

Φύλλο εργασίας 15 για το μάθημα «ΕΙΔΙΚΑ ΘΕΜΑΤΑ ΣΤΟΝ ΠΡΟΓΡΑΜΜΑΤΙΣΜΟ ΥΠΟΛΟΓΙΣΤΩΝ ,Java”

Εκπαιδευτικός: Παπαστεργίου Κωνσταντίνος, Καθηγητής Πληροφορικής

Δημιουργία προσωπικής υπολογιστικής μηχανής



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

```
public class lesson2511 implements ActionListener {
```

```
    private static JLabel output1,output2,output,info1;
    private static JButton
breset,b0,b1,b2,b3,b4,b5,b6,bsum,bmin,bprod,bbin10,b10bin,bhex10,bascii,binfo,bdel;
    private static JTextField t1;
```

```
    public static double x=0;
    public static String s,s1,s2,w,w1,w2;
    public static double sum=0;
    public static int a=0;
    public static String oper="";
```

```
    public static void main(String[] args) {
        JFrame frame=new JFrame("Απόφοιτοι 2021. Υπεύθυνος καθηγητής Παπαστεργίου
Κωνσταντίνος");
        frame.setSize(610,470);
        frame.getContentPane().setBackground(Color.gray);
        frame.setLayout(null);
```

```
        t1=new JTextField(25);
        t1.setBounds(410, 320, 100, 30);
        t1.setFont(new Font("Verdana", Font.BOLD, 14));
        t1.setForeground(Color.black);
        bdel=new JButton("Διόρθωση");
```

```
bdel.addActionListener(new lesson2511());
bdel.setBounds(260, 140, 90, 40);
bdel.setBackground(Color.blue);
bdel.setFont(new Font("Verdana", Font.BOLD, 10));
bdel.setForeground(Color.white);
binfo=new JButton("Πληροφορίες");
binfo.addActionListener(new lesson2511());
binfo.setBounds(440, 10, 130, 40);
binfo.setBackground(Color.blue);
binfo.setFont(new Font("Verdana", Font.BOLD, 12));
binfo.setForeground(Color.white);
bascii=new JButton("Μετατροπή σε ASCII");
bascii.addActionListener(new lesson2511());
bascii.setBounds(350, 360, 220, 50);
bascii.setBackground(Color.blue);
bascii.setFont(new Font("Verdana", Font.BOLD, 14));
bascii.setForeground(Color.white);
b0=new JButton("0");
b0.addActionListener(new lesson2511());
b0.setBounds(20, 140, 50, 50);
b0.setBackground(Color.blue);
b0.setFont(new Font("Verdana", Font.BOLD, 14));
b0.setForeground(Color.white);
b1=new JButton("1");
b1.addActionListener(new lesson2511());
b1.setBounds(80, 140, 50, 50);
b1.setBackground(Color.blue);
b1.setFont(new Font("Verdana", Font.BOLD, 14));
b1.setForeground(Color.white);
b2=new JButton("2");
b2.addActionListener(new lesson2511());
b2.setBounds(140, 140, 50, 50);
b2.setBackground(Color.blue);
b2.setFont(new Font("Verdana", Font.BOLD, 14));
b2.setForeground(Color.white);
b3=new JButton("3");
b3.addActionListener(new lesson2511());
b3.setBounds(20, 200, 50, 50);
b3.setBackground(Color.blue);
b3.setFont(new Font("Verdana", Font.BOLD, 14));
b3.setForeground(Color.white);
b4=new JButton("4");
b4.addActionListener(new lesson2511());
b4.setBounds(80, 200, 50, 50);
b4.setBackground(Color.blue);
b4.setFont(new Font("Verdana", Font.BOLD, 14));
b4.setForeground(Color.white);
b5=new JButton("5");
b5.addActionListener(new lesson2511());
b5.setBounds(140, 200, 50, 50);
b5.setBackground(Color.blue);
b5.setFont(new Font("Verdana", Font.BOLD, 14));
b5.setForeground(Color.white);
b6=new JButton("6");
b6.addActionListener(new lesson2511());
b6.setBounds(20, 260, 50, 50);
b6.setBackground(Color.blue);
```

```
b6.setFont(new Font("Verdana", Font.BOLD, 14));
b6.setForeground(Color.white);

breset=new JButton("RESET");
breset.addActionListener(new lesson2511());
breset.setBounds(450, 60, 100, 50);
breset.setBackground(Color.blue);
breset.setFont(new Font("Verdana", Font.BOLD, 14));
breset.setForeground(Color.white);

bbin10=new JButton("Διαδικός σε δεκαδικό");
bbin10.addActionListener(new lesson2511());
bbin10.setBounds(360, 140, 200, 50);
bbin10.setBackground(Color.orange);
bbin10.setFont(new Font("Verdana", Font.BOLD, 12));
bbin10.setForeground(Color.black);

b10bin=new JButton("Δεκαδικός σε δυαδικό");
b10bin.addActionListener(new lesson2511());
b10bin.setBounds(360, 200, 200, 50);
b10bin.setBackground(Color.blue);
b10bin.setFont(new Font("Verdana", Font.BOLD, 12));
b10bin.setForeground(Color.white);

bhex10=new JButton("Δεκαδικός σε δεκαεξαδικό");
bhex10.addActionListener(new lesson2511());
bhex10.setBounds(350, 260, 220, 50);
bhex10.setBackground(Color.blue);
bhex10.setFont(new Font("Verdana", Font.BOLD, 12));
bhex10.setForeground(Color.white);

bsum=new JButton("+");
bsum.addActionListener(new lesson2511());
bsum.setBounds(200, 140, 50, 50);
bsum.setBackground(Color.darkGray);
bsum.setFont(new Font("Verdana", Font.BOLD, 18));
bsum.setForeground(Color.white);
bmin=new JButton("-");
bmin.addActionListener(new lesson2511());
bmin.setBounds(200, 200, 50, 50);
bmin.setBackground(Color.darkGray);
bmin.setFont(new Font("Verdana", Font.BOLD, 18));
bmin.setForeground(Color.white);
bprod=new JButton("X");
bprod.addActionListener(new lesson2511());
bprod.setBounds(200, 260, 50, 50);
bprod.setBackground(Color.darkGray);
bprod.setFont(new Font("Verdana", Font.BOLD, 18));
bprod.setForeground(Color.white);

output1 = new JLabel();
output1.setText("");
output1.setBounds(50, 20, 120, 40);
output1.setForeground(Color.black);
output1.setOpaque(true);
output1.setBackground(Color.white);
output1.setFont(new Font("Verdana", Font.BOLD, 20));
```

```
output2 = new JLabel();
output2.setText("");
output2.setBounds(50, 70, 120, 40);
output2.setForeground(Color.black);
output2.setOpaque(true);
output2.setBackground(Color.white);
output2.setFont(new Font("Verdana", Font.BOLD, 16));
```

```
output = new JLabel();
output.setText("0");
output.setBounds(220, 30, 160, 60);
output.setForeground(Color.black);
output.setOpaque(true);
output.setBackground(Color.white);
output.setFont(new Font("Verdana", Font.BOLD, 18));
```

```
frame.add(b0);
frame.add(b1);
frame.add(b2);
frame.add(b3);
frame.add(b4);
frame.add(b5);
frame.add(b6);
frame.add(breset);
frame.add(bbin10);
frame.add(b10bin);
frame.add(bhex10);
frame.add(bsum);
frame.add(bmin);
frame.add(bprod);
frame.add(bascii);
frame.add(binfo);
frame.add(bdel);
frame.add(t1);
frame.add(output1);
frame.add(output2);
frame.add(output);
```

```
frame.setVisible(true); //ΟΡΑΤΟ ΠΑΡΑΘΥΡΟ
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
}
```

```
public void actionPerformed(ActionEvent e) {
    if (e.getSource()==b0){
        w=output2.getText();
        output2.setText(w+"0"); }
    if (e.getSource()==b1){
        w=output2.getText();
        output2.setText(w+"1"); }
    if (e.getSource()==b2){
        w=output2.getText();
        output2.setText(w+"2"); }
    if (e.getSource()==b3){
        w=output2.getText();
        output2.setText(w+"3"); }
```

```

if (e.getSource()==b4){
    w=output2.getText();
    output2.setText(w+"4"); }
if (e.getSource()==b5){
    w=output2.getText();
    output2.setText(w+"5"); }
if (e.getSource()==b6){
    w=output2.getText();
    output2.setText(w+"6"); }
if (e.getSource()==breset){
    output2.setText("");
    output.setText("0");
    output1.setText("");
    t1.setText("");
    x=0;
    sum=0;
    a=0;
    oper="";
}

```

```

if (e.getSource()==bbin10){
    w=output2.getText();
    String binaryString=w;
    int decimal=Integer.parseInt(binaryString,2);
    String s1=String.valueOf(decimal);
    output.setText(s1);
}

```

```

if (e.getSource()==b10bin){
    w=output2.getText();
    int dec=Integer.parseInt(w);
    s1= Integer.toBinaryString(dec);
    output.setText(s1);
}

```

```

if (e.getSource()==bhex10){
    w=output2.getText();
    int dec=Integer.parseInt(w);
    s1= Integer.toHexString(dec);
    output.setText(s1);
}

```

```

if (e.getSource()==bascii){
    w=t1.getText();
    char c=w.charAt(0);
    int ac=c;
    s1=String.valueOf(ac);
    output.setText(s1);
}

```

```

if (e.getSource()==bdel){
    w=output2.getText();
    String n = w.substring(0, w.length()-1);
    output2.setText(n);
}

```

```

if (e.getSource()==binfo){
    JFrame frame2=new JFrame("Πληροφορίες");
    frame2.setSize(300,200);
    frame2.getContentPane().setBackground(Color.pink);
    frame2.setLayout(null);
    info1 = new JLabel();
    info1.setText("ΕΠΑΛ ΚΑΛΑΜΑΡΙΑΣ");
    info1.setBounds(10, 20, 250, 40);
    info1.setForeground(Color.black);
    info1.setFont(new Font("Verdana", Font.BOLD, 16));
    frame2.add(info1);

```

```

    frame2.setVisible(true); //ΟΡΑΤΟ ΠΑΡΑΘΥΡΟ

```

```

}

```

```

if (e.getSource()==bsum){
    output1.setText("+");
    if(a==0){
        w1=output2.getText();
        x= Double.parseDouble(w1);
        sum=x;
        s1=String.valueOf(sum);
        output.setText(s1);
        output2.setText("");}
    else{
        w1=output.getText();
        sum= Double.parseDouble(w1);
        w1=output2.getText();
        x= Double.parseDouble(w1);
        if(oper.equals("+")){
            sum=sum+x;}
        if(oper.equals("-")){
            sum=sum-x;}
        if(oper.equals("X")){
            sum=sum*x;}
        s1=String.valueOf(sum);
        output.setText(s1);
        output2.setText("");
    }
    oper="+";
    a++;
}

```

```

if (e.getSource()==bmin){
    output1.setText("-");
    if(a==0){
        w1=output2.getText();
        x= Double.parseDouble(w1);
        sum=x;
        s1=String.valueOf(sum);
        output.setText(s1);
        output2.setText("");}
    else{
        w1=output.getText();

```

```

sum= Double.parseDouble(w1);
w1=output2.getText();
x= Double.parseDouble(w1);
if(oper.equals("+")){
sum=sum+x;}
if(oper.equals("-")){
sum=sum-x;}
if(oper.equals("X")){
sum=sum*x;}
s1=String.valueOf(sum);
output.setText(s1);
output2.setText("");

}
oper="-";
a++;
}

```

```

if (e.getSource()==bprod){
output1.setText("X");
if(a==0){
w1=output2.getText();
x= Double.parseDouble(w1);
sum=x;
s1=String.valueOf(sum);
output.setText(s1);
output2.setText("");}
else{
w1=output.getText();
sum= Double.parseDouble(w1);
w1=output2.getText();
x= Double.parseDouble(w1);
if(oper.equals("+")){
sum=sum+x;}
if(oper.equals("-")){
sum=sum-x;}
if(oper.equals("X")){
sum=sum*x;}
s1=String.valueOf(sum);
output.setText(s1);
output2.setText("");

}
oper="X";
a++;
}

```

```

}
}

```