

Mata Kuliah : PBO – TI – S1

Pertemuan : 9

NIM : A11.2022.14532

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1. Tugas 1 : testBank

Hasil program :

```
Saldo akhir account ke 0 = 2000000.0
Saldo akhir account ke 1 = 0.0
com.mycompany.praktikum9pbo.OverdraftException: Dana Anda tidak cukup
```

Code program :

```
public class Account {
    protected double balance;
    protected Account(double initbalance) {
        balance = initbalance;
    }

    public double getBalance() {
        return balance;
    }

    public void deposit(double amt){
        balance = balance + amt;
    }

    public void withdraw(double amt) throws OverdraftException {
        if(amt <= balance){
            balance = balance + amt;
        }else{
            throw new OverdraftException("Dana Anda tidak cukup", amt - balance);
        }
    }
}

public class OverdraftException extends Exception {
    private final double deficit;
    public OverdraftException (String msg, double deficit){
        super(msg);
        this.deficit = deficit;
    }
    public double getDeficit(){
        return deficit;
    }
}
```

```

    }
}

public class tesBank2 {
    public static void main(String[]args){
        int i;
        Account [] accounts = new Account[100];
        accounts [0] = new Account(2000000);
        accounts [1] = new Account(0);

        for(i = 0; i < 2; i++){
            double b = accounts[i].getBalance();
            System.out.println("Saldo akhir account ke " +i+" = "+b);
            try{
                accounts[i].withdraw(1000000);
            }catch(OverdraftException ode){
                System.err.println("'" + ode);
            }
        }
    }
}

```

2. Tugas 2 : kalkulator mini

Hasil program :

Tambah :



Nilai Pertama	12	Tambah	Kali	Bagi
Nilai Kedua	12	Kurang	Pangkat	Akar
Hasil	24.0			

Kurang :

Nilai Pertama 12

Nilai Kedua 12

Hasil 0.0

Tambah

Kurang

Kali

Pangkat

Bagi

Akar

Kali :

Nilai Pertama 12

Nilai Kedua 12

Hasil 144.0

Tambah

Kurang

Kali

Pangkat

Bagi

Akar

Pangkat :

Nilai Pertama 12

Nilai Kedua 12

Hasil 8.916100448256E12

Tambah

Kurang

Kali

Pangkat

Bagi

Akar

Bagi :



Nilai Pertama 12

Nilai Kedua 12

Hasil 1.0

Tambah Kali Bagi Kurang Pangkat Akar

Akar :



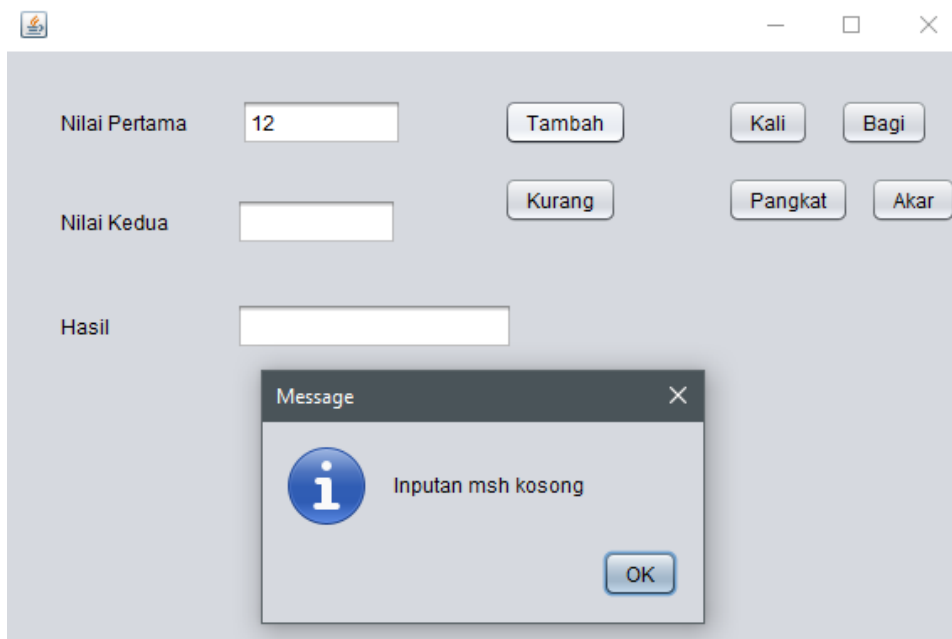
Nilai Pertama 12

Nilai Kedua 12

Hasil 16.97056274847714

Tambah Kali Bagi Kurang Pangkat Akar

Inputan kedua jika tidak dimasukkan :



Nilai Pertama 12

Nilai Kedua

Hasil

Tambah Kali Bagi Kurang Pangkat Akar

Message

i Inputan msh kosong

OK

Code program :

```
15     public class kalkulatormini extends javax.swing.JFrame {
16
17         private String operasi = ""; // menyimpan operasi yang dipilih
18
19         /**
20          * Creates new form kalkulatormini
21          */
22         public kalkulatormini() {
23             initComponents();
24         }
25
26     private void calculate(String operation) {
27         if (txtNilai1.getText().isEmpty() || txtNilai2.getText().isEmpty()) {
28             JOptionPane.showMessageDialog(this, "Inputan msh kosong", "Message", JOptionPane.INFORMATION_MESSAGE);
29         } else {
30             try {
31                 double nil1 = Double.parseDouble(txtNilai1.getText());
32                 double nil2 = Double.parseDouble(txtNilai2.getText());
33                 double hasil = 0.0;
34
35                 switch (operation) {
36                     case "tambah":
37                         hasil = nil1 + nil2;
38                         break;
39                     case "kurang":
40                         hasil = nil1 - nil2;
41                         break;
42                     case "kali":
43                         hasil = nil1 * nil2;
44                         break;
45                     case "bagi":
46                         hasil = nil1 / nil2;
47                         break;
48                     case "pangkat":
49                         hasil = Math.pow(nil1, nil2);
50                         break;
51                     case "akar":
52                         hasil = Math.sqrt(nil1 * nil1 + nil2 * nil2);
53                         break;
54                     default:
55                         txtHasil.setText("Pilih operasi");
56                         return;
57                 }
58
59                 txtHasil.setText(Double.toString(hasil));
60             } catch (NumberFormatException e) {
61                 txtHasil.setText("Input tidak valid");
62             }
63         }
64     }
65 }
```

```

244 private void txtNilai1ActionPerformed(java.awt.event.ActionEvent evt) {
245     // TODO add your handling code here:
246 }
247
248
249 private void txtNilai2ActionPerformed(java.awt.event.ActionEvent evt) {
250     // TODO add your handling code here:
251 }
252
253 private void btnKaliActionPerformed(java.awt.event.ActionEvent evt) {
254     // TODO add your handling code here:
255     calculate("kali");
256 }
257
258 private void btnAkarActionPerformed(java.awt.event.ActionEvent evt) {
259     // TODO add your handling code here:
260     calculate("akar");
261 }
262
263
264 private void btnTambahActionPerformed(java.awt.event.ActionEvent evt) {
265     // TODO add your handling code here:
266     calculate("tambah");
267 }
268
269 private void btnBagiActionPerformed(java.awt.event.ActionEvent evt) {
270     // TODO add your handling code here:
271     calculate("bagi");
272 }
273
274
275 private void btnKurangActionPerformed(java.awt.event.ActionEvent evt) {
276     // TODO add your handling code here:
277     calculate("kurang");
278 }
279
280
281 private void btnPangkatActionPerformed(java.awt.event.ActionEvent evt) {
282     // TODO add your handling code here:
283     calculate("pangkat");
284 }
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300
301 public static void main(String args[]) {
302     /* Set the Nimbus look and feel */
303     Look and feel setting code (optional)
304
305     /* Create and display the form */
306     java.awt.EventQueue.invokeLater(new Runnable() {
307         public void run() {
308             new kalkulatormini().setVisible(true);
309         }
310     });
311 }

```

```

333 // Variables declaration - do not modify
334 private javax.swing.JOptionPane Optionname;
335 private javax.swing.JButton btnAkar;
336 private javax.swing.JButton btnBagi;
337 private javax.swing.JButton btnKali;
338 private javax.swing.JButton btnKurang;
339 private javax.swing.JButton btnPangkat;
340 private javax.swing.JButton btnTambah;
341 private javax.swing.JLayeredPane jLayeredPanel;
342 private javax.swing.JPopupMenu jPopupMenu1;
343 private javax.swing.JLabel lblHasil;
344 private javax.swing.JLabel lblNilaiKedua;
345 private javax.swing.JLabel lblNilaiPertama;
346 private javax.swing.JTextField txtHasil;
347 private javax.swing.JTextField txtNilai1;
348 private javax.swing.JTextField txtNilai2;
349 // End of variables declaration
350 }

```

3. Tugas 3 : forum nilai mahasiswa
Hasil program :

FORUM DATA MAHASISWA

NIM

Nama

Nilai Tugas 20%
 Nilai Akhir

Nilai UTS 35%
 Nilai Huruf

Nilai UAS 45%
 Predikat

NIM	Nama	Nilai Tugas	Nilai UTS	Nilai UAS	Nilai Akhir	Huruf	Predikat
A11.2022...	Najma Au...	98	100	100	99.60	A	Sangat B...

Code program :

```

5   package praktik_9;
6
7   import java.awt.event.WindowAdapter;
8   import java.awt.event.WindowEvent;
9   import java.io.*;
10  import javax.swing.event.DocumentEvent;
11  import javax.swing.event.DocumentListener;
12  import javax.swing.table.DefaultTableModel;
13
14
15
16
17  public class frm_mahasiswa extends javax.swing.JFrame {
18
19      /**
20       * Creates new form frm_mahasiswa
21       */
22      private DefaultTableModel tableModel;

```



```

24 public frm_mahasiswa() {
25     initComponents();
26
27     // Initially disable fields that are not for di:
28     txtAKHIR.setEditable(false);
29     txtHURUF.setEditable(false);
30     txtPREDIKAT.setEditable(false);
31     txthasildua.setEditable(false);
32     txthasiltiga.setEditable(false);
33     txthasilempat.setEditable(false);
34
35     // Add listeners to input fields to perform cal:
36     addListeners();
37
38     setupTableModel();
39     loadTableData();
40
41     addWindowListener(new WindowAdapter() {
42         @Override
43         public void windowClosing(WindowEvent e) {
44             saveTableData();
45             System.exit(0);
46         }
47     });
48 }

```

```

51 private void addListeners() {
52     DocumentListener listener = new DocumentListener() {
53         @Override
54         public void changedUpdate(DocumentEvent e) { calculate(); }
55         @Override
56         public void removeUpdate(DocumentEvent e) { calculate(); }
57         @Override
58         public void insertUpdate(DocumentEvent e) { calculate(); }
59     };
60
61     txtTUGAS.getDocument().addDocumentListener(listener);
62     txtUTS.getDocument().addDocumentListener(listener);
63     txtUAS.getDocument().addDocumentListener(listener);
64 }
65 private void setupTableModel() {
66     tableModel = new DefaultTableModel(new Object[]{"NIM", "Nama", "Nilai Tugas", "Nilai UTS", "Nilai UAS",
67         "Nilai Akhir", "Huruf", "Predikat"}, 0);
68     datamenampungnilai.setModel(tableModel);
69 }

```

```

72 private void calculate() {
73     try {
74         double nilaiTugas = Double.parseDouble(txtTUGAS.getText());
75         double nilaiUTS = Double.parseDouble(txtUTS.getText());
76         double nilaiUAS = Double.parseDouble(txtUAS.getText());
77
78         double hasilTugas = nilaiTugas * 0.2;
79         double hasilUTS = nilaiUTS * 0.35;
80         double hasilUAS = nilaiUAS * 0.45;
81
82         double nilaiAkhir = hasilTugas + hasilUTS + hasilUAS;
83
84         String nilaiHuruf = "";
85         String predikat = "";
86
87         if (nilaiAkhir >= 85) {
88             nilaiHuruf = "A";
89             predikat = "Sangat Baik";
90         } else if (nilaiAkhir >= 70) {
91             nilaiHuruf = "B";
92             predikat = "Baik";
93         } else if (nilaiAkhir >= 55) {
94             nilaiHuruf = "C";
95             predikat = "Cukup";
96         } else if (nilaiAkhir >= 40) {
97             nilaiHuruf = "D";
98             predikat = "Kurang";
99         } else {
100             nilaiHuruf = "E";
101
102         }
103         txthasildua.setText(String.format("%.2f", hasilTugas));
104         txthasiltiga.setText(String.format("%.2f", hasilUTS));
105         txthasilempat.setText(String.format("%.2f", hasilUAS));
106         txtAKHIR.setText(String.format("%.2f", nilaiAkhir));
107         txtHURUF.setText(nilaiHuruf);
108         txtPREDIKAT.setText(predikat);
109
110         // Update table
111         updateTable();
112
113     } catch (NumberFormatException e) {
114
115     }
116 }
117

```

```

119 private void updateTable() {
120     tableModel.setRowCount(0);
121     loadTableData();
122     String nim = txtNim.getText();
123     String nama = txtNama.getText();
124     String tugas = txtTUGAS.getText();
125     String uts = txtUTS.getText();
126     String uas = txtUAS.getText();
127     String nilaiAkhir = txtAKHIR.getText();
128     String huruf = txtHURUF.getText();
129     String predikat = txtPREDIKAT.getText();
130
131     // Check if NIM already exists in the table
132     boolean nimExists = false;
133     for (int i = 0; i < tableModel.getRowCount(); i++) {
134         if (tableModel.getValueAt(i, 0).equals(nim)) {
135             nimExists = true;
136             tableModel.setValueAt(nama, i, 1);
137             tableModel.setValueAt(tugas, i, 2);
138             tableModel.setValueAt(uts, i, 3);
139             tableModel.setValueAt(uas, i, 4);
140             tableModel.setValueAt(nilaiAkhir, i, 5);
141             tableModel.setValueAt(huruf, i, 6);
142             tableModel.setValueAt(predikat, i, 7);
143             break;
144         }
145     }
146
147     if (!nimExists) {
148         tableModel.addRow(new Object[]{nim, nama, tugas, uts, uas, nilaiAkhir, huruf, predikat});
149     }
150 }

```

```

152 private void saveTableData() {
153     try (ObjectOutputStream oos = new ObjectOutputStream(new FileOutputStream("data.dat"))) {
154         for (int i = 0; i < tableModel.getRowCount(); i++) {
155             for (int j = 0; j < tableModel.getColumnCount(); j++) {
156                 oos.writeObject(tableModel.getValueAt(i, j));
157             }
158         }
159     } catch (IOException e) {
160         e.printStackTrace();
161     }
162 }
163
164 private void loadTableData() {
165     try (ObjectInputStream ois = new ObjectInputStream(new FileInputStream("data.dat"))) {
166         while (true) {
167             Object[] rowData = new Object[tableModel.getColumnCount()];
168             for (int i = 0; i < tableModel.getColumnCount(); i++) {
169                 rowData[i] = ois.readObject();
170             }
171             tableModel.addRow(rowData);
172         }
173     } catch (EOFException e) {
174         // End of file reached
175     } catch (IOException | ClassNotFoundException e) {
176         e.printStackTrace();
177     }
178 }
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516
517 private void btn_hpusActionPerformed(java.awt.event.ActionEvent evt) {
518     // TODO add your handling code here:
519     int selectedRow = datamenampungnilai.getSelectedRow();
520     if (selectedRow != -1) {
521         tableModel.removeRow(selectedRow);
522         saveTableData();
523     }
524 }
525
526 private void btn_keluarActionPerformed(java.awt.event.ActionEvent evt) {
527     // TODO add your handling code here:
528     dispose();
529 }

```

```

534 public static void main(String args[]) {
535     /* Set the Nimbus look and feel */
536     Look and feel setting code (optional)
537
538     /* Create and display the form */
539     java.awt.EventQueue.invokeLater(() -> {
540         new frm_mahasiswa().setVisible(true);
541     });
542 }
543
544 // Variables declaration - do not modify
545 private javax.swing.JLabel NAKHIR;
546 private javax.swing.JLabel NAMA;
547 private javax.swing.JLabel NHURUF;
548 private javax.swing.JLabel NIM;
549 private javax.swing.JLabel NTGS;
550 private javax.swing.JLabel NUAS;
551 private javax.swing.JLabel NUTS;
552 private javax.swing.JLabel PREDIKAT;
553 private javax.swing.JButton btn_hpus;
554 private javax.swing.JButton btn_keluar;
555 private javax.swing.JTable datamenampungnilai;
556 private javax.swing.JScrollPane jScrollPane2;
557 private javax.swing.JLabel judul;
558 private javax.swing.JTextField txtAKHIR;
559 private javax.swing.JTextField txtHURUF;
560 private javax.swing.JTextField txtNama;
561 private javax.swing.JTextField txtNim;
562 private javax.swing.JTextField txtPREDIKAT;
563 private javax.swing.JTextField txtTUGAS;
564 private javax.swing.JLabel txtTiga;
565
566 private javax.swing.JTextField txtUAS;
567 private javax.swing.JTextField txtUTS;
568 private javax.swing.JLabel txtdua;
569 private javax.swing.JLabel txtempat;
570 private javax.swing.JTextField txthasildua;
571 private javax.swing.JTextField txthasilempat;
572 private javax.swing.JTextField txthasiltiga;
573 // End of variables declaration
574 }

```