

**LAPORAN PRAKTIKUM
PEMROGRAMAN
BERORIENTASI OBJEK
MODUL 5 LATIHAN
EXCEPTION**



Oleh:

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**PROGRAM STUDI SISTEM
INFORMASI FAKULTAS
REKAYASA INDUSTRI
UNIVERSITAS TELKOM
PURWOKERTO
2024**

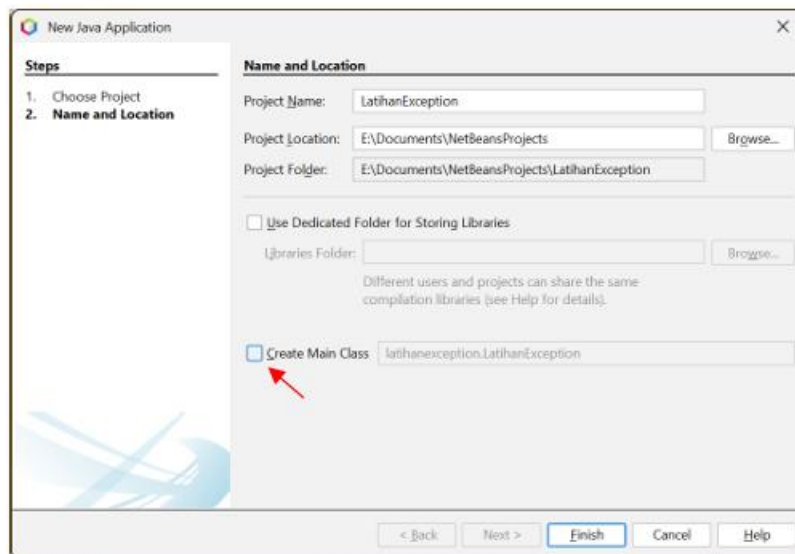


A. Studi Kasus

Sistem Informasi Perpustakaan – Input Buku

B. Guided

1. Buat project baru pada Netbeans. Pada saat membuat project, hilangkan centang pada *Create Main Class*



2. Tambahkan package baru dengan nama **perpustakaan** dengan cara klik kanan pada *Source Packages* → *New* → *Java Package...*
3. Pada *package* perpustakaan, buat Class baru dengan nama **Buku**

Buku.Java

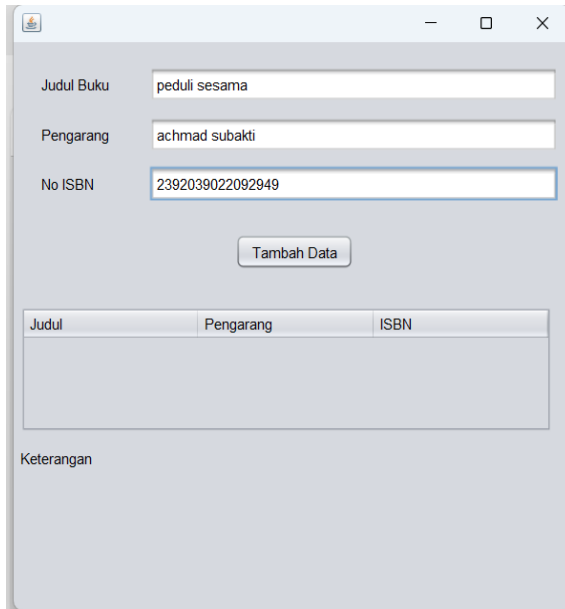
```
package Perpustakaan;

/**
 *
 * @author Achmad
 */
public class Buku {
    private String judul;
    private String pengarang;
    private String isbn;

    public Buku(String judul,String pengarang, String isbn)throws ValidasiInputException{
        if(judul.isEmpty()){
            throw new ValidasiInputException("judul kosong");
        }
        if(pengarang.isEmpty()){
            throw new ValidasiInputException("pengarang kosong");
        }
        if(!isbn.matches("\\d{13}")){
            throw new ValidasiInputException("isbn harus 13 angka");
        }
    }
}
```

```
this.judul = judul;  
this.pengarang = pengarang;  
this.isbn = isbn;  
  
}  
public String getJudul(){  
    return judul;  
}  
public String getPengarang(){  
    return pengarang;  
}  
public String getisbn(){  
    return isbn;  
}  
}
```

4. Tambahkan tampilan program untuk input data dengan cara klik kanan pada *package* perpustakaan → New → JFrame Form... , beri nama **InputBuku**
5. Buat tampilan seperti di bawah ini:



No.	Component	Variable Name
1	JPanel	
2	JScrollPane	
3	TextField	txtJudul
4	TextField	txtPengarang
5	TextField	txtIsbn
6	Button	btnSubmit
7	JTable	tblBuku
8	JLabel	lblKeterangan

6. Klik 2x pada tombol Tambah Data, tambahkan kode berikut

```
private void btnSubmitActionPerformed(java.awt.event.ActionEvent evt) {
    String judul = txtJudul.getText();
    String pengarang = txtPengarang.getText();
    String isbn = txtIsbn.getText();

    // Membuat objek Buku baru
    Buku buku = new Buku(judul, pengarang, isbn);

    // Menambah data buku ke tabel
    DefaultTableModel data = (DefaultTableModel)
tblBuku.getModel();

    data.addRow(new Object[]{buku.getJudul(), buku.getPengarang(),
buku.getIsbn()});

    // Reset form input
    txtJudul.setText("");
    txtPengarang.setText("");
    txtIsbn.setText("");
}
```

7. Jalankan project lalu coba tambahkan data, maka akan muncul data pada tabel. Namun ketika form kosong lalu klik tambah data, maka akan ada data kosong yang masuk pada tabel. Hal ini bisa diantisipasi dengan membuat *user defined exception*.
8. Buat sebuah class baru dengan nama **ValidasiInputException**

ValidasiInputException.java

```
package Perpustakaan;

/**
 *
 * @author achmad
 */
public class ValidasiInputException extends Exception{
    public ValidasiInputException (String message){
        super(message);
    }
}
```

9. Ubah kode pada Class buku

Buku.java

```
public class Buku { private String
judul; private String pengarang;
private String isbn;
```

```
public Buku(String judul, String pengarang, String isbn) throws
ValidasiInputException {
    if (judul.isEmpty()) {
        throw new ValidasiInputException("Judul buku tidak boleh
kosong!");
    }
    if (pengarang.isEmpty()) {
        throw new ValidasiInputException("Pengarang tidak boleh
kosong!");
    }
    if (!isbn.matches("\\d{13}")) {
        throw new ValidasiInputException("ISBN harus 13 digit angka!");
    }
}
```

```
this.judul = judul;
```

```
this.pengarang = pengarang;
```

```
this.isbn = isbn;
```

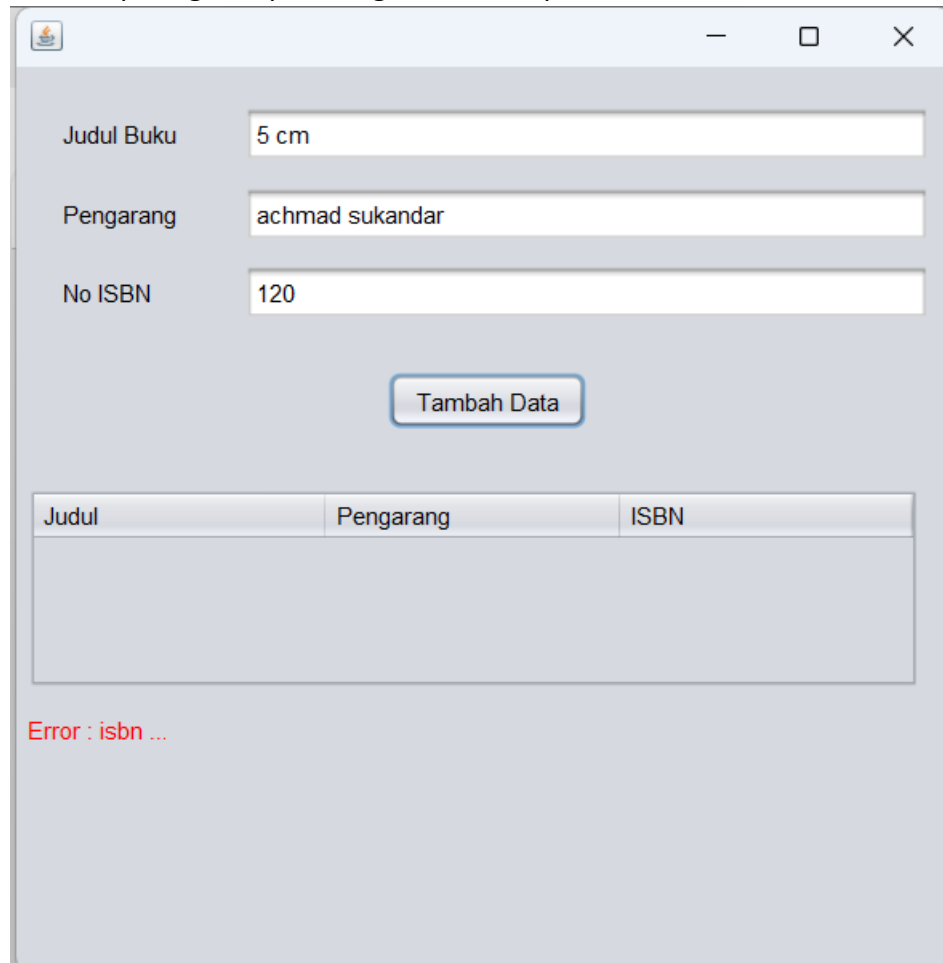
```
}
```

```
public String getJudul() {  
    return judul;  
}  
  
public String getPengarang() {  
    return pengarang;  
}  
  
public String getIsbn() {  
    return isbn;  
}  
}
```

10. Klik 2x pada tombol Tambah Data, ubah kode berikut

```
private void btnSubmitActionPerformed(java.awt.event.ActionEvent evt) {  
    try {  
        String judul = txtJudul.getText();  
        String pengarang = txtPengarang.getText();  
        String isbn = txtIsbn.getText();  
        // Membuat objek Buku baru  
        Buku buku = new Buku(judul, pengarang, isbn);  
  
        // Menambah data buku ke tabel  
        DefaultTableModel data = (DefaultTableModel)  
        tblBuku.getModel();  
        data.addRow(new Object[]{buku.getJudul(),  
        buku.getPengarang(), buku.getIsbn()});  
  
        // Reset form input  
        txtJudul.setText("");  
        txtPengarang.setText("");  
        txtIsbn.setText("");  
  
        lblKeterangan.setForeground(Color.GREEN);  
        lblKeterangan.setText("Buku berhasil ditambahkan!");  
    } catch (ValidasiInputException e) {  
        lblKeterangan.setForeground(Color.RED);  
        lblKeterangan.setText("Error: " + e.getMessage());  
    }  
}
```

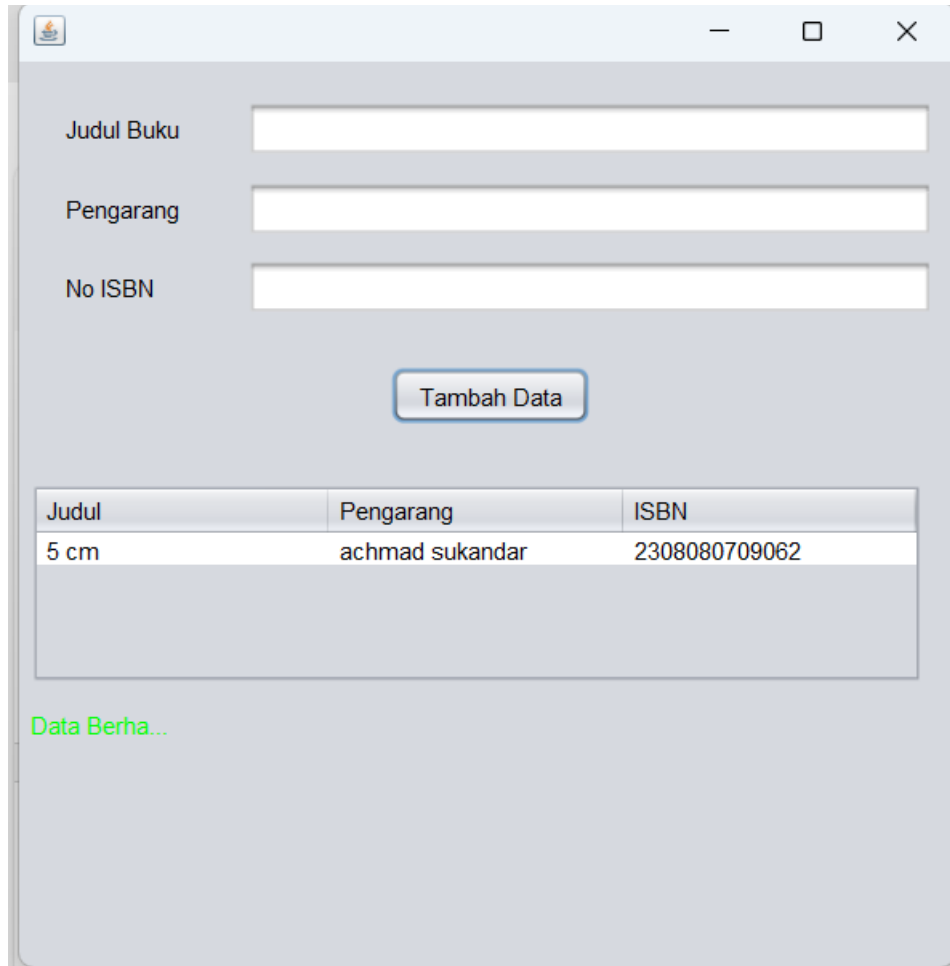
11. Jalankan project, coba tambahkan data baru. Ketika form kosong maka akan muncul peringatan pada bagian bawah aplikasi



The screenshot shows a Java Swing application window with a light gray background. At the top, there are three text input fields with labels to their left: 'Judul Buku' with the value '5 cm', 'Pengarang' with the value 'achmad sukandar', and 'No ISBN' with the value '120'. Below these fields is a blue button with the text 'Tambah Data'. Under the button is a table with three columns: 'Judul', 'Pengarang', and 'ISBN'. The table is currently empty. At the bottom of the window, there is a red error message that reads 'Error : isbn ...'.

Judul	Pengarang	ISBN
-------	-----------	------

Error : isbn ...



Judul Buku

Pengarang

No ISBN

Tambah Data

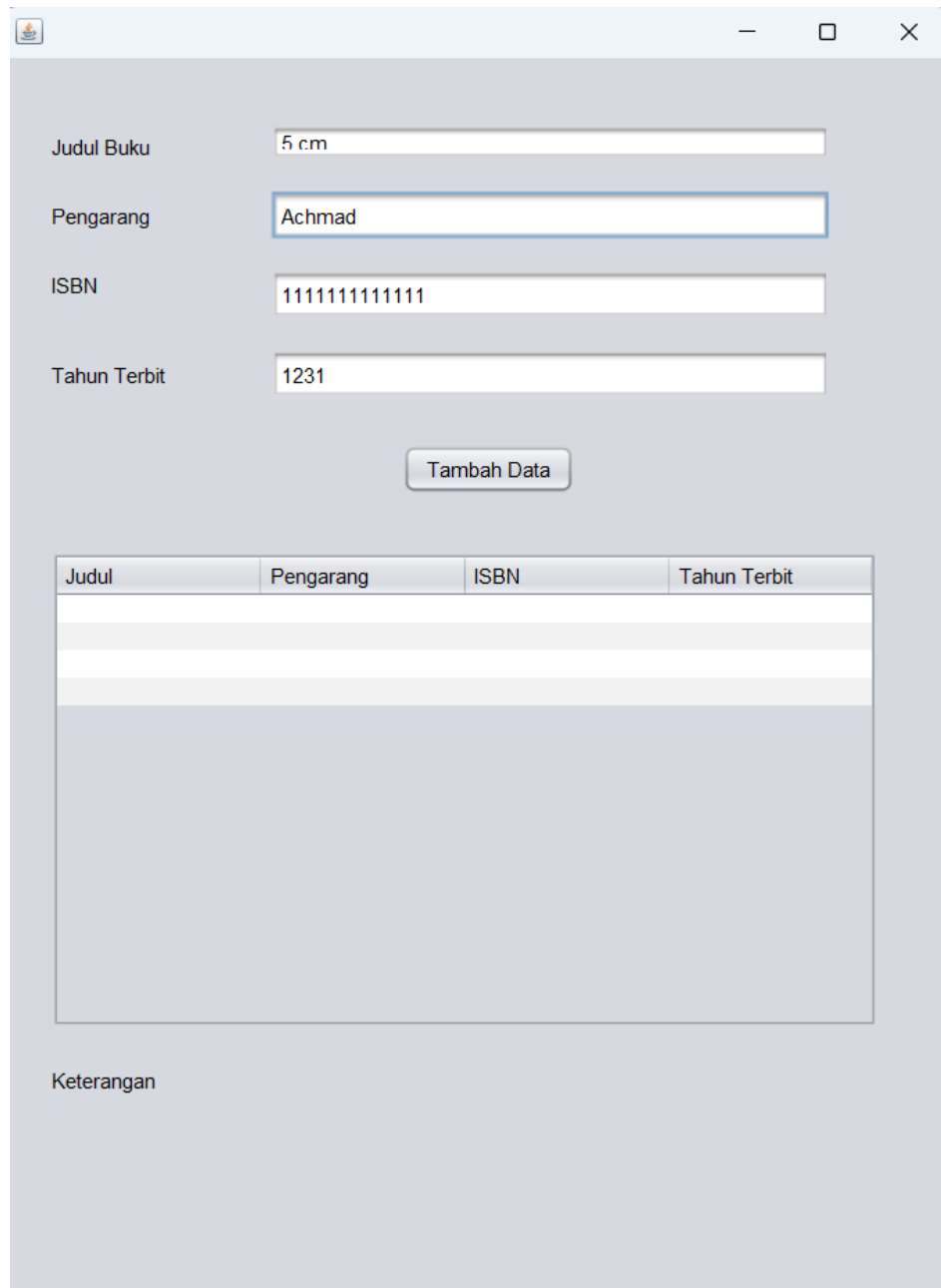
Judul	Pengarang	ISBN
5 cm	achmad sukanar	2308080709062

Data Berha...

C. Unguided

Tambahkan inputan berikut pada aplikasi:

1. Tahun Terbit: Validasi untuk angka empat digit.



The screenshot shows a Java Swing application window with a light gray background. At the top, there is a title bar with a small icon on the left and standard window controls (minimize, maximize, close) on the right. The main content area contains four text input fields arranged vertically, each with a label to its left: 'Judul Buku' with the value '5 cm', 'Pengarang' with the value 'Achmad', 'ISBN' with the value '1111111111111', and 'Tahun Terbit' with the value '1231'. Below these fields is a button labeled 'Tambah Data'. Under the button is a table with four columns: 'Judul', 'Pengarang', 'ISBN', and 'Tahun Terbit'. The table has three empty rows. At the bottom of the window is a text area labeled 'Keterangan'.

Judul	Pengarang	ISBN	Tahun Terbit

Hasil run stuck:

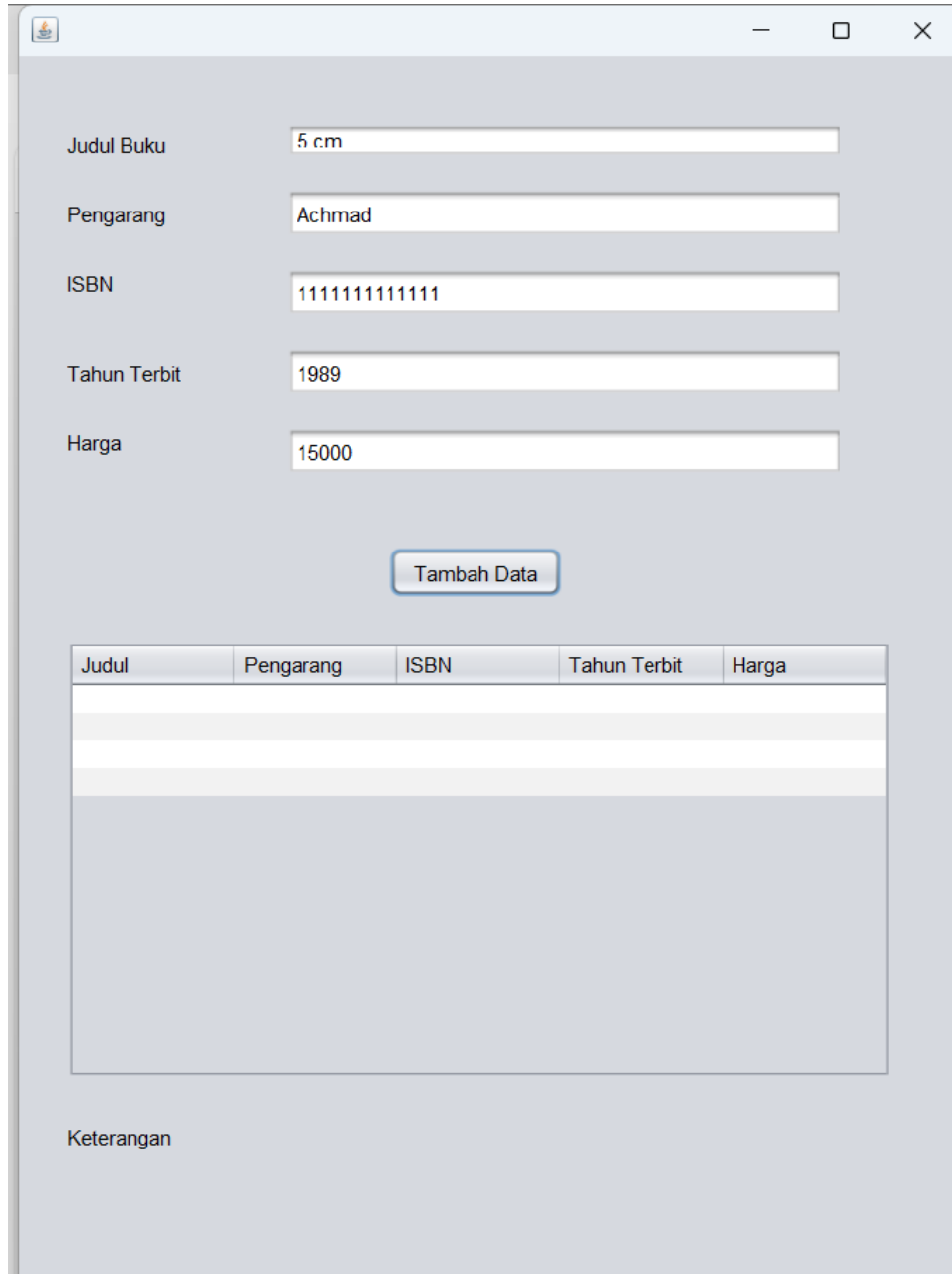
Output

LatihanException (run) × LatihanException (run) #2 ×

```
at java.desktop/java.awt.EventQueue$5.run(EventQueue.java:746)
at java.desktop/java.awt.EventQueue$5.run(EventQueue.java:744)
at java.base/java.security.AccessController.doPrivileged(AccessController.java:399)
at java.base/java.security.ProtectionDomain$JavaSecurityAccessImpl.doIntersectionPr
at java.desktop/java.awt.EventQueue.dispatchEvent(EventQueue.java:743)
at java.desktop/java.awt.EventDispatchThread.pumpOneEventForFilters(EventDispatchTh
at java.desktop/java.awt.EventDispatchThread.pumpEventsForFilter(EventDispatchThrea
at java.desktop/java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchTh
at java.desktop/java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:10
at java.desktop/java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:10
at java.desktop/java.awt.EventDispatchThread.run(EventDispatchThread.java:90)
```

Inspector Action Items Output running... × (1 more...) 217:118

2. Harga Buku: Validasi untuk angka positif.



Judul Buku 5 cm

Pengarang Achmad

ISBN 1111111111111

Tahun Terbit 1989

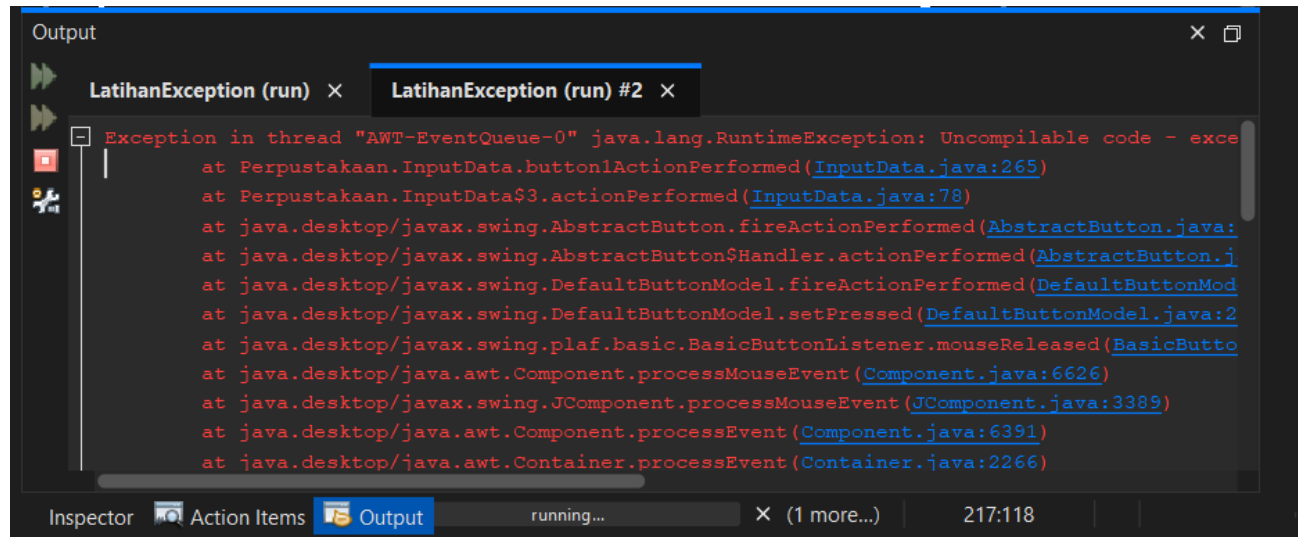
Harga 15000

Tambah Data

Judul	Pengarang	ISBN	Tahun Terbit	Harga

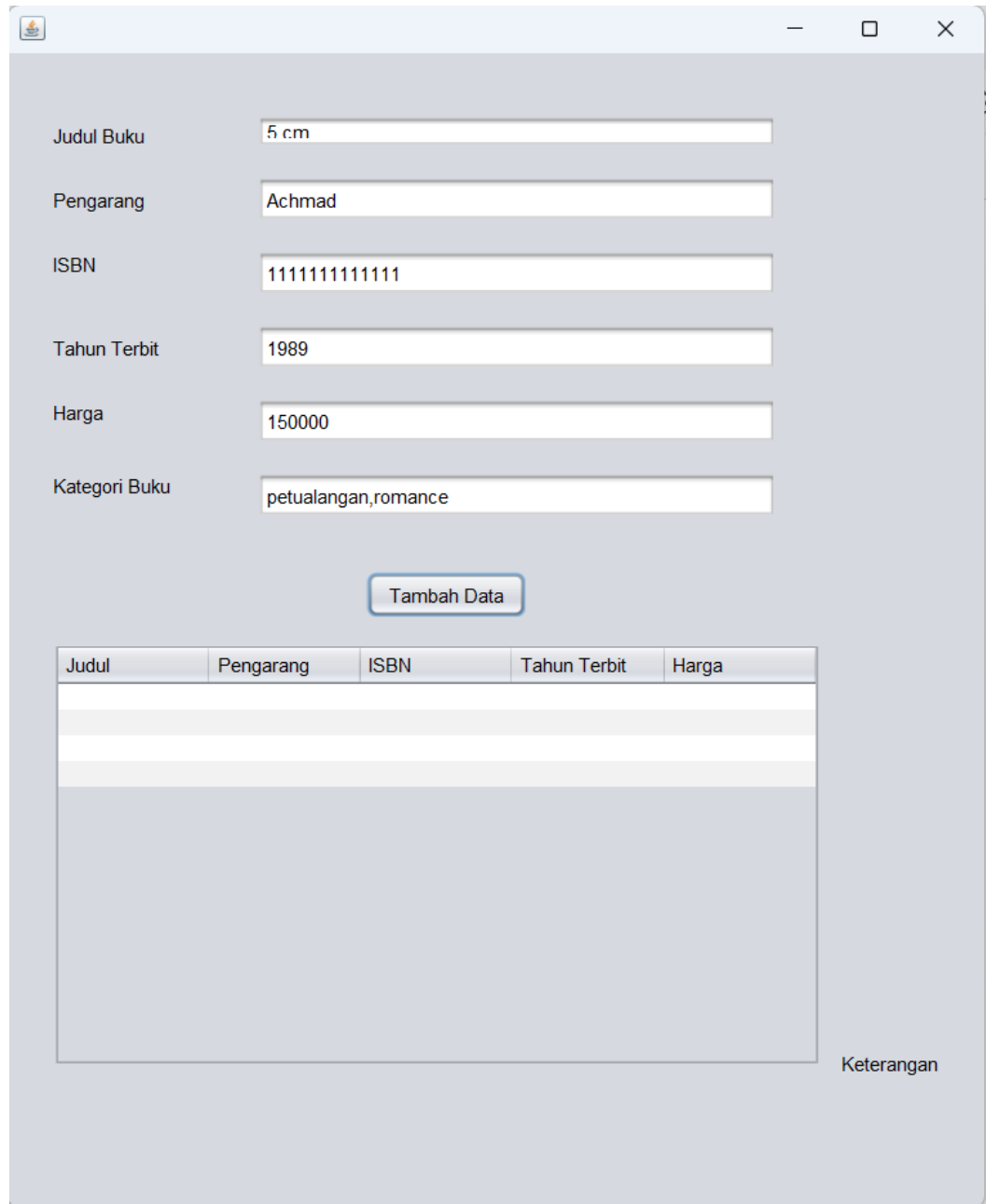
Keterangan

Hasil run stuck:



```
Output
LatihanException (run) X
LatihanException (run) #2 X
Exception in thread "AWT-EventQueue-0" java.lang.RuntimeException: Uncompilable code - exce
at Perpustakaan.InputData.button1ActionPerformed(InputData.java:265)
at Perpustakaan.InputData$3.actionPerformed(InputData.java:78)
at java.desktop/javafx.swing.AbstractButton.fireActionPerformed(AbstractButton.java:
at java.desktop/javafx.swing.AbstractButton$Handler.actionPerformed(AbstractButton.j
at java.desktop/javafx.swing.DefaultButtonModel.fireActionPerformed(DefaultButtonMod
at java.desktop/javafx.swing.DefaultButtonModel.setPressed(DefaultButtonModel.java:2
at java.desktop/javafx.swing.plaf.basic.BasicButtonListener.mouseReleased(BasicButto
at java.desktop/java.awt.Component.processMouseEvent(Component.java:6626)
at java.desktop/javafx.swing.JComponent.processMouseEvent(JComponent.java:3389)
at java.desktop/java.awt.Component.processEvent(Component.java:6391)
at java.desktop/java.awt.Container.processEvent(Container.java:2266)
```

3. Kategori Buku: Validasi untuk input tidak kosong. (dalam bentuk Dropdown)



Judul Buku 5 cm

Pengarang Achmad

ISBN 111111111111

Tahun Terbit 1989

Harga 150000

Kategori Buku petualangan,romance

Tambah Data

Judul	Pengarang	ISBN	Tahun Terbit	Harga

Keterangan

Hasil run stuck:

Output

LatihanException (run) × LatihanException (run) #2 × LatihanException (run) #3 ×

```
at java.desktop/java.awt.EventQueue$5.run(EventQueue.java:746)
at java.desktop/java.awt.EventQueue$5.run(EventQueue.java:744)
at java.base/java.security.AccessController.doPrivileged(AccessController.java:399)
at java.base/java.security.ProtectionDomain$JavaSecurityAccessImpl.doIntersectionPr
at java.desktop/java.awt.EventQueue.dispatchEvent(EventQueue.java:743)
at java.desktop/java.awt.EventDispatchThread.pumpOneEventForFilters(EventDispatchTh
at java.desktop/java.awt.EventDispatchThread.pumpEventsForFilter(EventDispatchThrea
at java.desktop/java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchTh
at java.desktop/java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:10
at java.desktop/java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:10
at java.desktop/java.awt.EventDispatchThread.run(EventDispatchThread.java:90)
```

Inspector Action Items Output running... × (2 more...)