Objective: This assignment will give you practice with action event handling.

The programming assignment:

In this assignment you are to add functionality to the calculator created in lab 08. You have to make the calculator a full function calculator.

Some programming hints:

1. Implement an action listener.

```
public void actionPerformed(ActionEvent e) {
        char c = e.getActionCommand().charAt(0);
        switch(c) {
                case '0':
                   …
                case '9': if (newNumber) { display c in the text field; newNumber = false;}
                          else append c to the end of the text field;
                          return;
                case '+': opnd1 = Double.parseDouble(tf.getText());
                          newNumber = true;
                          operator = '+';
                          return;
                   …
                case '=': opnd2 = Double.parseDouble(tf.getText());
                          switch (operator) {
                                  case '/': res = opnd1 / opnd2; break;
                                  case '*': res = opnd1 * opnd2; break;
                                  case '-': res = opnd1 - opnd2; break;
                                  case '+': res = opnd1 + opnd2; break;
                          }
                          Display res in the textfield;
                          newNumber = true;
                          return;
        }
}
```

2. Register the action listener with all buttons.