

LAPORAN
PRAKTIKUM PEMROGRAMAN VISUAL

INTRO JAVA GUI SWING JFrame JLabel JButton dan JPanel

Untuk Memenuhi Salah Satu Tugas
Mata Kuliah Praktikum Pemrograman Berorientasi Objek
Dosen Pengampu: Budianingsih, ST., MT.



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2B

PROGRAM STUDI D3 TEKNIK INFORMATIKA

JURUSAN TEKNIK ELEKTRO

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KATA PENGANTAR

Puji dan syukur saya panjatkan kepada Allah SWT atas rahmat dan karunia-nya sehingga Laporan Tugas Mandiri yang berjudul “Intro Java GUI SWING JFrame JLabel JButton dan JPanel” dapat terselesaikan dengan baik. Laporan Tugas Mandiri ini merupakan salah satu tugas yang diberikan oleh dosen pengampu mata kuliah Praktikum Pemrograman visual 3 kepada mahasiswa Program Studi D3 Teknik Informatika Jurusan Teknik Elektro sebagai salah satu bagian dari komponen penilaian akademis.

Laporan Tugas Mandiri ini membahas terkait dengan AWT dan GUI sebagai salah satu bahasa Pemrograman Visual dan IDE NetBeans sebagai perangkat lunak pengembang aplikasi berorientasi objek. Demikian Laporan Tugas Mandiri ini saya buat, semoga bermanfaat.

Pontianak, 24 Oktober 2020

Penyusun,

(Lindawati)

1. Penjelasan sekilas tentang JFrame, JButton, JTextField, JPanel dan Layout.

Jframe adalah Sebuah frame atau jendela utama yang di gunakan untuk kita menampilkan komponen yang di inginkan pada layar, **JFrame** juga digunakan untuk kita mendesain tampilan model yang didalamnya bisa kita menetapkan komponen lainnya.**jframe** java Kelas **JFrame** adalah jendela utama yang mewarisi kelas java.awt.Frame. Fungsi Jframe pada java, salah satu class java yang dapat anda gunakan untuk membuat frame sebagai top-level container.Top-level container adalah container dasar komponen swing lainnya diletakkan di source jframe . Komponen yang dimaksud seperti: textField,panel,Text Field,internal pane,list,combo box, label, button, tombol, bidang teks ditambahkan untuk membuat GUI. Jadi frame di java identik juga dengan istilah pembuatan form di java netbeans. JFrame punya opsi menyembunyikan atau menutup jendela menggunakan metode `setDefaultCloseOperation (int)`.

JButton adalah salah satu komponen pada package javax.swing untuk membuat interface tombol.

Untuk membuat komponen button secara berbeda, class JButton menyediakan lima konstruktor yaitu :

Constructor	Keterangan
JButton()	Membuat button tanpa teks dan icon
JButton(String text)	Membuat button dengan menambahkan teks
JButton(Icon icon)	Membuat button dengan menambahkan icon
JButton(String text, Icon icon)	Membuat button dengan text dan icon
JButton(Action a)	Membuat button dengan menambahkan event

JTextField adalah area baris tunggal (single-line area) dimana melalui obyek text field, pengguna program dapat memasukkan string melalui keyboard atau program dapat menampilkan string. Kelas JTextField merupakan turunan dari kelas JTextComponent sehingga metoda dari kelas tersebut juga dapat dipanggil atau digunakan oleh kelas JTextField.

Beberapa metoda penting dari kelas JTextComponent yang diturunkan ke kelas-kelas dibawahnya (termasuk JTextField) antara lain adalah metoda `getText()`, `setText(String text)` dan `setEditable(boolean bValue)`. Dengan memberi nilai boolean false pada metoda `setEditable`, string yang terdapat di obyek text field (obyek kelas JTextField) tidak dapat dirubah (diproteksi). Dibatasi hanya sampai pada superclass JComponent, hirarkhi turunan kelas JTextField.

Jpanel merupakan java class untuk membuat panel, dimana panel berfungsi sebagai container bagi komponen java lainnya, seperti : label, button, textfield, table, dan komponen lainnya.

Layout adalah penyusunan dari elemen-elemen desain yang berhubungan kedalam sebuah bidang sehingga membentuk susunan artistik. Hal ini bisa juga disebut manajemen bentuk dan bidang. Tujuan utama layout adalah menampilkan elemen gambar dan teks agar menjadi komunikatif dalam sebuah cara yang dapat memudahkan pembaca menerima informasi yang disajikan.

2. Hasil semua percobaan berupa skrinsut pada masing-masing program

Percobaan 2 : Mikrowave

```
Source | Design | History | ... | Mikrowave.java | ... |
1 | ...5 lines
2 | package kalkulator;
3 |
4 | /**...4 lines */
5 | public class mikrowave extends javax.swing.JFrame {
6 |
7 |     /** Creates new form mikrowave ...3 lines */
8 |     public mikrowave() {
9 |         // This method is called from within the constructor to initialize the form ...5 lines */
10 |         @SuppressWarnings("unchecked")
11 |         // <editor-fold defaultstate="collapsed" desc="Generated Code">
12 |         private void initComponents() {
13 |
14 |             jButton4 = new javax.swing.JButton();
15 |             doorJPanel = new javax.swing.JPanel();
16 |             controlJPanel = new javax.swing.JPanel();
17 |             jButton1 = new javax.swing.JButton();
18 |             jButton2 = new javax.swing.JButton();
19 |             jButton3 = new javax.swing.JButton();
20 |             jButton4 = new javax.swing.JButton();
21 |             jButton5 = new javax.swing.JButton();
22 |             jButton6 = new javax.swing.JButton();
23 |             jButton7 = new javax.swing.JButton();
24 |             jButton8 = new javax.swing.JButton();
25 |             jButton9 = new javax.swing.JButton();
26 |             jButton10 = new javax.swing.JButton();
27 |             jButton11 = new javax.swing.JButton();
28 |             jButton12 = new javax.swing.JButton();
29 |             jButton13 = new javax.swing.JButton();
30 |             jButton14 = new javax.swing.JButton();
31 |             jButton15 = new javax.swing.JButton();
32 |             jButton16 = new javax.swing.JButton();
33 |             jButton17 = new javax.swing.JButton();
34 |             jButton18 = new javax.swing.JButton();
35 |             jButton19 = new javax.swing.JButton();
36 |             jButton20 = new javax.swing.JButton();
37 |             jButton21 = new javax.swing.JButton();
38 |             jButton22 = new javax.swing.JButton();
39 |
40 |             setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
41 |             setTitle("Mikrowave");
42 |
43 |             javax.swing.GroupLayout doorJPanelLayout = new javax.swing.GroupLayout(doorJPanel);
44 |             doorJPanel.setLayout(doorJPanelLayout);
45 |             doorJPanelLayout.setHorizontalGroup(
46 |                 doorJPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
47 |                 .addGap(0, 220, Short.MAX_VALUE)
48 |             );
49 |             doorJPanelLayout.setVerticalGroup(
50 |                 doorJPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
51 |                 .addGap(0, 0, Short.MAX_VALUE)
52 |             );
53 |             controlJPanel.setLayout(null);
54 |             jButton1.setText("1");
55 |
56 |             jButton1.addActionListener(new java.awt.event.ActionListener() {
57 |                 public void actionPerformed(java.awt.event.ActionEvent evt) {
58 |                     jButton1ActionPerformed(evt);
59 |                 }
60 |             });
61 |
62 |             jButton2.setText("2");
63 |             jButton2.setBorder(javax.swing.BorderFactory.createLineBorder(new java.awt.Color(0, 0, 0)));
64 |
65 |             jButton3.setText("3");
66 |             jButton3.addActionListener(new java.awt.event.ActionListener() {
67 |                 public void actionPerformed(java.awt.event.ActionEvent evt) {
68 |                     jButton3ActionPerformed(evt);
69 |                 }
70 |             });
71 |
72 |             jButton4.setText("4");
73 |
74 |             jButton5.setText("5");
75 |
76 |             jButton6.setText("6");
77 |
78 |             jButton7.setText("7");
79 |
80 |             jButton8.setText("8");
81 |
82 |             jButton9.setText("9");
83 |
84 |             jButton10.setText("0");
85 |
86 |             jButton11.setText("start");
87 |
88 |             jButton12.setText("clear");
89 |
90 |             jButton13.setText("1");
91 |
92 |             jButton14.setText("2");
93 |
94 |             jButton15.setText("3");
95 |
96 |             jButton16.setText("4");
97 |
98 |             jButton17.setText("5");
99 |
100 |             jButton18.setText("6");
101 |
102 |             jButton19.setText("7");
103 |
104 |             jButton20.setText("8");
105 |
106 |             jButton21.setText("9");
107 |
108 |             jButton22.setText("start");
109 |
110 |             jButton23.setText("clear");
111 |
112 |             jButton24.setText("1");
113 |
114 |             jButton25.setText("2");
115 |
116 |             jButton26.setText("3");
117 |
118 |             jButton27.setText("4");
119 |
120 |             jButton28.setText("5");
121 |
122 |             jButton29.setText("6");
123 |
124 |             jButton30.setText("7");
125 |
126 |             jButton31.setText("8");
127 |
128 |             jButton32.setText("9");
129 |
130 |             jButton33.setText("0");
131 |
132 |             jButton34.setText("start");
133 |
134 |             jButton35.setText("clear");
135 |
136 |             jButton36.setText("1");
137 |
138 |             jButton37.setText("2");
139 |
140 |             jButton38.setText("3");
141 |
142 |             jButton39.setText("4");
143 |
144 |             jButton40.setText("5");
145 |
146 |             jButton41.setText("6");
147 |
148 |             jButton42.setText("7");
149 |
150 |             jButton43.setText("8");
151 |
152 |             jButton44.setText("9");
153 |
154 |             jButton45.setText("0");
155 |
156 |             jButton46.setText("start");
157 |
158 |             jButton47.setText("clear");
159 |
160 |             jButton48.setText("1");
161 |
162 |             jButton49.setText("2");
163 |
164 |             jButton50.setText("3");
165 |
166 |             jButton51.setText("4");
167 |
168 |             jButton52.setText("5");
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170 |             jButton53.setText("6");
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172 |             jButton54.setText("7");
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174 |             jButton55.setText("8");
175 |
176 |             jButton56.setText("9");
177 |
178 |             jButton57.setText("0");
179 |
180 |             jButton58.setText("start");
181 |
182 |             jButton59.setText("clear");
183 |
184 |             jButton60.setText("1");
185 |
186 |             jButton61.setText("2");
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188 |             jButton62.setText("3");
189 |
190 |             jButton63.setText("4");
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192 |             jButton64.setText("5");
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194 |             jButton65.setText("6");
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196 |             jButton66.setText("7");
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198 |             jButton67.setText("8");
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200 |             jButton68.setText("9");
201 |
202 |             jButton69.setText("0");
203 |
204 |             jButton70.setText("start");
205 |
206 |             jButton71.setText("clear");
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208 |             jButton72.setText("1");
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210 |             jButton73.setText("2");
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212 |             jButton74.setText("3");
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214 |             jButton75.setText("4");
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216 |             jButton76.setText("5");
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218 |             jButton77.setText("6");
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220 |             jButton78.setText("7");
221 |
222 |             jButton79.setText("8");
223 |
224 |             jButton80.setText("9");
225 |
226 |             jButton81.setText("0");
227 |
228 |             jButton82.setText("start");
229 |
230 |             jButton83.setText("clear");
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232 |             jButton84.setText("1");
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234 |             jButton85.setText("2");
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236 |             jButton86.setText("3");
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238 |             jButton87.setText("4");
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252 |             jButton94.setText("start");
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254 |             jButton95.setText("clear");
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256 |             jButton96.setText("1");
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258 |             jButton97.setText("2");
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260 |             jButton98.setText("3");
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262 |             jButton99.setText("4");
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264 |             jButton100.setText("5");
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268 |             jButton102.setText("7");
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270 |             jButton103.setText("8");
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272 |             jButton104.setText("9");
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274 |             jButton105.setText("0");
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276 |             jButton106.setText("start");
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278 |             jButton107.setText("clear");
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280 |             jButton108.setText("1");
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282 |             jButton109.setText("2");
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284 |             jButton110.setText("3");
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286 |             jButton111.setText("4");
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288 |             jButton112.setText("5");
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290 |             jButton113.setText("6");
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292 |             jButton114.setText("7");
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294 |             jButton115.setText("8");
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296 |             jButton116.setText("9");
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298 |             jButton117.setText("0");
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300 |             jButton118.setText("start");
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302 |             jButton119.setText("clear");
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304 |             jButton120.setText("1");
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306 |             jButton121.setText("2");
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308 |             jButton122.setText("3");
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310 |             jButton123.setText("4");
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312 |             jButton124.setText("5");
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314 |             jButton125.setText("6");
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316 |             jButton126.setText("7");
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318 |             jButton127.setText("8");
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320 |             jButton128.setText("9");
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322 |             jButton129.setText("0");
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324 |             jButton130.setText("start");
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326 |             jButton131.setText("clear");
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328 |             jButton132.setText("1");
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330 |             jButton133.setText("2");
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332 |             jButton134.setText("3");
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334 |             jButton135.setText("4");
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336 |             jButton136.setText("5");
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338 |             jButton137.setText("6");
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340 |             jButton138.setText("7");
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344 |             jButton140.setText("9");
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346 |             jButton141.setText("0");
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350 |             jButton143.setText("clear");
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352 |             jButton144.setText("1");
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562 |             jButton249.setText("0");
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738 |             jButton337.setText("2");
739 |
740 |             jButton338.setText("3");
741 |
742 |             jButton339.setText("4");
743 |
744 |             jButton340.setText("5");
745 |
746 |             jButton341.setText("6");
747 |
748 |             jButton342.setText("7");
749 |
750 |             jButton343.setText("8");
751 |
752 |             jButton344.setText("9");
753 |
754 |             jButton345.setText("0");
755 |
756 |             jButton346.setText("start");
757 |
758 |             jButton347.setText("clear");
759 |
760 |             jButton348.setText("1");
761 |
762 |             jButton349.setText("2");
763 |
764 |             jButton350.setText("3");
765 |
766 |             jButton351.setText("4");
767 |
768 |             jButton352.setText("5");
769 |
770 |             jButton353.setText("6");
771 |
772 |             jButton354.setText("7");
773 |
774 |             jButton355.setText("8");
775 |
776 |             jButton356.setText("9");
777 |
778 |             jButton357.setText("0");
779 |
780 |             jButton358.setText("start");
781 |
782 |             jButton359.setText("clear");
783 |
784 |             jButton360.setText("1");
785 |
786 |             jButton361.setText("2");
787 |
788 |             jButton362.setText("3");
789 |
790 |             jButton363.setText("4");
791 |
792 |             jButton364.setText("5");
793 |
794 |             jButton365.setText("6");
795 |
796 |             jButton366.setText("7");
797 |
798 |             jButton367.setText("8");
799 |
800 |             jButton368.setText("9");
801 |
802 |             jButton369.setText("0");
803 |
804 |             jButton370.setText("start");
805 |
806 |             jButton371.setText("clear");
807 |
808 |             jButton372.setText("1");
809 |
810 |             jButton373.setText("2");
811 |
812 |             jButton374.setText("3");
813 |
814 |             jButton375.setText("4");
815 |
816 |             jButton376.setText("5");
817 |
818 |             jButton377.setText("6");
819 |
820 |             jButton378.setText("7");
821 |
822 |             jButton379.setText("8");
823 |
824 |             jButton380.setText("9");
825 |
826 |             jButton381.setText("0");
827 |
828 |             jButton382.setText("start");
829 |
830 |             jButton383.setText("clear");
831 |
832 |             jButton384.setText("1");
833 |
834 |             jButton385.setText("2");
835 |
836 |             jButton386.setText("3");
837 |
838 |             jButton387.setText("4");
839 |
840 |             jButton388.setText("5");
841 |
842 |             jButton389.setText("6");
843 |
844 |             jButton390.setText("7");
845 |
846 |             jButton391.setText("8");
847 |
848 |             jButton392.setText("9");
849 |
850 |             jButton393.setText("0");
851 |
852 |             jButton394.setText("start");
853 |
854 |             jButton395.setText("clear");
855 |
856 |             jButton396.setText("1");
857 |
858 |             jButton397.setText("2");
859 |
860 |             jButton398.setText("3");
861 |
862 |             jButton399.setText("4");
863 |
864 |             jButton400.setText("5");
865 |
866 |             jButton401.setText("6");
867 |
868 |             jButton402.setText("7");
869 |
870 |             jButton403.setText("8");
871 |
872 |             jButton404.setText("9");
873 |
874 |             jButton405.setText("0");
875 |
876 |             jButton406.setText("start");
877 |
878 |             jButton407.setText("clear");
879 |
880 |             jButton408.setText("1");
881 |
882 |             jButton409.setText("2");
883 |
884 |             jButton410.setText("3");
885 |
886 |             jButton411.setText("4");
887 |
888 |             jButton412.setText("5");
889 |
890 |             jButton413.setText("6");
891 |
892 |             jButton414.setText("7");
893 |
894 |             jButton415.setText("8");
895 |
896 |             jButton416.setText("9");
897 |
898 |             jButton417.setText("0");
899 |
900 |             jButton418.setText("start");
901 |
902 |             jButton419.setText("clear");
903 |
904 |             jButton420.setText("1");
905 |
906 |             jButton421.setText("2");
907 |
908 |             jButton422.setText("3");
909 |
910 |             jButton423.setText("4");
911 |
912 |             jButton424.setText("5");
913 |
914 |             jButton425.setText("6");
915 |
916 |             jButton426.setText("7");
917 |
918 |             jButton427.setText("8");
919 |
920 |             jButton428.setText("9");
921 |
922 |             jButton429.setText("0");
923 |
924 |             jButton430.setText("start");
925 |
926 |             jButton431.setText("clear");
927 |
928 |             jButton432.setText("1");
929 |
930 |             jButton433.setText("2");
931 |
932 |             jButton434.setText("3");
933 |
934 |             jButton435.setText("4");
935 |
936 |             jButton436.setText("5");
937 |
938 |             jButton437.setText("6");
939 |
940 |             jButton438.setText("7");
941 |
942 |             jButton439.setText("8");
943 |
944 |             jButton440.setText("9");
945 |
946 |             jButton441.setText("0");
947 |
948 |             jButton442.setText("start");
949 |
950 |             jButton443.setText("clear");
951 |
952 |             jButton444.setText("1");
953 |
954 |             jButton445.setText("2");
955 |
956 |             jButton446.setText("3");
957 |
958 |             jButton447.setText("4");
959 |
960 |             jButton448.setText("5");
961 |
962 |             jButton449.setText("6");
963 |
964 |             jButton450.setText("7");
965 |
966 |             jButton451.setText("8");
967 |
968 |             jButton452.setText("9");
969 |
970 |             jButton453.setText("0");
971 |
972 |             jButton454.setText("start");
973 |
974 |             jButton455.setText("clear");
975 |
976 |             jButton456.setText("1");
977 |
978 |             jButton457.setText("2");
979 |
980 |             jButton458.setText("3");
981 |
982 |             jButton459.setText("4");
983 |
984 |             jButton460.setText("5");
985 |
986 |             jButton461.setText("6");
987 |
988 |             jButton462.setText("7");
989 |
990 |             jButton463.setText("8");
991 |
992 |             jButton464.setText("9");
993 |
994 |             jButton465.setText("0");
995 |
996 |             jButton466.setText("start");
997 |
998 |             jButton467.setText("clear");
999 |             jButton468.setText("1");
1000 |             jButton469.setText("2");
1001 |             jButton470.setText("3");
1002 |             jButton471.setText("4");
1003 |             jButton472.setText("5");
1004 |             jButton473.setText("6");
1005 |             jButton474.setText("7");
1006 |             jButton475.setText("8");
1007 |             jButton476.setText("9");
1008 |             jButton477.setText("0");
1009 |             jButton478.setText("start");
1010 |             jButton479.setText("clear");
1011 |             jButton480.setText("1");
1012 |             jButton481.setText("2");
1013 |             jButton482.setText("3");
1014 |             jButton483.setText("4");
1015 |             jButton484.setText("5");
1016 |             jButton485.setText("6");
1017 |             jButton486.setText("7");
1018 |             jButton487.setText("8");
1019 |             jButton488.setText("9");
1020 |             jButton489.setText("0");
1021 |             jButton490.setText("start");
1022 |             jButton491.setText("clear");
1023 |             jButton492.setText("1");
1024 |             jButton493.setText("2");
1025 |             jButton494.setText("3");
1026 |             jButton495.setText("4");
1027 |             jButton496.setText("5");
1028 |             jButton497.setText("6");
1029 |             jButton498.setText("7");
1030 |             jButton499.setText("8");
1031 |             jButton500.setText("9");
1032 |             jButton501.setText("0");
1033 |             jButton502.setText("start");
1034 |             jButton503.setText("clear");
1035 |             jButton504.setText("1");
1036 |             jButton505.setText("2");
1037 |             jButton506.setText("3");
1038 |             jButton507.setText("4");
1039 |             jButton508.setText("5");
1040 |             jButton509.setText("6");
1041 |             jButton510.setText("7");
1042 |             jButton511.setText("8");
1043 |             jButton512.setText("9");
1044 |             jButton513.setText("0");
1045 |             jButton514.setText("start");
1046 |             jButton515.setText("clear");
1047 |             jButton516.setText("1");
1048 |             jButton517.setText("2");
1049 |             jButton518.setText("3");
1050 |             jButton519.setText("4");
1051 |             jButton520.setText("5");
1052 |             jButton521.setText("6");
1053 |             jButton522.setText("7");
1054 |             jButton523.setText("8");
1055 |             jButton524.setText("9");
1056 |             jButton525.setText("0");
1057 |             jButton526.setText("start");
1058 |             jButton527.setText("clear");
1059 |             jButton528.setText("1");
1060 |             jButton529.setText("2");
1061 |             jButton530.setText("3");
1062 |             jButton531.setText("4");
1063 |             jButton532.setText("5");
1064 |             jButton533.setText("6");
1065 |             jButton534.setText("7");
1066 |             jButton535.setText("8");
1067 |             jButton536.setText("9");
1068 |             jButton537.setText("0");
1069 |             jButton538.setText("start");
1070 |             jButton539.setText("clear");
1071 |             jButton540.setText("1");
1072 |             jButton541.setText("2");
1073 |             jButton542.setText("3");
1074 |             jButton543.setText("4");
1075 |             jButton544.setText("5");
1076 |             jButton545.setText("6");
1077 |             jButton546.setText("7");
1078 |             jButton547.setText("8");
1079 |             jButton548.setText("9");
1080 |             jButton549.setText("0");
1081 |             jButton550.setText("start");
1082 |             jButton551.setText("clear");
1083 |             jButton552.setText("1");
1084 |             jButton553.setText("2");
1085 |             jButton554.setText("3");
1086 |             jButton555.setText("4");
1087 |             jButton556.setText("5");
1088 |             jButton557.setText("6");
1089 |             jButton558.setText("7");
1090 |             jButton559.setText("8");
1091 |             jButton560.setText("9");
1092 |             jButton561.setText("0");
1093 |             jButton562.setText("start");
1094 |             jButton563.setText("clear");
1095 |             jButton564.setText("1");
1096 |             jButton565.setText("2");
1097 |             jButton566.setText("3");
1098 |             jButton567.setText("4");
1099 |             jButton568.setText("5");
1100 |             jButton569.setText("6");
1101 |             jButton570.setText("7");
1102 |             jButton571.setText("8");
1103 |             jButton572.setText("9");
1104 |             jButton573.setText("0");
1105 |             jButton574.setText("start");
1106 |             jButton575.setText("clear");
1107 |             jButton576.setText("1");
1108 |             jButton577.setText("2");
1109 |             jButton578.setText("3");
1110 |             jButton579.setText("4");
1111 |             jButton580.setText("5");
1112 |             jButton581.setText("6");
1113 |             jButton582.setText("7");
1114 |             jButton583.setText("8");
1115 |             jButton584.setText("9");
1116 |             jButton585.setText("0");
1117 |             jButton586.setText("start");
1118 |             jButton587.setText("clear");
1119 |             jButton588.setText("1");
1120 |             jButton589.setText("2");
1121 |             jButton590.setText("3");
1122 |             jButton591.setText("4");
1123 |             jButton592.setText("5");
1124 |             jButton593.setText("6");
1125 |             jButton594.setText("7");
1126 |             jButton595.setText("8");
1127 |             jButton596.setText("9");
1128 |             jButton597.setText("0");
1129 |             jButton598.setText("start");
1130 |             jButton599.setText("clear");
1131 |             jButton600.setText("1");
1132 |             jButton601.setText("2");
1133 |             jButton602.setText("3");
1134 |             jButton603.setText("4");
1135 |             jButton604.setText("5");
1136 |             jButton605.setText("6");
1137 |             jButton606.setText("7");
1138 |             jButton607.setText("8");
1139 |             jButton608.setText("9");
1140 |             jButton609.setText("0");
1141 |             jButton610.setText("start");
1142 |             jButton611.setText("clear");
1143 |             jButton612.setText("1");
1144 |             jButton613.setText("2");
1145 |             jButton614.setText("3");
1146 |             jButton615.setText("4");
1147 |             jButton616.setText("5");
1148 |             jButton617.setText("6");
1149 |             jButton618.setText("7");
1150 |             jButton619.setText("8");
1151 |             jButton620.setText("9");
1152 |             jButton621.setText("0");
1153 |             jButton622.setText("start");
1154 |             jButton623.setText("clear");
1155 |             jButton624.setText("1");
1156 |             jButton625.setText("2");
1157 |             jButton626.setText("3");
1158 |             jButton627.setText("4");
1159 |             jButton628.setText("5");
1160 |             jButton629.setText("6");
1161 |             jButton630.setText("7");
1162 |             jButton631.setText("8");
1163 |             jButton632.setText("9");
1164 |             jButton633.setText("0");
1165 |             jButton634.setText("start");
1166 |             jButton635.setText("clear");
1167 |             jButton636.setText("1");
1168 |             jButton637.setText("2");
1169 |             jButton638.setText("3");
1170 |             jButton639.setText("4");
1171 |             jButton640.setText("5");
1172 |             jButton641.setText("6");
1173 |             jButton642.setText("7");
1174 |             jButton643.setText("8");
1175 |             jButton644.setText("9");
1176 |             jButton645.setText("0");
1177 |             jButton646.setText("start");
1178 |             jButton647.setText("clear");
1179 |             jButton648.setText("1");
1180 |             jButton649.setText("
```

```

125 .addComponent(jButton23, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
126 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
127 .addComponent(jButton19, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE))
128 .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
129 .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
130 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
131 .addComponent(jButton14, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE))
132 .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
133 .addComponent(jButton22, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
134 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
135 .addComponent(jButton24, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE))
136 .addComponent(jButton15, javax.swing.GroupLayout.Alignment.TRAILING, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
137 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
138 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
139 .addComponent(jButton6, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
140 .addComponent(jButton7, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
141 .addComponent(jButton15, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE))
142 .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
143 .addComponent(jButton20, javax.swing.GroupLayout.PREFERRED_SIZE, 75, javax.swing.GroupLayout.PREFERRED_SIZE)
144 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
145 .addComponent(jButton21, javax.swing.GroupLayout.PREFERRED_SIZE, 75, javax.swing.GroupLayout.PREFERRED_SIZE))
146 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
147 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
148 .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 95, javax.swing.GroupLayout.PREFERRED_SIZE)
149 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))
150 .addComponent(control3Panel, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
151 .addContainerGap())
152

```

```

152 .addContainerGap())
153 }
154 layout.setVerticalGroup(
155 layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
156 .addComponent(door3Panel, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
157 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
158 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
159 .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
160 .addContainerGap()
161 .addComponent(control3Panel, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
162 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
163 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
164 .addComponent(jButton2)
165 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
166 .addComponent(jButton15, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
167 .addComponent(jButton24, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
168 .addComponent(jButton22, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE))
169 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
170 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
171 .addComponent(jButton16, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
172 .addComponent(jButton14, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
173 .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE))
174 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
175 .addComponent(jButton3, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
176 .addComponent(jButton18, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
177 .addComponent(jButton17, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
178 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
179

```

```

179 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
180 .addComponent(jButton19, javax.swing.GroupLayout.PREFERRED_SIZE, 45, javax.swing.GroupLayout.PREFERRED_SIZE)
181 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
182 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
183 .addComponent(jButton20)
184 .addComponent(jButton21, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))
185 .addContainerGap())
186 }
187 }
188 pack();
189 // </editor-fold>
190
191 private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) { ...3 lines }
192
193 private void jButton24ActionPerformed(java.awt.event.ActionEvent evt) { ...3 lines }
194
195 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) { ...3 lines }
196
197 private void jButton15ActionPerformed(java.awt.event.ActionEvent evt) { ...3 lines }
198
199
200
201
202
203
204
205
206
207 /* ...3 lines */
208 public static void main(String args[]) { ...31 lines }
209
210
211
212 // Variables declaration - do not modify
213 private javax.swing.JPanel control3Panel;
214 private javax.swing.JPanel door3Panel;
215 private javax.swing.JButton jButton1;
216 private javax.swing.JButton jButton14;
217

```

```

205 }
206
207 private javax.swing.JPanel control3Panel;
208 private javax.swing.JPanel door3Panel;
209 private javax.swing.JButton jButton1;
210 private javax.swing.JButton jButton14;
211 private javax.swing.JButton jButton15;
212 private javax.swing.JButton jButton16;
213 private javax.swing.JButton jButton17;
214 private javax.swing.JButton jButton18;
215 private javax.swing.JButton jButton19;
216 private javax.swing.JButton jButton2;
217 private javax.swing.JButton jButton20;
218 private javax.swing.JButton jButton21;
219 private javax.swing.JButton jButton22;
220 private javax.swing.JButton jButton23;
221 private javax.swing.JButton jButton24;
222 private javax.swing.JButton jButton4;
223
224 // End of variables declaration
225

```

mikrowave

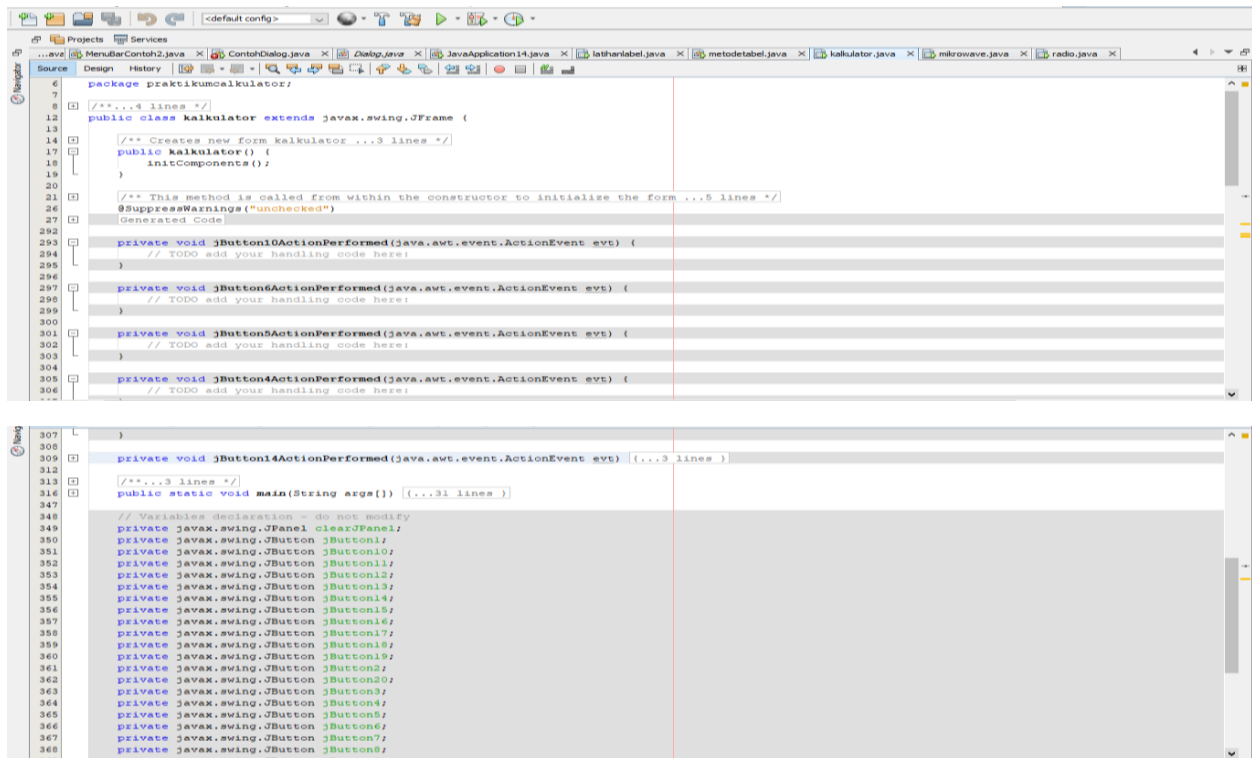
12:00

1	2	3
4	5	6
7	8	9
0		
start clear		

Step by step pembuatan :

1. buat class JFrame dengan nama Microwave
2. Setelah itu mengatur ukuran frame dengan ukuran 575 x 346, set layout dengan null
3. Setelah frame diatur tarik menu panel kedalam frame Kemudian atur ukuran (182x284) dan lokasinya (326x16) dengan perintah setBounds.
4. membuat tombol 0 – 9 kita menggunakan button dengan ukuran 45x 45
5. masukan angka pada button yang telah disusun seperti di gambar dengan cara klik kanan pada button kemudian edit text.
6. Buat tombol start dan clear menggunakan button dengan ukuran 75x75.
7. Buat timer label tulisan “12:00” dan diberi dekorasi LineBorder berwarna hitam
8. beri background dan border pada panel dan button dengan border “lineborder” dan background pada button warna biru seperti di gambar.

Percobaan 3 : Membuat Calculator



```
package praktikumkalkulator;

import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

/** ...4 lines */
public class kalkulator extends JFrame {
    /** Creates new form kalkulator ...3 lines */
    public kalkulator() {
        initComponents();
    }

    /** This method is called from within the constructor to initialize the form ...5 lines */
    @SuppressWarnings("unchecked")
    Generated Code

    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

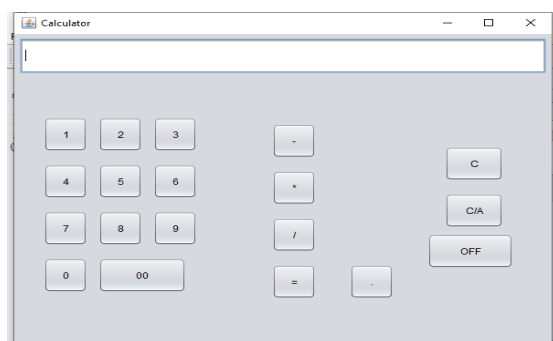
    private void jButton14ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    /** ...3 lines */
    public static void main(String args[]) {
        // Variables declaration - do not modify
        private javax.swing.JPanel clearJPanel1;
        private javax.swing.JButton jButton1;
        private javax.swing.JButton jButton10;
        private javax.swing.JButton jButton11;
        private javax.swing.JButton jButton12;
        private javax.swing.JButton jButton13;
        private javax.swing.JButton jButton14;
        private javax.swing.JButton jButton15;
        private javax.swing.JButton jButton16;
        private javax.swing.JButton jButton17;
        private javax.swing.JButton jButton18;
        private javax.swing.JButton jButton19;
        private javax.swing.JButton jButton2;
        private javax.swing.JButton jButton20;
        private javax.swing.JButton jButton3;
        private javax.swing.JButton jButton4;
        private javax.swing.JButton jButton5;
        private javax.swing.JButton jButton6;
        private javax.swing.JButton jButton7;
        private javax.swing.JButton jButton8;
    }
}
```

```

359 private javax.swing.JButton jButton18;
360 private javax.swing.JButton jButton19;
361 private javax.swing.JButton jButton2;
362 private javax.swing.JButton jButton20;
363 private javax.swing.JButton jButton3;
364 private javax.swing.JButton jButton4;
365 private javax.swing.JButton jButton5;
366 private javax.swing.JButton jButton6;
367 private javax.swing.JButton jButton7;
368 private javax.swing.JButton jButton8;
369 private javax.swing.JButton jButton9;
370 private javax.swing.JLabel jLabel1;
371 private javax.swing.JPanel jPanel1;
372 private javax.swing.JTextField jTextField1;
373 private javax.swing.JPanel numberJPanel;
374 private javax.swing.JPanel operationJPanel;
375 // End of variables declaration
376 )
377

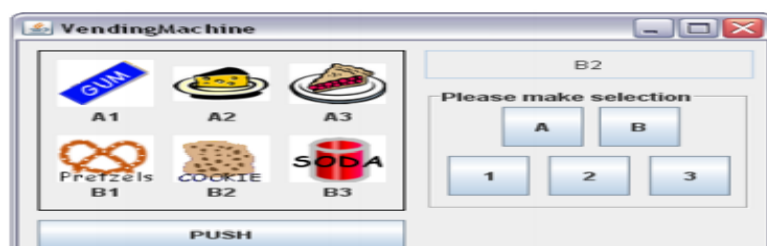
```



Step by step pembuatan :

1. Buat class JFrame dengan nama Calculator
2. Kemudian atur ukuran frame 520 x 330 setlayout dengan Null dan buat textfield dengan ukuran 480 x 24
3. Setelah itu buat 3 buah panel dengan nama numberJPanel, operationJPanel, clearJPanel kemudian ketiga panel tersebut beri border bevelBorder.
4. Pada numberJPanel berisi tombol angka 0-9 berukuran 48x48 kecuali tombol "00" berukuran 96 x 48 seperti pada gambar diatas, kemudian ubah warna bacground menjadi warna biru. Beri angka pada tombol-tombol di numberJPanel.
5. Pada operationJPanel buat 5 tombol matematika seperti pada gambar, dengan ukuran sama pada panel sebelumnya.
6. Pada clearJPanel buat 2 tombol menggunakan button dan untuk tombol OFF berada di luar panel.

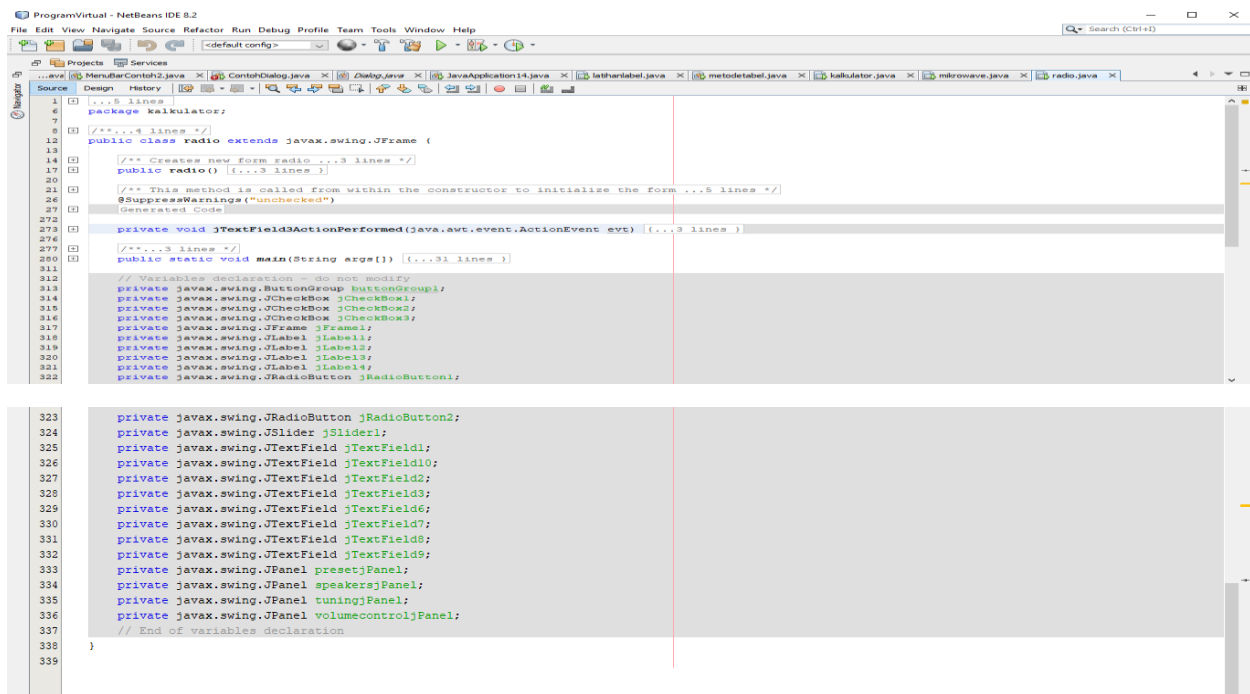
Percobaan 4 : VendingMachine.java



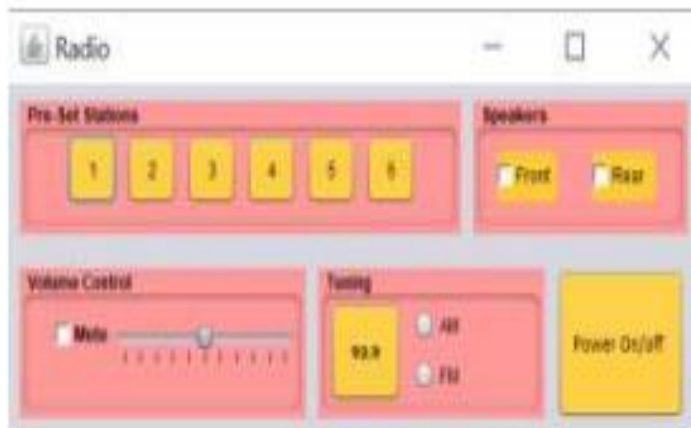
Step by step pembuatan :

1. Buat class JFrame dengan VendingMechine dan beri frame dengan title "Vendingmachine".
2. Dan atur ukuran frame 395 x 260 set layout dengan null
3. Buatlah 2 panel yaitu windowJPanel dan selectionJPanel, pada windowJPanel berisi 6 JLabel biasa (A1 s/d B3) berukuran 50x20 dan 6 JLabel yang diberi ImageIcon, berukuran 50x50. Jadi totalnya ada 12 JLabel. Panel ini didekorasi dengan LineBorder berwarna hitam. Ukuran panel ini: 190 x 170
4. Setelah semua label dibuat kemudian masukan ImageIcon pada setiap label agar terlihat seperti gambar diatas dan kita buat tombol PUSH menggunakan button dibawah windowJPanel
5. Pada selectionJPanel berisi tombol- tombol yang berukuran 42x42. Panel ini didekorasi dengan TitledBorder serta EtchedBorder menggunakan option EtchedBorder.LOWERED
6. Pada panel ini di isi dengan tombol A, B dan 1, 2, 3 dengan posisi seperti pada gambar dan diatas selectionJPanel dibuat sebuah JTextField (170x30) yang berfungsi menampilkan pilihan tombol dari user harus diinisialisasi dengan tulisan "B2".

Percobaan 5 : Radio.java



```
1 package kalkulator;
2
3 /** ...4 lines */
4
5 public class radio extends javax.swing.JFrame {
6
7     /** Creates new form radio ...3 lines */
8     public radio() {
9         // This method is called from within the constructor to initialize the form ...5 lines */
10         // SuppressWarnings("unchecked")
11         Generated Code
12
13     private void jTextField3ActionPerformed(java.awt.event.ActionEvent evt) {
14         // ...3 lines */
15     }
16
17     public static void main(String args[]) {
18         // Variables declaration - do not modify
19         private javax.swing.ButtonGroup buttonGroup1;
20         private javax.swing.JCheckBox jCheckBox1;
21         private javax.swing.JCheckBox jCheckBox2;
22         private javax.swing.JCheckBox jCheckBox3;
23         private javax.swing.JFrame jFrame1;
24         private javax.swing.JLabel jLabel1;
25         private javax.swing.JLabel jLabel2;
26         private javax.swing.JLabel jLabel3;
27         private javax.swing.JLabel jLabel4;
28         private javax.swing.JRadioButton jRadioButton1;
29
30         private javax.swing.JRadioButton jRadioButton2;
31         private javax.swing.JSlider jSlider1;
32         private javax.swing.JTextField jTextField1;
33         private javax.swing.JTextField jTextField10;
34         private javax.swing.JTextField jTextField2;
35         private javax.swing.JTextField jTextField3;
36         private javax.swing.JTextField jTextField6;
37         private javax.swing.JTextField jTextField7;
38         private javax.swing.JTextField jTextField8;
39         private javax.swing.JTextField jTextField9;
40         private javax.swing.JPanel presetJPanel;
41         private javax.swing.JPanel speakersJPanel;
42         private javax.swing.JPanel tuningJPanel;
43         private javax.swing.JPanel volumeControlJPanel;
44
45         // End of variables declaration
46     }
47 }
```

Step by step pembuatan :

1. Buat class JFrame dengan Radio
2. Set ukuran frame 575 x 225 beri title Radio dan setLayout null.
3. Setelah frame dibuat, kemudian kita membuat 4 buah panel yaitu presetJPanel, volumeControlJPanel, speakersJPanel dan tuningJPanel dan pada semua panel kita beri background warna PINK dan border TitleBorder dan setlayout Null.
4. setelah semua panel dibuat Kemudian buat tombol angka 1 – 6 pada presetJPanel dengan button ukuran 42x42 dan warna background orange.
5. Pada SpeakersJPanel menggunakan 2 buah menu checkbox dengan Front dan Rear dan background diberi warna orange.
6. selanjutnya pada VolumeControlJPanel slider untuk membuat gambar seperti volume dan Mute menggunakan menu Checkbox.
7. Slider berukuran 150x150, kemudian setPaintTicks(true) serta setMajorTickSpacing(10) dan beri background pink.
8. Untuk tuningJPanel kita berikan buttonGroup kepada Radio button AM/PM sehingga hanya salah satu yang dapat dipilih pada sekali.
9. Terakhir membuat tombol On/Off diluar panel dengan berukuran 111 x 90 dan diberi background pink.