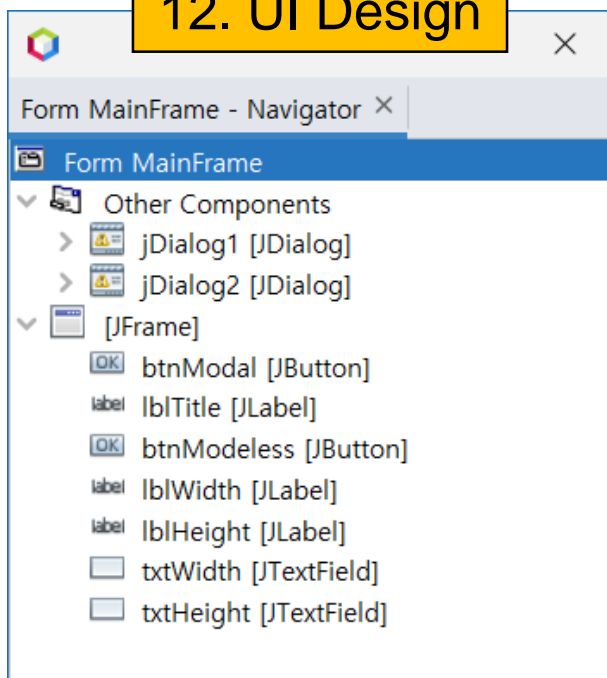
Practice 1 : Dialog (5)

Control Layout & Property Setting

❖ MainFrame



12. UI Design



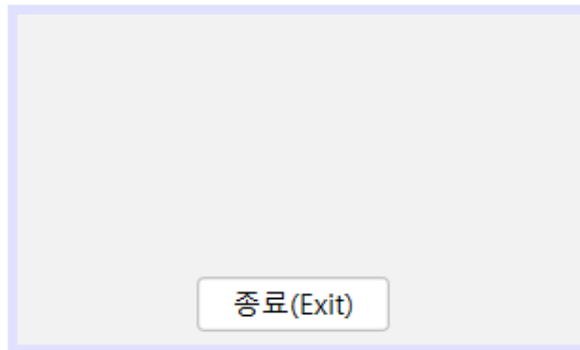
Control	Properties Setting
jLabel1	<ul style="list-style-type: none">Variable Name : lblTitleText : Dialog 예제
jLabel2	<ul style="list-style-type: none">Variable Name : lblWidthText : 너비
jLabel3	<ul style="list-style-type: none">Variable Name : lblHeightText : 높이
jTextField1	<ul style="list-style-type: none">Variable Name : txtWidthText : 250
jTextField2	<ul style="list-style-type: none">Variable Name : txtHeightText : 150
jButton1	<ul style="list-style-type: none">Variable Name : btnModalText : Modal
jButton2	<ul style="list-style-type: none">Variable Name : btnModelessText : Modeless





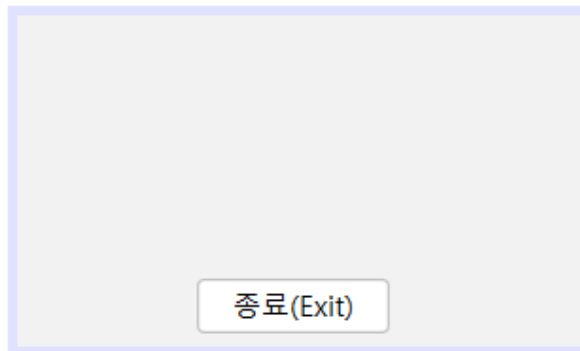
Practice 1 : Dialog (6)

❖ Dialog1



Control	Properties Setting
jDialog1	<ul style="list-style-type: none">• Variable Name : jDialog1• title: Modal 대화상자• modal: <input checked="" type="checkbox"/>
jButton1	<ul style="list-style-type: none">• Variable Name : btnExit1• Text : 종료(Exit)

❖ Dialog2



Control	Properties Setting
jDialog2	<ul style="list-style-type: none">• Variable Name : jDialog2• title: Modeless 대화상자
jButton1	<ul style="list-style-type: none">• Variable Name : btnExit2• Text : 종료(Exit)





Practice 1 : Dialog (7)

❖ Setting JOptionPane properties code

```
MainFrame.java - Editor
MainFrame.java x
Source Design History
30 JOptionPane.showMessageDialog(jDialog1, "Modal 대화상자");
31 JOptionPane.setCursor(new java.awt.Cursor(java.awt.Cursor.DEFAULT_CURSOR));
32 JOptionPane.setModal(true);
33
34 btnExit1.setText("종료(Exit)");
35 btnExit1.addActionListener(new java.awt.event.ActionListener() {
36     public void actionPerformed(java.awt.event.ActionEvent evt) {
37         btnExit1ActionPerformed(evt);
38     }
39 });
40
41 javax.swing.GroupLayout jDialog1Layout = new javax.swing.GroupLayout(jDialog1.getContentPane());
42 jDialog1.getContentPane().setLayout(jDialog1Layout);
43 jDialog1Layout.setHorizontalGroup(
44     jDialog1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
45         .addGroup(jDialog1Layout.createSequentialGroup()
46             .addGap(76, 76, 76)
47             .addComponent(btnExit1)
48             .addGap(81, Short.MAX_VALUE)
49         );
50 jDialog1Layout.setVerticalGroup(
51     jDialog1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
52         .addGroup(jDialog1Layout.createSequentialGroup()
53             .addGap(111, Short.MAX_VALUE)
54             .addComponent(btnExit1)
55             .addGap(81, Short.MAX_VALUE)
56         );
```





Practice 1 : Dialog (8)

❖ Setting jDialog2 properties code

```
MainFrame.java - Editor
MainFrame.java x
Source Design History
58 jDialog2.setTitle("Modeless 대화상자");
59
60 btnExit2.setText("종료(Exit)");
61 btnExit2.addActionListener(new java.awt.event.ActionListener() {
62     public void actionPerformed(java.awt.event.ActionEvent evt) {
63         btnExit2ActionPerformed(evt);
64     }
65 });
66
67 javax.swing.GroupLayout jDialog2Layout = new javax.swing.GroupLayout(jDialog2.getContentPane());
68 jDialog2.getContentPane().setLayout(jDialog2Layout);
69 jDialog2Layout.setHorizontalGroup(
70     jDialog2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
71         .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jDialog2Layout.createSequentialGroup()
72             .addContainerGap(71, Short.MAX_VALUE)
73             .addComponent(btnExit2)
74             .addGap(66, 66, 66)
75         );
76 jDialog2Layout.setVerticalGroup(
77     jDialog2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
78         .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jDialog2Layout.createSequentialGroup()
79             .addContainerGap(115, Short.MAX_VALUE)
80             .addComponent(btnExit2)
81             .addContainerGap()
82 );
```





Practice 1 : Dialog (9)

❖ [Modal] Button Event Handler

```
MainFrame.java - Editor
MainFrame.java x
Source Design History
2 public class MainFrame extends javax.swing.JFrame {
3
4     /** Creates new form MainFrame */
5     public MainFrame() {
6         initComponents();
7         setLocation(300, 300); //MainFrame Position Setting
8     }
9
10    /** This method is called from within the constructor to ...5 lines */
15    Generated Code
157
161 private void btnModalActionPerformed(java.awt.event.ActionEvent evt) {
162     int iWidth = 0;
163     int iHeight = 0;
164
165     iWidth = Integer.parseInt(txtWidth.getText());
166     iHeight = Integer.parseInt(txtHeight.getText());
167
168     jDialog1.setLocation(350, 350); //Modal Dialog Position Setting
169     jDialog1.setSize(iWidth, iHeight); //Modal Dialog Size Setting
170     jDialog1.show();
171 }
```

13. Coding





Practice 1 : Dialog (10)

❖ [Modeless] Button Event Handler

```
MainFrame.java - Editor
MainFrame.java x
8 }
169
170 private void btnModelessActionPerformed(java.awt.event.ActionEvent evt) {
171     int iWidth = 0;
172     int iHeight = 0;
173
174     iWidth = Integer.parseInt(txtWidth.getText());
175     iHeight = Integer.parseInt(txtHeight.getText());
176
177     jDialog2.setLocation(350, 350); //Modeless Dialog Position Setting
178     jDialog2.setSize(iWidth, iHeight); //Modeless Dialog Size Setting
179     jDialog2.show();
180 }
181
182 private void btnExit1ActionPerformed(java.awt.event.ActionEvent evt) {
183     jDialog1.dispose(); //Modal Dialog Exit
184 }
185
186 private void btnExit2ActionPerformed(java.awt.event.ActionEvent evt) {
187     jDialog2.dispose(); //Modeless Dialog Exit
188 }
5:25 INS
```

14. Coding



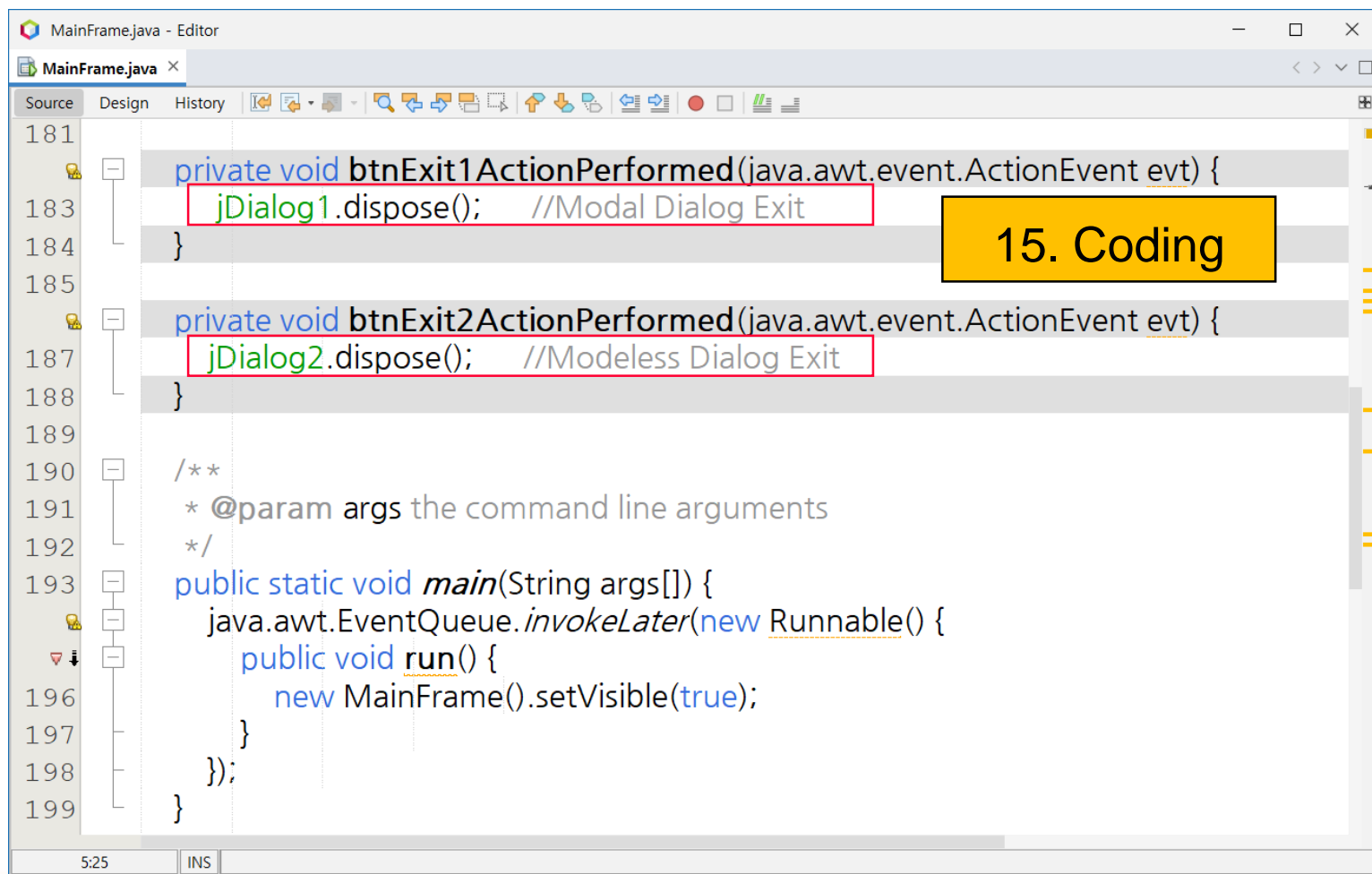


Practice 1 : Dialog (11)

❖ [종료(Exit)] Button Event Handler

◆ jDialog1 : btnExit1

◆ jDialog2 : btnExit2



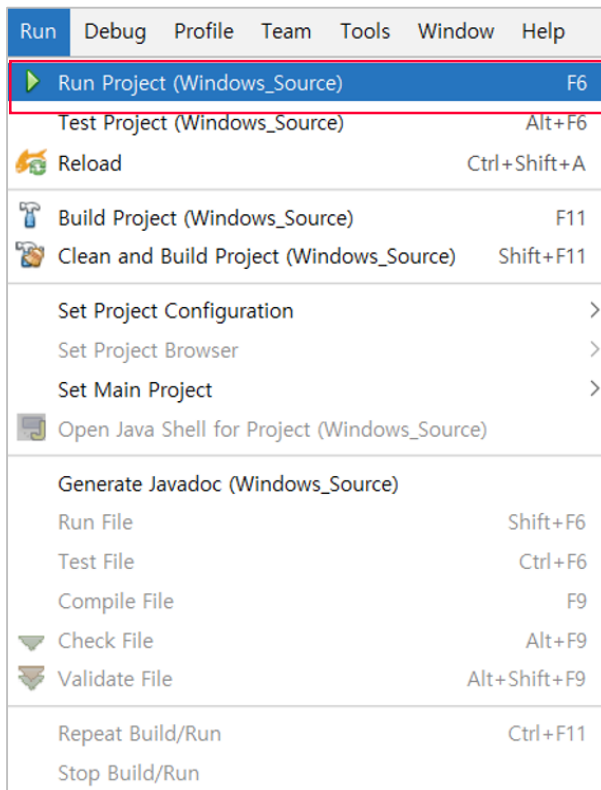
```
181 private void btnExit1ActionPerformed(java.awt.event.ActionEvent evt) {  
183     jDialog1.dispose(); //Modal Dialog Exit  
184 }  
185  
186 private void btnExit2ActionPerformed(java.awt.event.ActionEvent evt) {  
187     jDialog2.dispose(); //Modeless Dialog Exit  
188 }  
189  
190 /**  
191  * @param args the command line arguments  
192  */  
193 public static void main(String args[]) {  
194     java.awt.EventQueue.invokeLater(new Runnable() {  
195         public void run() {  
196             new MainFrame().setVisible(true);  
197         }  
198     });  
199 }
```



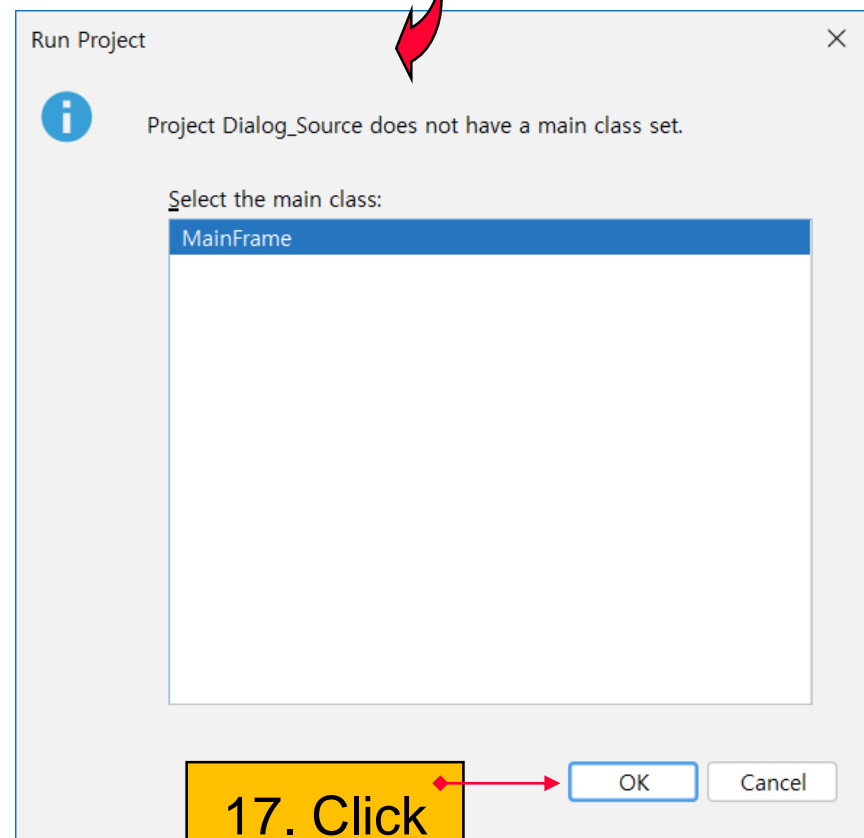


Practice 1 : Dialog (12)

Run



16. Click



17. Click



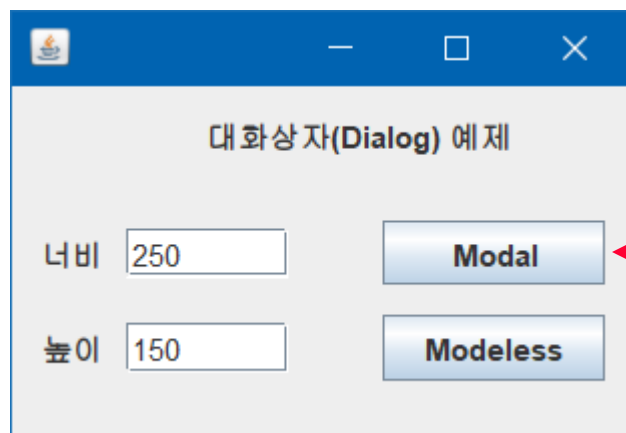


Practice 1 : Dialog (13)

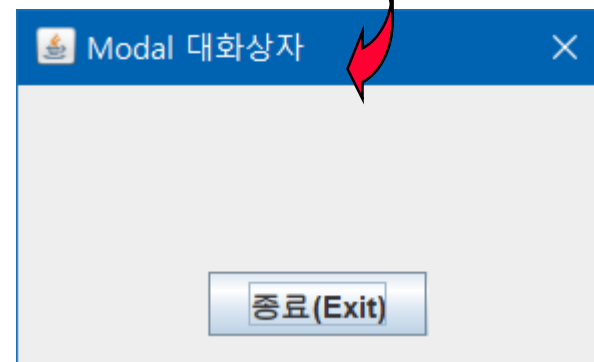
■ Run 결과

❖ [Modal] Button Click

◆ 다른 대화상자 선택 불가능



18. Click

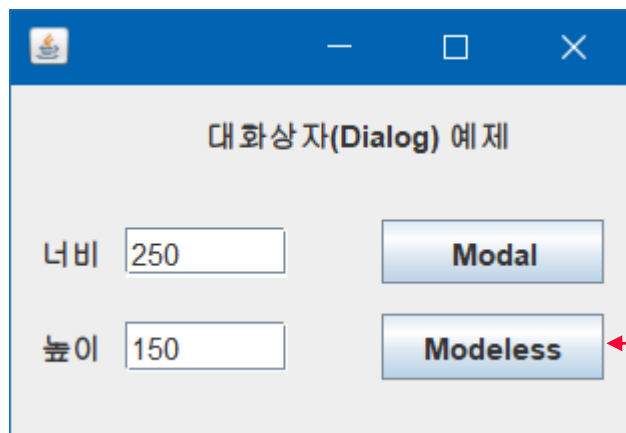




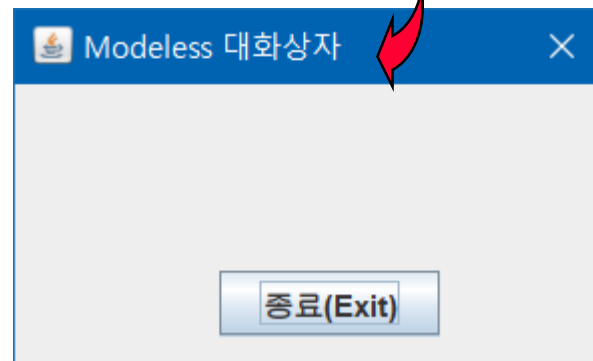
Practice 1 : Dialog (14)

❖ [Modeless] Button Click

◆ 다른 대화상자 선택 가능



19. Click





Common Dialog

■ Common Dialog

❖ Function

◆ 윈도우 프로그램에서 공통으로 사용하는 대화상자

❖ 클래스

Dialog	Class
파일 열기	FileDialog
폰트 선택	FontDialog
색상선택	ColorDialog
인쇄	PrintDialog
찾기, 바꾸기	FindReplaceDialog





FileDialog (1)

■ FileDialog

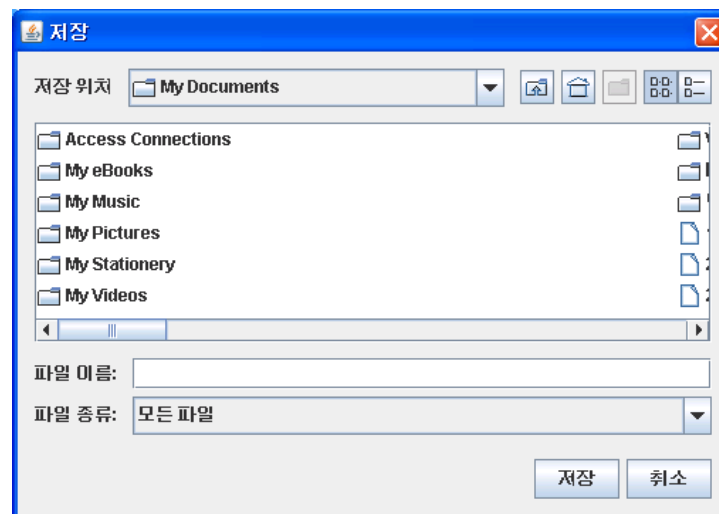
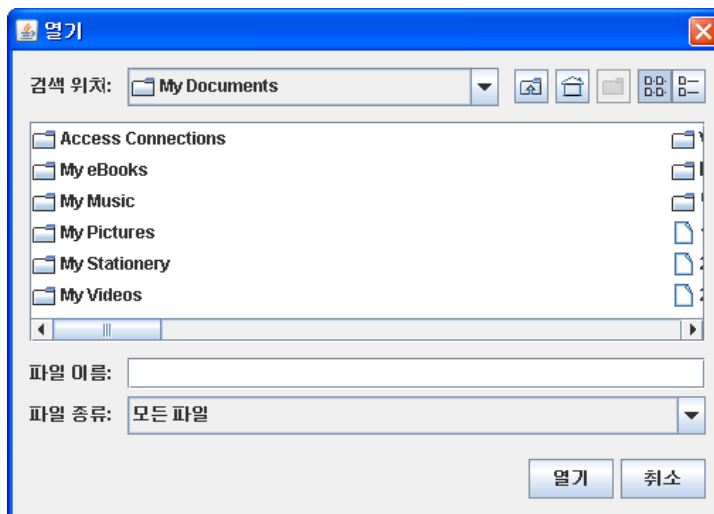
❖ Function

◆ File 열기/저장 Function 구현

❖ 형식

◆ 열기

◆ 저장





FileDialog (2)

❖ Constructor

Constructor	Function
public FileDialog(Frame parent)	기본 Constructor
public FileDialog(Frame parent, String strData)	• strData: 제목표시줄에 출력할 문자열
public FileDialog(Frame parent, String strData, int rw)	• strData: 제목표시줄에 출력할 문자열 • rw : FileDialog.LOAD/FileDialog.SAVE

❖ Method

Method	Function
public void show()	Dialog를 화면에 출력
public String getDirectory()	선택한 파일이 위치한 폴더 반환
public String getFile()	선택한 파일명 반환
public String setFile(String strFile)	strFile로 파일명 지정





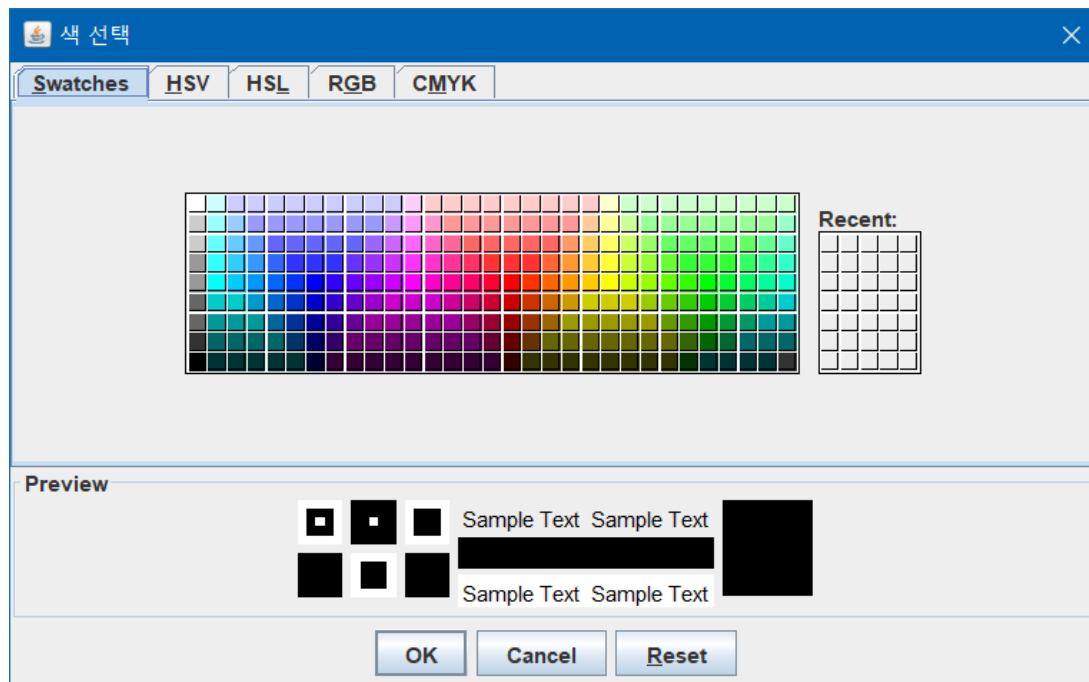
Color Dialog (1)

■ Color Dialog

❖ Function

◆ Color 선택 Function 구현

❖ 형식





Color Dialog (2)

❖ Method

Method	Function
public Color getColor()	색 반환
public void setColor(int red, int green, int blue)	색 지정
public void setColor(int c)	
public void setColor(Color objcolor)	

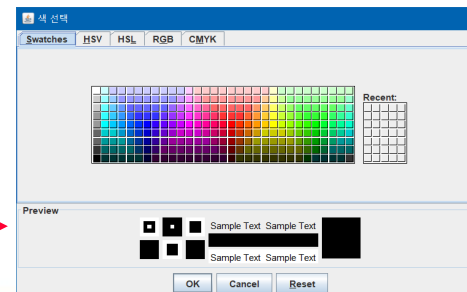
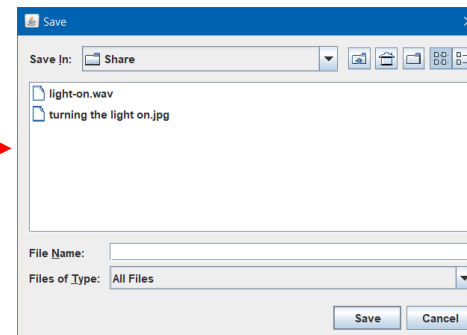
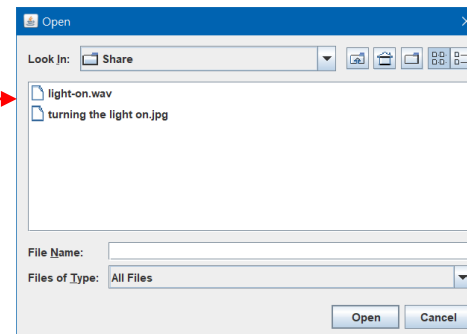
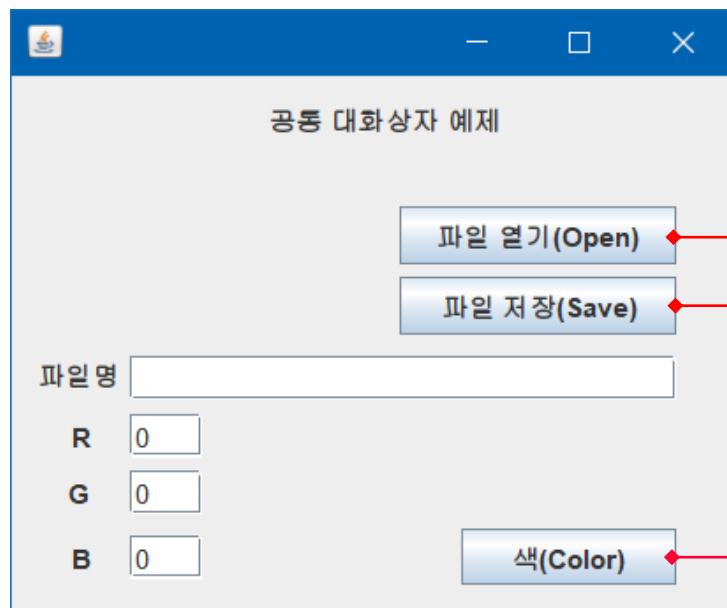




Practice 2 : CommonDialog

❖ Project Name: CommonDialog_Source(Time: 30 min)

- [파일 열기(Open)] Button
 - 파일 열기 Common Dialog Run
- [파일 저장(Save)] Button
 - 파일 저장 Common Dialog Run
- [색(Color)] Button
 - 색 선택 Common Dialog Run





Practice 2 : CommonDialog (1)

Create Project

1. Click

2. Click

3. Click

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help Apache NetBeans IDE 14 Search (Ctrl+I)

New Project... Ctrl+Shift+N

New File... Ctrl+N

Open Project... Ctrl+Shift+O

Open Recent Project

Close Project

Close Other Projects

Close All Projects

Open File...

Open Recent File

Project Groups...

Project Properties

Import Project

Export Project

Save Ctrl+S

Save As...

Save All Ctrl+Shift+S

Page Setup...

Print... Ctrl+Alt+Shift+P

Print to HTML...

Exit

New Project

Steps

1. Choose Project
2. ...

Choose Project

Filter:

Categories:

- Java with Maven
- Java with Gradle
- Java with Ant
- JavaFX
- Java Web
- Java Enterprise
- NetBeans Modules
- HTML5/JavaScript
- C/C++
- PHP

Projects:

- Java Application
- Java Class Library
- Java Project with Existing Sources
- Java Modular Project
- Java Free-Form Project

Description:

Creates a new Java SE application in a standard IDE project. You can also generate a main class in the project. Standard projects use an IDE-generated Ant build script to build, run, and debug your project.

< Back Next > Finish Cancel Help





Practice 2 : CommonDialog (2)

■ Project Name and Location

❖ Project name: CommonDialog_Source

New Java Application

Steps

1. Choose Project
2. **Name and Location**

Name and Location

Project Name: CommonDialog_Source

Project Location: C:\Java_Project Browse...

Project Folder: C:\Java_Project\CommonDialog_Source

☐ Use Dedicated Folder for Storing Libraries

Libraries Folder: Browse...

Different users and projects can share the same compilation libraries (see Help for details).

☐ Create Main Class commondialog_source.CommonDialog_Source

4. Input Project Name

5. Reset check

6. Click

< Back Next > Finish Cancel Help

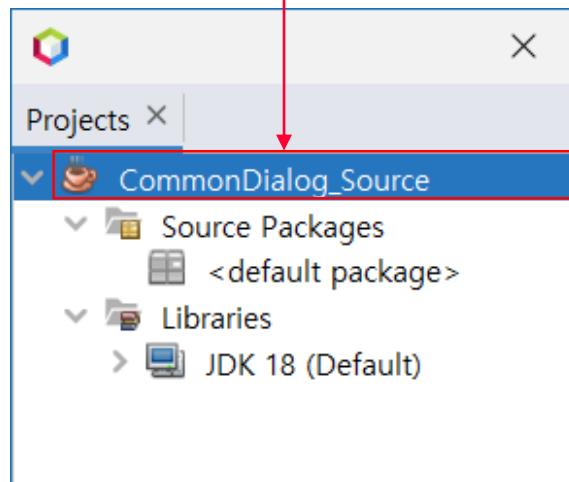




Practice 2 : CommonDialog (3)

Create JFrame Form

7. Mouse right-button Click



New

Build
Clean and Build

8. Click

Run
Debug
Profile
Test
Set Configuration

Set as Main Project
Open Required Projects
Close

Rename...
Move...
Copy...
Delete

Find...
Versioning
Local History

Properties

JFrame Form...

Java Class...

Java Package...

Java Module...

Java Project...

JP...

Entity Class...

Entity Classes from Database...

Other...

9. Click





Practice 2 : CommonDialog (4)

■ Setting JFrame Form Name

❖ Create MainFrame.java

Steps

1. Choose File Type
2. Name and Location

Name and Location

Class Name: MainFrame

Project: CommonDialog_Source

Location: Source Packages

Package:

Created File: C:\Java_Project\CommonDialog_Source\src\MainFrame.java

Superclass: Browse...

Interfaces: Browse...

Warning: It is highly recommended that you do not place Java classes in the default package

< Back Next > Finish Cancel Help



Practice 2 : CommonDialog (5)

Control Layout & Property Setting

❖ MainFrame

공통 대화상자 예제

파일 열기(Open)

파일 저장(Save)

파일명

R

G

B

색(Color)

12. UI Design

Control	Properties Setting
jButton1	<ul style="list-style-type: none"> Variable Name : btnFileOpen Text : 파일 열기(open)
jButton2	<ul style="list-style-type: none"> Variable Name : btnFileSave Text : 파일 저장(Save)
jButton3	<ul style="list-style-type: none"> Variable Name : btnColor Text : 색(Color)

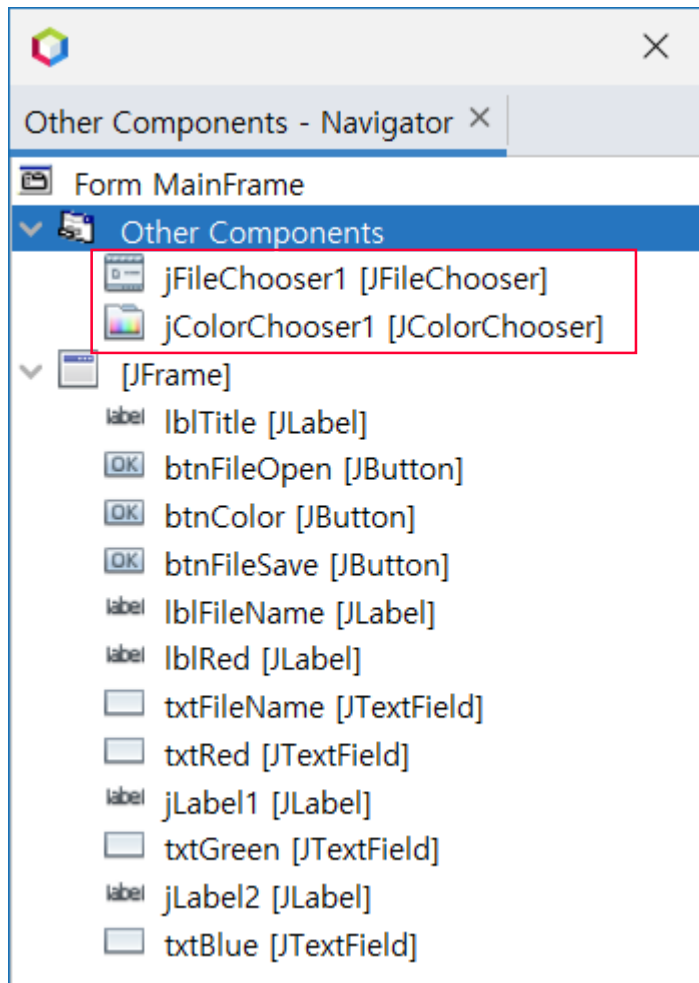
Control	Properties Setting
jLabel1	<ul style="list-style-type: none"> Variable Name : lblTitle Text : 공통 대화상자 예제
jLabel2	<ul style="list-style-type: none"> Variable Name : lblFileName Text : 파일명
jLabel3	<ul style="list-style-type: none"> Variable Name : lblRed Text : R
jLabel4	<ul style="list-style-type: none"> Variable Name : lblGreen Text : G
jLabel5	<ul style="list-style-type: none"> Variable Name : lblBlue Text : B
textField1	<ul style="list-style-type: none"> Variable Name : txtFileName
textField2	<ul style="list-style-type: none"> Variable Name : txtRed Text : 0
textField3	<ul style="list-style-type: none"> Variable Name : txtGreen Text : 0
textField4	<ul style="list-style-type: none"> Variable Name : txtBlue Text : 0





Practice 2 : CommonDialog (6)

❖ Other component



Control	Properties Setting
jFileChooser1	
jColorChooser1	





Practice 2 : CommonDialog (7)

❖ initComponents() 속성 지정 Code

```
MainFrame.java - Editor
MainFrame.java x
Source Design History
16 private void initComponents() {
17
18     jFileChooser1 = new javax.swing.JFileChooser();
19     jColorChooser1 = new javax.swing.JColorChooser();
20     lblTitle = new javax.swing.JLabel();
21     btnFileOpen = new javax.swing.JButton();
22     btnColor = new javax.swing.JButton();
23     btnFileSave = new javax.swing.JButton();
24     lblFileName = new javax.swing.JLabel();
25     lblRed = new javax.swing.JLabel();
26     txtFileName = new javax.swing.JTextField();
27     txtRed = new javax.swing.JTextField();
28     jLabel1 = new javax.swing.JLabel();
29     txtGreen = new javax.swing.JTextField();
30     jLabel2 = new javax.swing.JLabel();
31     txtBlue = new javax.swing.JTextField();
32
33     jColorChooser1.setColor(new java.awt.Color(51, 0, 255));
34
35     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
```





Practice 2 : CommonDialog (8)

- ❖ [파일 열기(Open)] Button Event Handler
- ❖ [파일 저장(Save)] Button Event Handler

```
MainFrame.java - Editor
MainFrame.java x
Source Design History
15 // <editor-fold defaultstate="collapsed" desc="Generated Code">
16 private void initComponents() {...126 lines} // </editor-fold>
142
143 private void btnFileOpenActionPerformed(java.awt.event.ActionEvent evt) {
144     jFileChooser1.showOpenDialog(null);
145 }
146
147 private void btnFileSaveActionPerformed(java.awt.event.ActionEvent evt) {
148     jFileChooser1.showSaveDialog(null);
149 }
150
151
152
153
161:5 INS
```

13. Coding

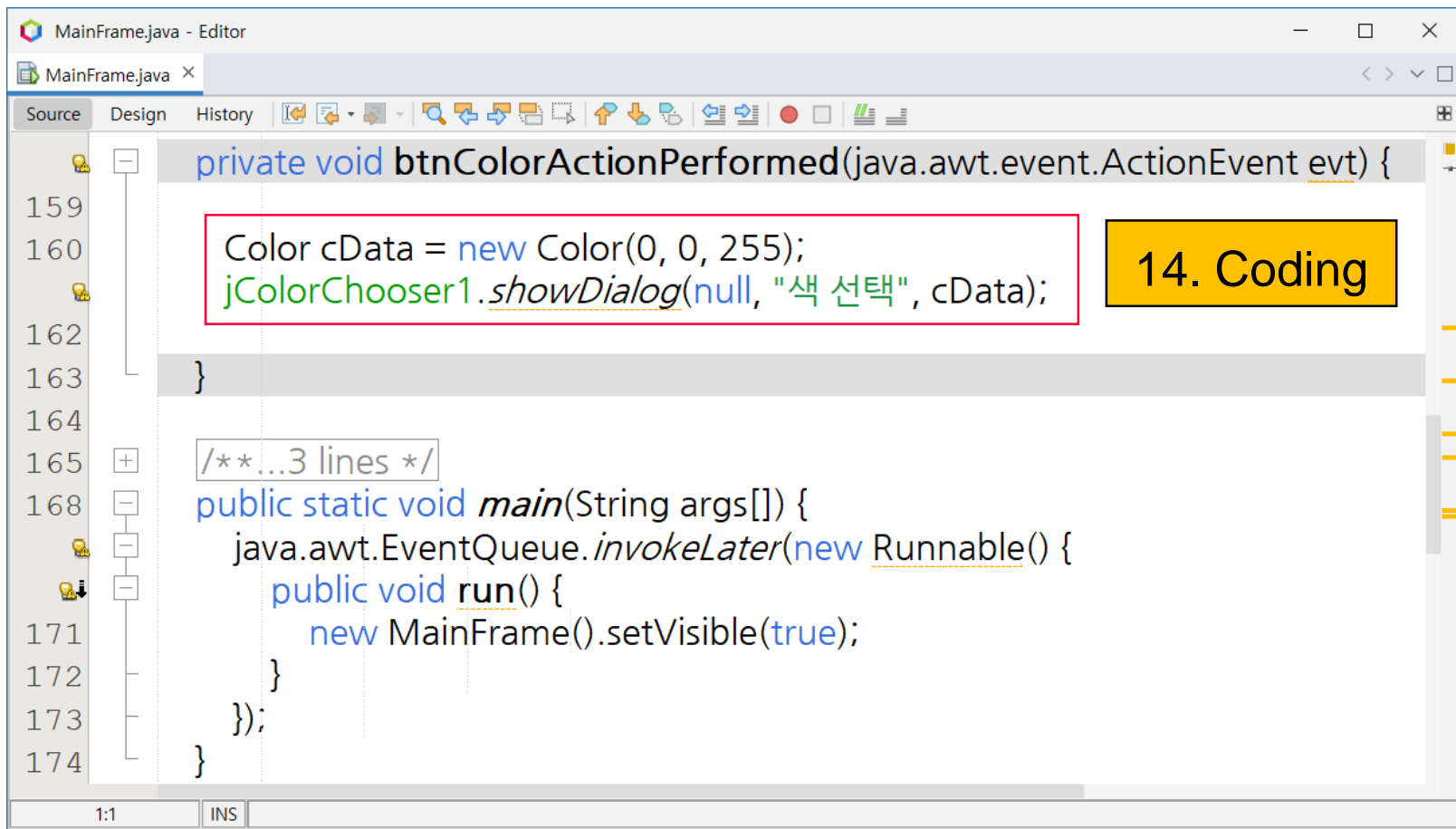




Practice 2 : CommonDialog (9)

❖ [색(Color)] Button Event Handler

◆ Color 클래스 사용



```
MainFrame.java - Editor
MainFrame.java x
Source Design History
private void btnColorActionPerformed(java.awt.event.ActionEvent evt) {
    Color cData = new Color(0, 0, 255);
    jColorChooser1.showDialog(null, "색 선택", cData);
}
/** ...3 lines */
public static void main(String args[]) {
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new MainFrame().setVisible(true);
        }
    });
}
```

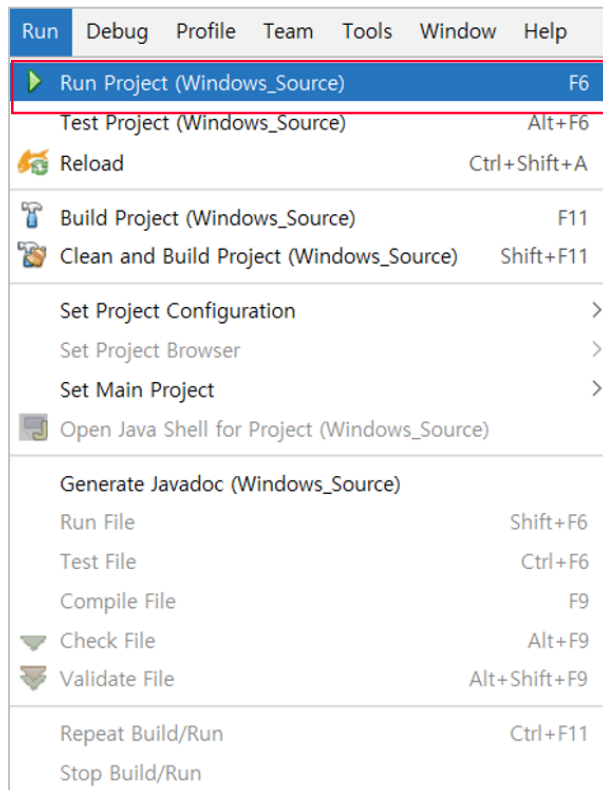
14. Coding



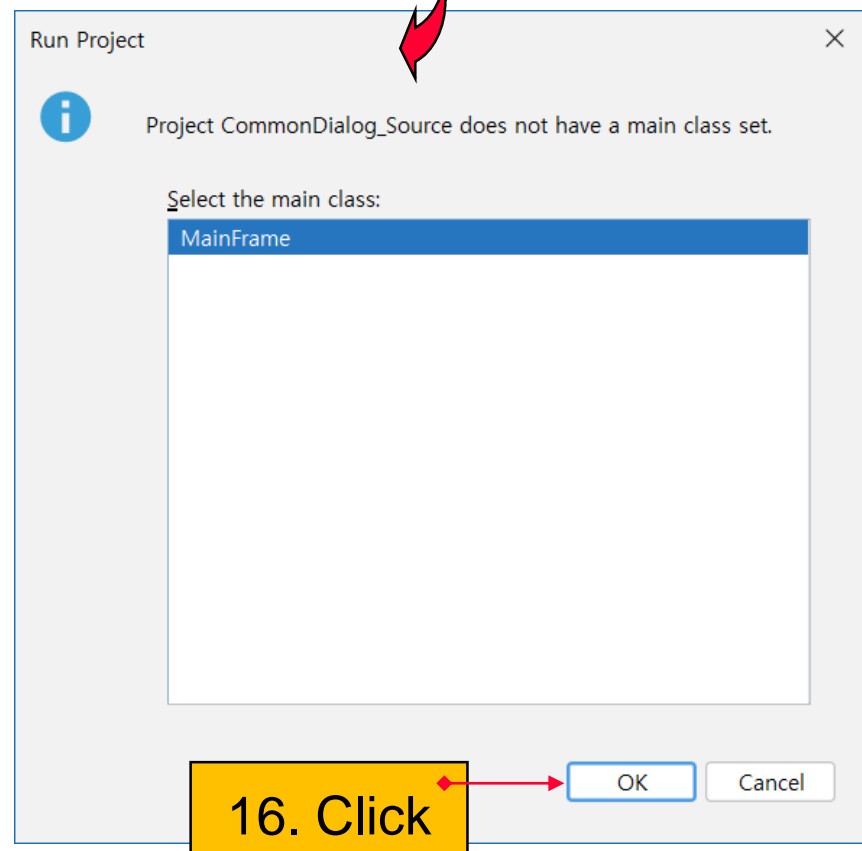


Practice 2 : CommonDialog (10)

Run



15. Click



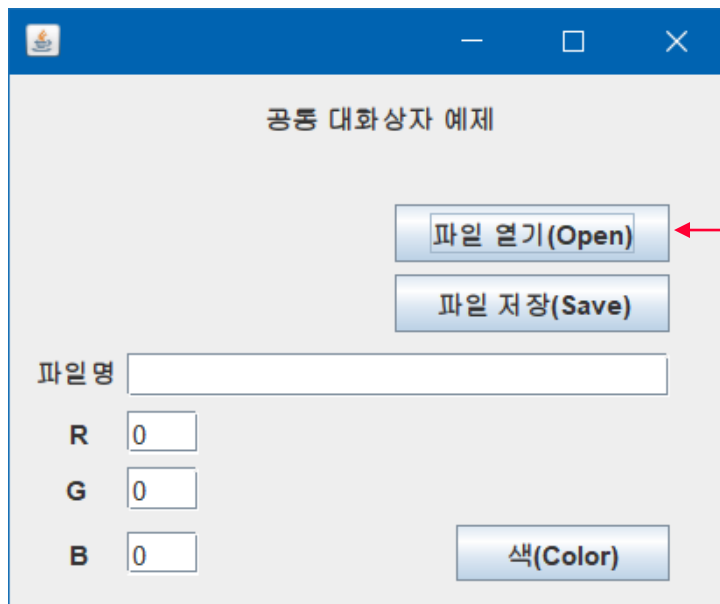
16. Click



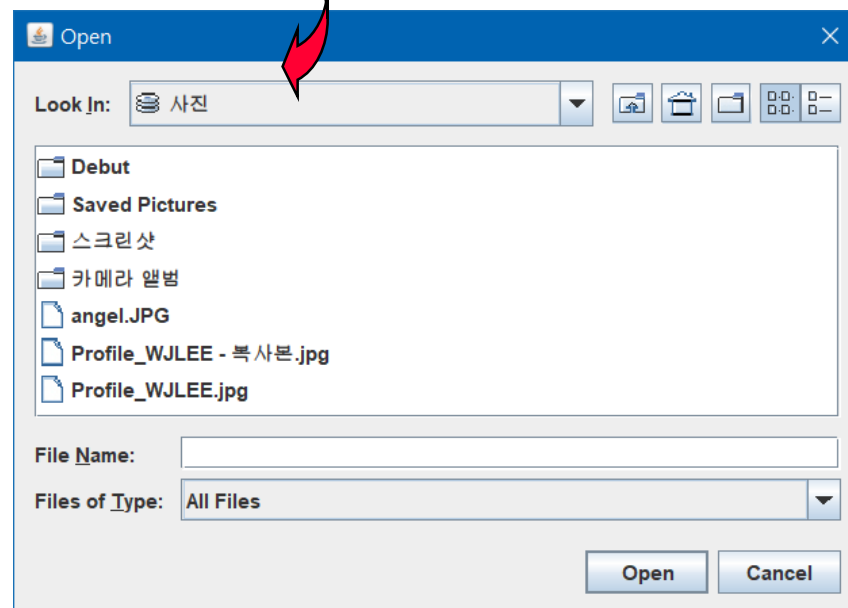


Practice 2 : CommonDialog (11)

❖ [파일 열기(Open)] Button Click



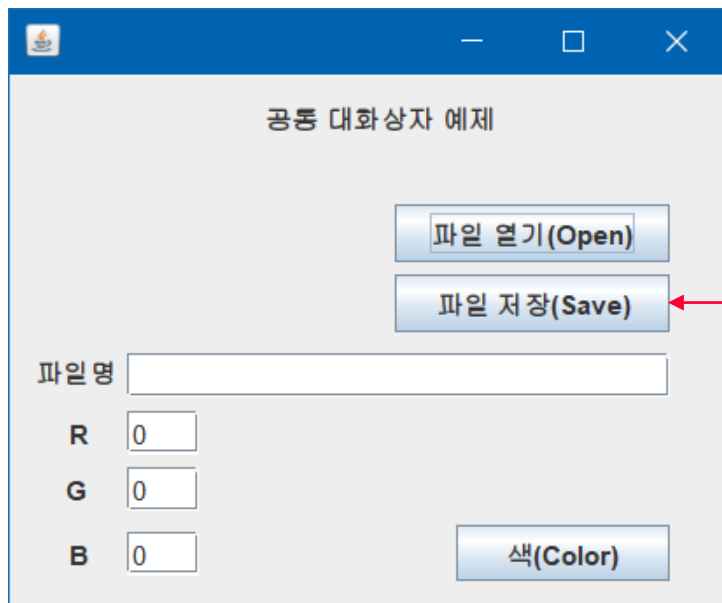
17. Click



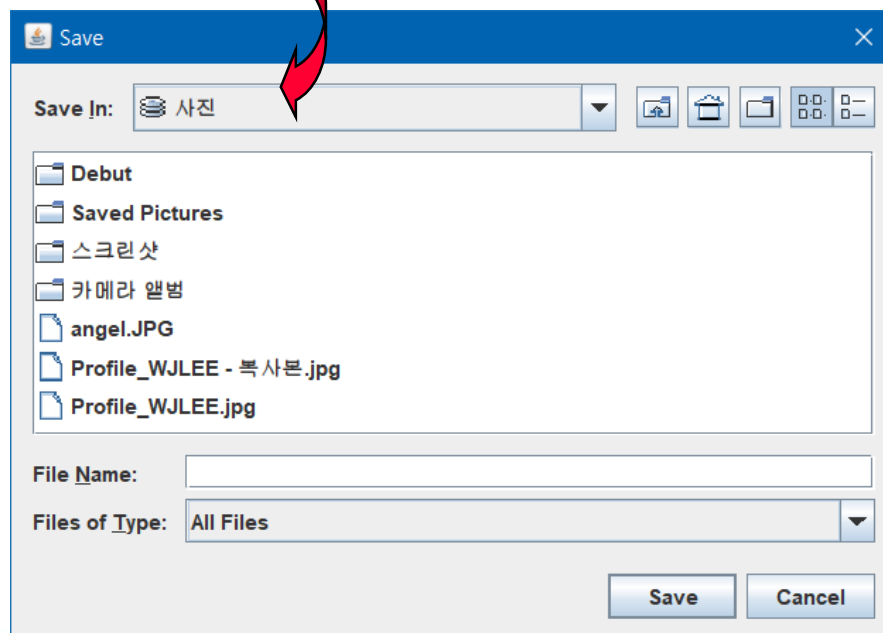


Practice 2 : CommonDialog (12)

❖ [파일 저장(Save)] Button Click



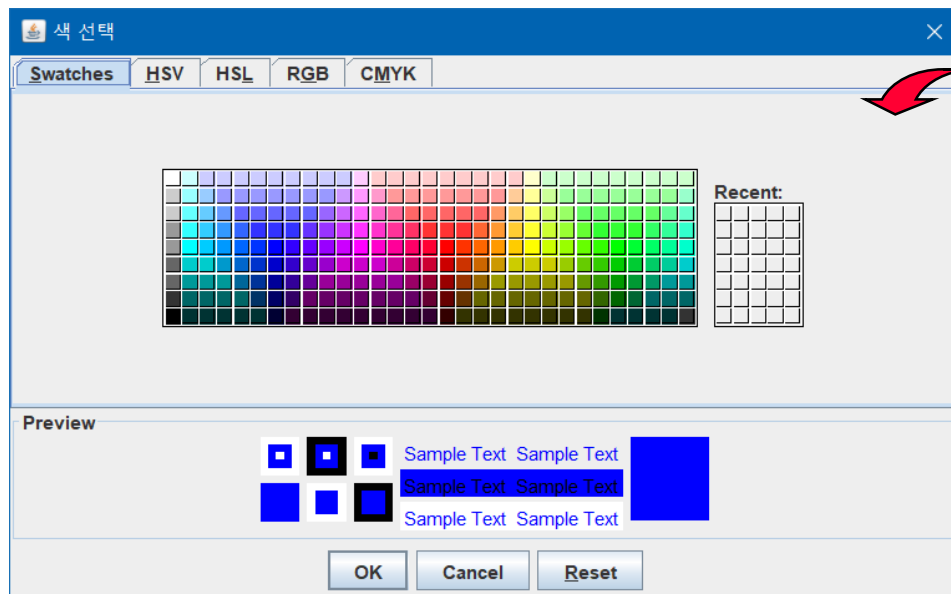
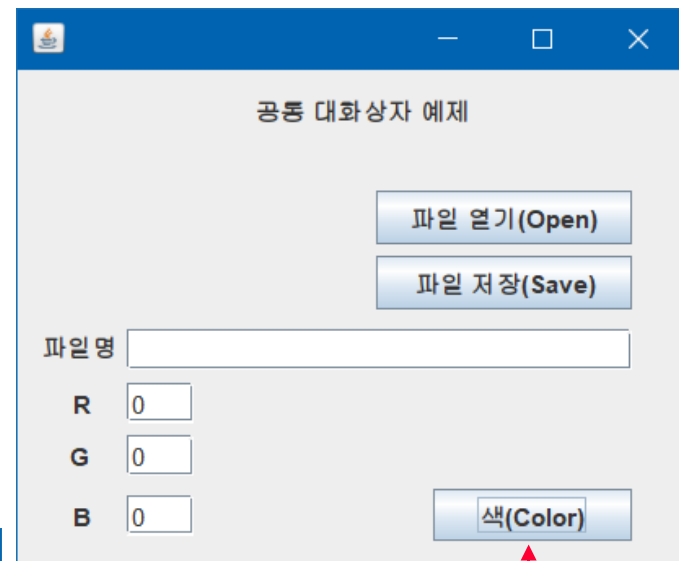
18. Click





Practice 2 : CommonDialog (13)

❖ [색(Color)] Button Click



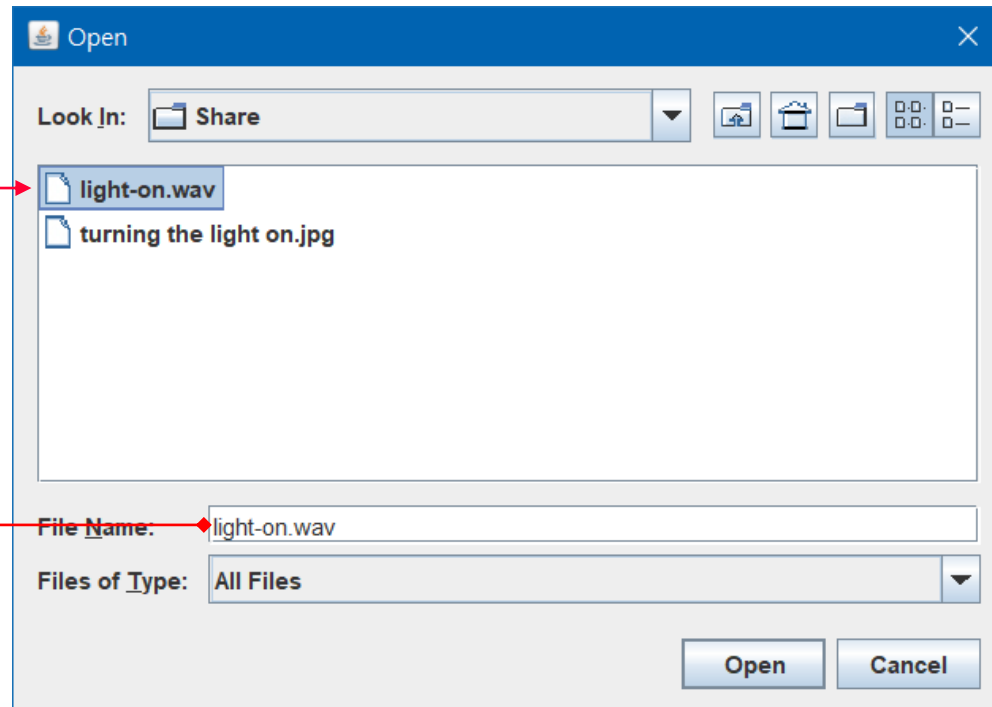
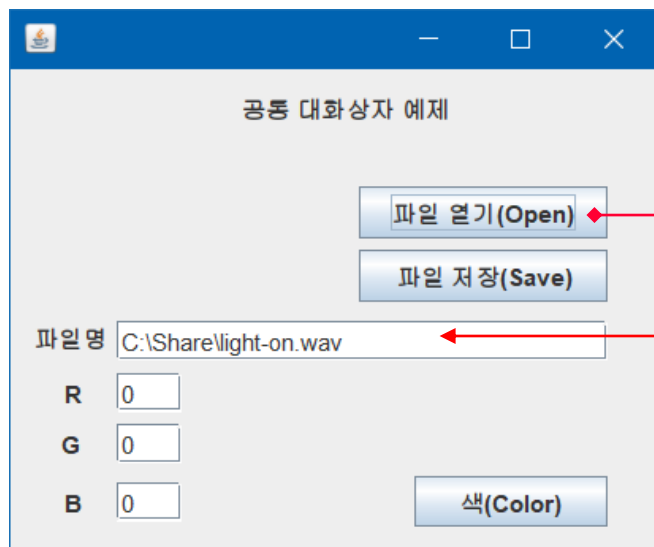


Practice 3 : CommonDialog

❖ Project Name: CommonDialog_Source(Time: 30 min)

■ [파일 열기(Open)] Button

- 파일 열기 Common Dialog Run
- 파일 열기 대화상자에서 선택한 파일의 파일명(절대경로 포함)을 파일명 TextField에 출력하라.





Practice 3 : CommonDialog

- ❖ [파일 열기(Open)] Button Event Handler
- ❖ [파일 저장(Save)] Button Event Handler

```
MainFrame.java - Editor
MainFrame.java x
Source Design History
private void btnFileOpenActionPerformed(java.awt.event.ActionEvent evt) {
147
148     jFileChooser1.showOpenDialog(null);
149
150     1
151
152 }
153
private void btnFileSaveActionPerformed(java.awt.event.ActionEvent evt) {
155
156     jFileChooser1.showSaveDialog(null);
157
158 }
163:17 INS
```



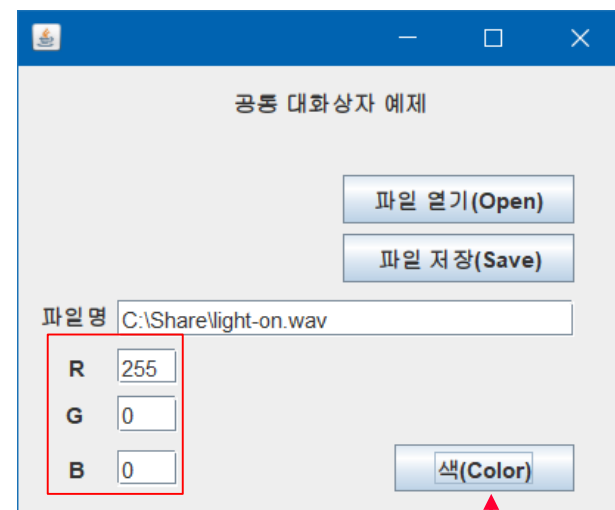
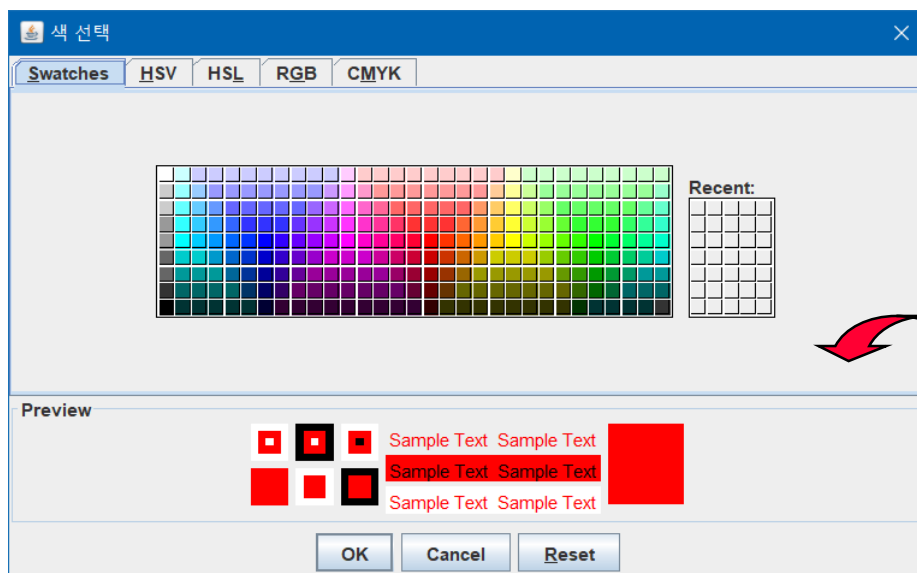


Practice 4 : CommonDialog

❖ Project Name: CommonDialog_Source(Time: 20 min)

■ [색(Color)] Button

- (R, G, B) TextField의 입력값에 따라 ColorChooser의 색을 지정하도록 구현하라.



Color Setting & Click

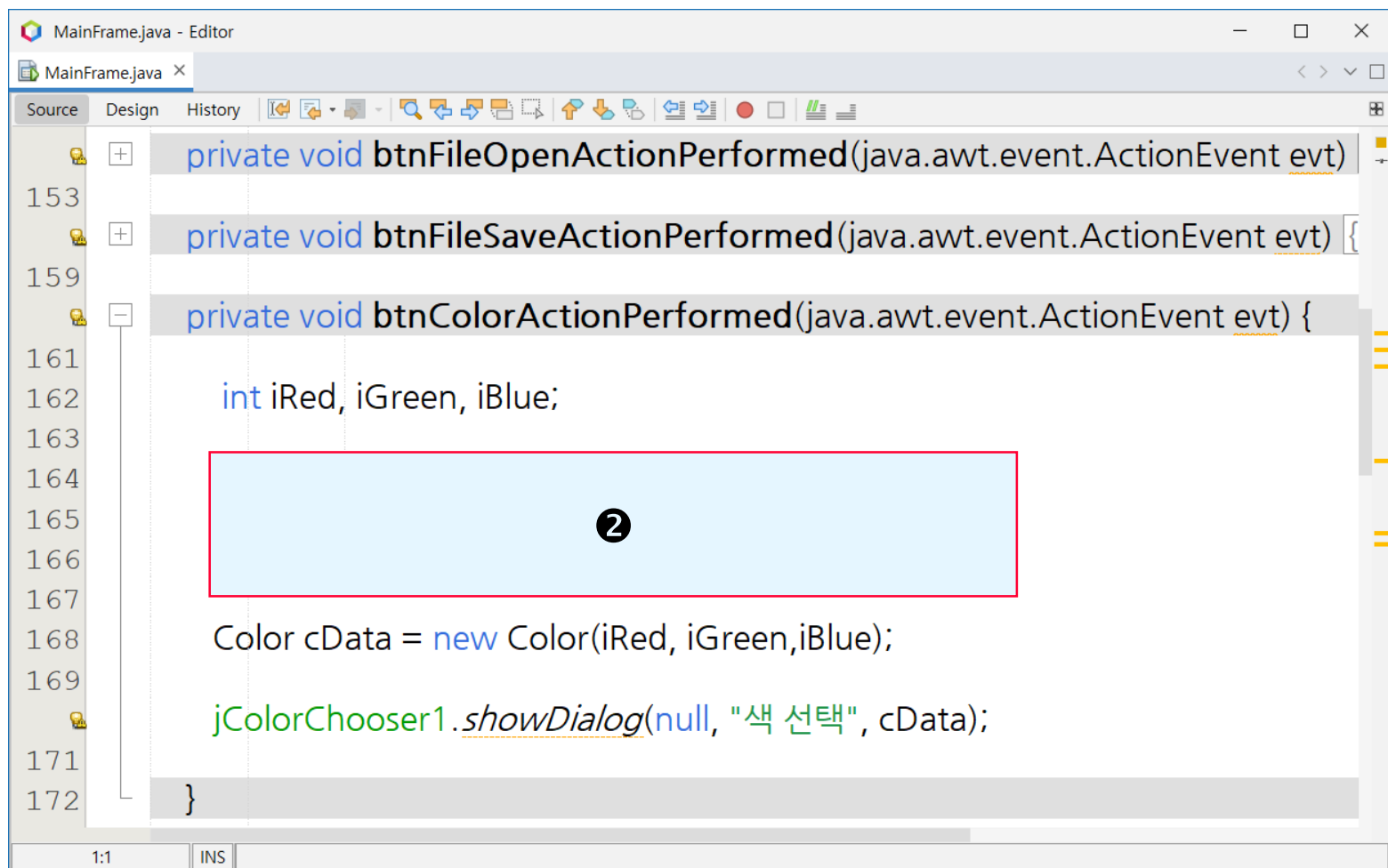




Practice 4 : CommonDialog

❖ [색(Color)] Button Event Handler

◆ Color 클래스 사용



```
153 private void btnFileOpenActionPerformed(java.awt.event.ActionEvent evt)
159 private void btnFileSaveActionPerformed(java.awt.event.ActionEvent evt) {
161 private void btnColorActionPerformed(java.awt.event.ActionEvent evt) {
162     int iRed, iGreen, iBlue;
163     ②
164     Color cData = new Color(iRed, iGreen, iBlue);
165     jColorChooser1.showDialog(null, "색 선택", cData);
166 }
167
168
169
171
172
```



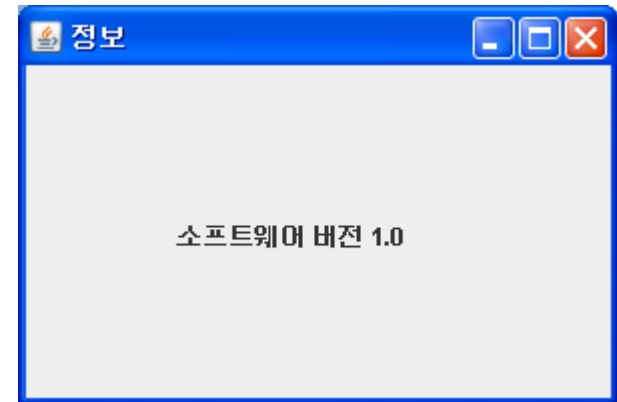


Frame (1)

■ Frame

❖ Function

- ◆ Windows 구조의 application 구현
- ◆ 테두리, 메뉴바, Title 제공



❖ Constructor

Constructor	
Public Frame()	기본 Constructor
Public Frame(String strTitle)	TitleBar의 문자열 지정





Frame (2)

❖ Method

Method	Function
public String getTitle()	Title 문자열 반환
public String setTitle()	Title 문자열 지정
public boolean isResizable()	크기 변경 여부 반환
public void setMenuBar(MenuBar mnuBar)	메뉴바 등록
public void setResizable(boolean b)	크기 변경 여부 지정



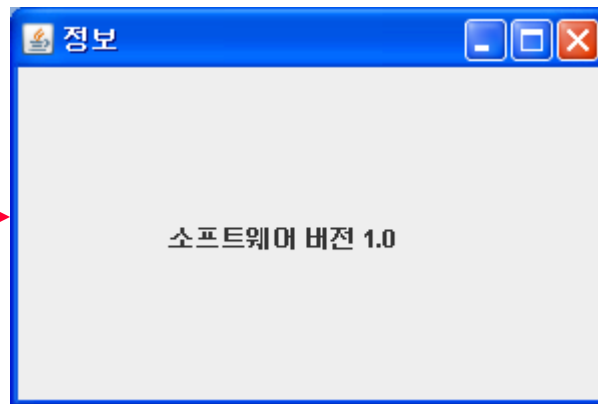


Practice 5 : Frame

❖ Project Name: Frame_Source(Time: 20 min)

■ [Frame 호출] Button

- 정보 Frame(frmInformation) 호출



```
String s = "1.0";  
byte b = 1;  
return "byte";  
(new Object[3]).getClass().getName()  
returns "[Ljava.lang.Object;  
(new int[3][4][5][6][7][8][9]).getClass()  
returns "[[[[[[I"
```





Practice 5 : Frame (1)

Create Project

The screenshot shows the Apache NetBeans IDE interface. The 'File' menu is open, and the 'New Project...' option is highlighted. A yellow callout box labeled '1. Click' points to this option. The 'New Project' dialog box is open, showing the 'Steps' section with '1. Choose Project' and '2. ...'. A yellow callout box labeled '2. Click' points to the 'Java Application' option in the 'Projects' list. The 'Java with Ant' category is also highlighted in the 'Categories' list. A yellow callout box labeled '3. Click' points to the 'Next >' button at the bottom of the dialog. The 'Description' section at the bottom of the dialog explains that this creates a new Java SE application in a standard IDE project, using an IDE-generated Ant build script.

1. Click

2. Click

3. Click

Steps

1. Choose Project
2. ...

Choose Project

Filter:

Categories:

- Java with Maven
- Java with Gradle
- Java with Ant
- JavaFX
- Java Web
- Java Enterprise
- NetBeans Modules
- HTML5/JavaScript
- C/C++
- PHP

Projects:

- Java Application
- Java Class Library
- Java Project with Existing Sources
- Java Modular Project
- Java Free-Form Project

Description:

Creates a new **Java SE application** in a standard IDE project. You can also generate a main class in the project. Standard projects use an **IDE-generated Ant build script** to build, run, and debug your project.

< Back Next > Finish Cancel Help





Practice 5 : Frame (2)

■ Project Name and Location

❖ Project name: Frame_Source

The screenshot shows the 'New Java Application' dialog box. On the left, a 'Steps' panel lists '1. Choose Project' and '2. Name and Location'. The main area is titled 'Name and Location' and contains the following fields and options:

- Project Name:** A text box containing 'Frame_Source'. A yellow box labeled '4. Input Project Name' with a red arrow points to this field.
- Project Location:** A text box containing 'C:\Java_Project' with a 'Browse...' button to its right.
- Project Folder:** A text box containing 'C:\Java_Project\Frame_Source'.
- ☐ **Use Dedicated Folder for Storing Libraries**: An unchecked checkbox.
- Libraries Folder:** A text box with a 'Browse...' button to its right.
- Different users and projects can share the same compilation libraries (see Help for details).
- ☐ **Create Main Class**: An unchecked checkbox. A yellow box labeled '5. Reset check' with a red arrow points to this checkbox.
- Main Class:** A text box containing 'frame_source.Frame_Source'.
- Buttons:** At the bottom, there are four buttons: '< Back', 'Next >', 'Finish', and 'Cancel'. A yellow box labeled '6. Click' with a red arrow points to the 'Finish' button.

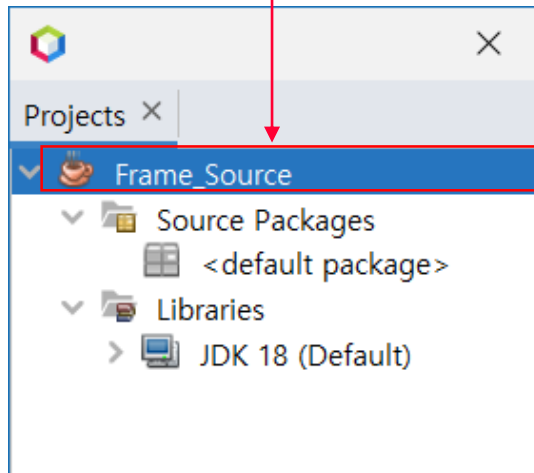




Practice 5 : Frame (3)

Create JFrame Form

7. Mouse right-button Click



New

Build
Clean and Build

8. Click

Run
Debug
Profile
Test
Set Configuration

Set as Main Project
Open Required Projects
Close

Rename...
Move...
Copy...
Delete

Find...
Versioning
Local History

Properties

JFrame Form...

Java Class...

Java Package...

Java Module...

Java Project...

JP...

Entity Class...

Entity Classes from Database...

Other...

9. Click





Practice 5 : Frame (4)

■ Setting JFrame Form Name

❖ Create MainFrame.java

New JFrame Form

Steps

1. Choose File Type
2. **Name and Location**

Name and Location

Class Name: MainFrame

Project: Frame_Source

Location: Source Packages

Package:

Created File: C:\Java_Project\Frame_Source\src\MainFrame.java

Superclass: Browse...

Interfaces: Browse...

10. Input "MainFrame"

11. Click

Warning: It is highly recommended that you do not place Java classes in the default package

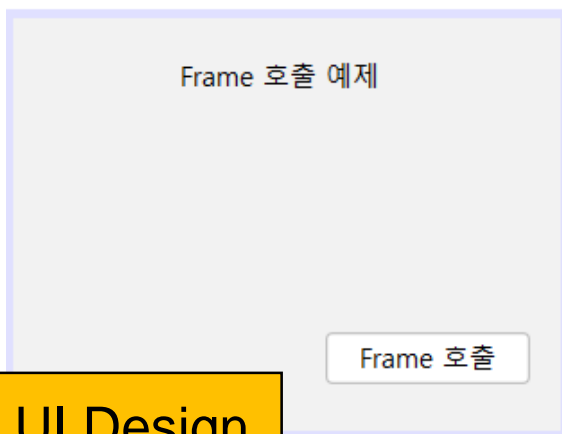
< Back Next > Finish Cancel Help



Practice 5 : Frame (5)

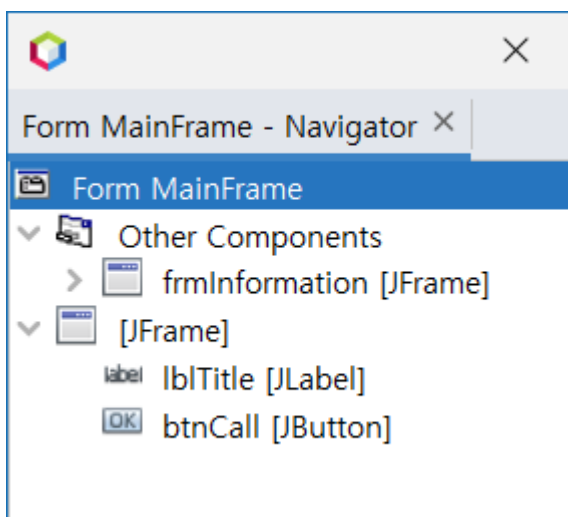
Control Layout & Property Setting

❖ MainFrame



12. UI Design

Control	Properties Setting
jLabel1	<ul style="list-style-type: none">Variable Name : lblTitleText : Frame 호출 예제
jButton1	<ul style="list-style-type: none">Variable Name : btnCallText : Frame 호출
JFrame1	<ul style="list-style-type: none">Variable Name : frmInformationTitle : 정보





Practice 5 : Frame (6)

❖ JFrame1

소프트웨어 버전 1.0

Control	Properties Setting
jLabel1	<ul style="list-style-type: none">• Variable Name : lblInformation• Text: 소프트웨어 버전 1.0





Practice 5 : Frame (7)

❖ 컨트롤 속성 지정 Code

```
MainFrame.java - Editor
MainFrame.java x
Source Design History
15 private void initComponents() {
16
17     frmInformation = new javax.swing.JFrame();
18     lblInformation = new javax.swing.JLabel();
19     lblTitle = new javax.swing.JLabel();
20     btnCall = new javax.swing.JButton();
21
22     frmInformation.setTitle("정보");
23
24     lblInformation.setText("소프트웨어 버전 1.0");
25
26     javax.swing.GroupLayout frmInformationLayout = new javax.swing.GroupLayout(frmInformation.
27     frmInformation.getContentPane().setLayout(frmInformationLayout);
28     frmInformationLayout.setHorizontalGroup(
29         frmInformationLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
30             .addGroup(frmInformationLayout.createSequentialGroup()
31                 .addGap(75, 75, 75)
32                 .addComponent(lblInformation)
33                 .addGap(84, Short.MAX_VALUE))
34         );
35     frmInformationLayout.setVerticalGroup(
36         frmInformationLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
37             .addGroup(frmInformationLayout.createSequentialGroup()
38                 .addGap(39, 39, 39)
39                 .addComponent(lblInformation)
40                 .addGap(38, Short.MAX_VALUE))
41         );
42 }
```





Practice 5 : Frame (8)

❖ Setting Control property code

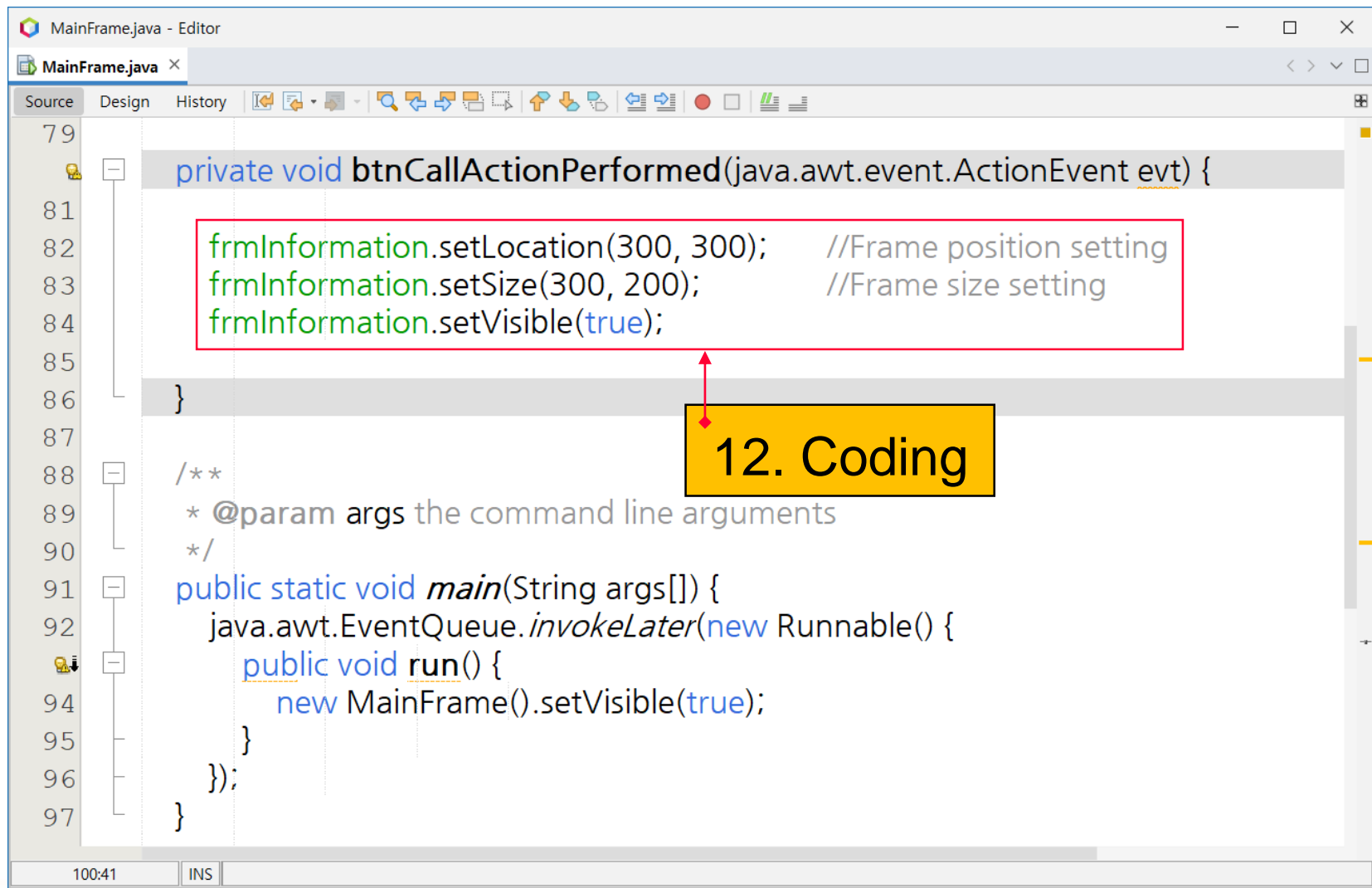
```
MainFrame.java - Editor
MainFrame.java x
Source Design History
42
43 setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
44
45 lblTitle.setText("Frame 호출 예제");
46
47 btnCall.setText("Frame 호출");
48 btnCall.addActionListener(new java.awt.event.ActionListener() {
49     public void actionPerformed(java.awt.event.ActionEvent evt) {
50         btnCallActionPerformed(evt);
51     }
52 });
53
54 javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
55 getContentPane().setLayout(layout);
56 layout.setHorizontalGroup(
57     layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
58     .addGroup(layout.createSequentialGroup()
59         .addGap(74, 74, 74)
60         .addComponent(lblTitle)
61     )
62 );
```





Practice 5 : Frame (9)

❖ [Frame 호출] Button Event Handler



```
79 private void btnCallActionPerformed(java.awt.event.ActionEvent evt) {  
81  
82     frmInformation.setLocation(300, 300);    //Frame position setting  
83     frmInformation.setSize(300, 200);        //Frame size setting  
84     frmInformation.setVisible(true);  
85  
86 }  
87  
88 /**  
89  * @param args the command line arguments  
90  */  
91 public static void main(String args[]) {  
92     java.awt.EventQueue.invokeLater(new Runnable() {  
93         public void run() {  
94             new MainFrame().setVisible(true);  
95         }  
96     });  
97 }
```

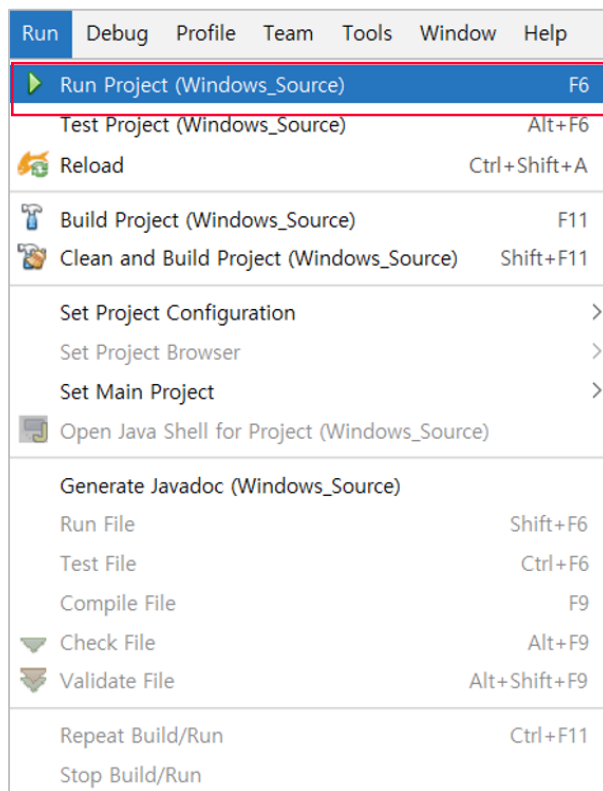
12. Coding



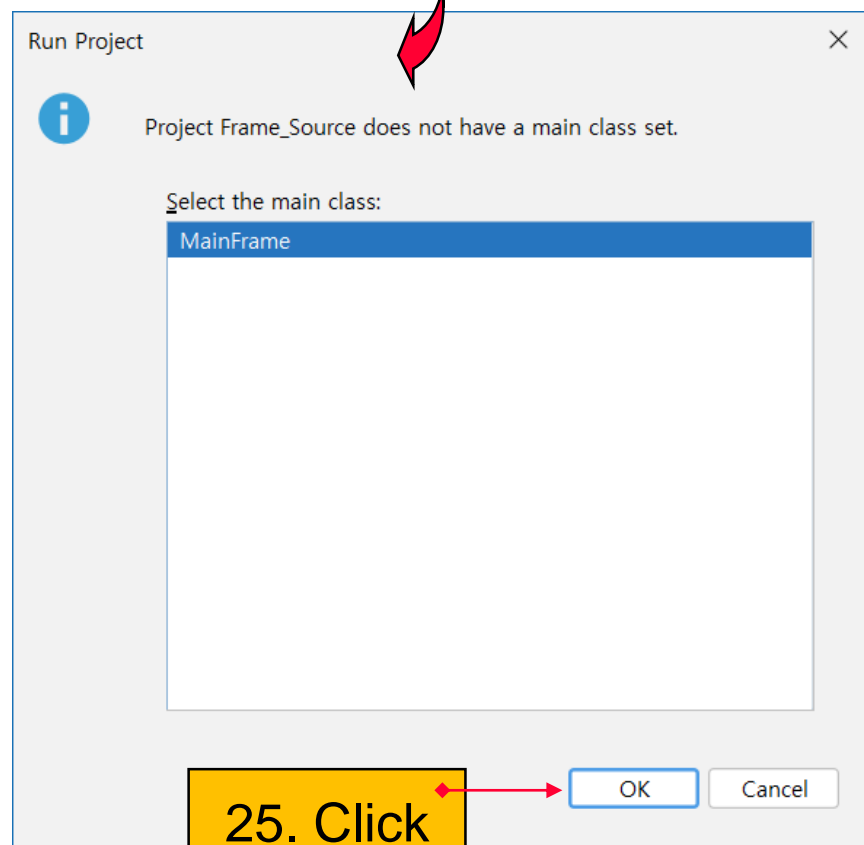


Practice 5 : Frame (10)

Run



24. Click



25. Click

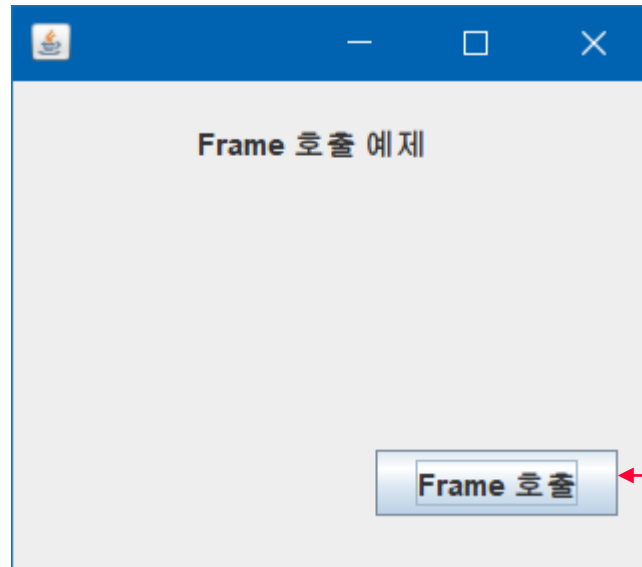




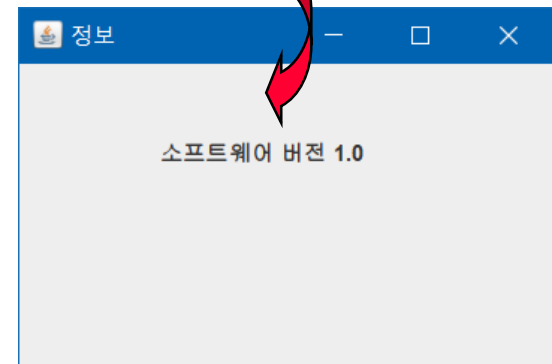
Practice 5 : Frame (11)

❖ [Frame 호출] Button Click

◆ 정보 Frame(frmInformation) 호출



15. Click





학습 요약

- ❖ Dialog
- ❖ FileDialog
- ❖ ColorDialog
- ❖ Frame

