

Assignment 3 pseudocode

```
1. import javafx.application.Applicatio
import javafx.scene.control.Button
import javafx.scene.layout.GridPane
import javafx.scene.control.Label
import javafx.scene.control.TextField
import javafx.scene.Scene
import javafx.stage.Stage
import javafx.event.ActionEvent
import javafx.event.EventHandler
import javafx.geometry.Pos
```

```
CLASS Calculator extends Application
```

```
BEGIN
```

```
    METHOD start(Stage primaryStage)
```

```
    BEGIN
```

```
        CREATE tf1 AS TextField
```

```
        tf1←NEW TextField("")
```

```
        CREATE bt1 AS Button
```

```
        bt1←NEW Button("1")
```

```
        CREATE bt2 AS Button
```

```
        bt2←NEW Button("2")
```

```
        CREATE bt3 AS Button
```

```
        bt3←NEW Button("3")
```

```
        CREATE bt4 AS Button
```

```
        bt4←NEW Button("/")
```

```
        CREATE bt5 AS Button
```

```
        bt5←NEW Button("4")
```

```
        CREATE bt6 AS Button
```

```
        bt6←NEW Button("5")
```

```
        CREATE bt7 AS Button
```

```
        bt7←NEW Button("6")
```

```
CREATE bt8 AS Button
bt8←NEW Button("*")
```

```
CREATE bt9 AS Button
bt9←NEW Button("7")
```

```
CREATE bt10 AS Button
bt10←NEW Button("8")
```

```
CREATE bt11 AS Button
bt11←NEW Button("9")
```

```
CREATE bt12 AS Button
bt12←NEW Button("+")
```

```
CREATE bt13 AS Button
bt13←NEW Button("-")
```

```
CREATE bt14 AS Button
bt14←NEW Button("=")
```

```
CREATE Gpane AS GridPane
Gpane←NEW GridPane()
```

```
Gpane.setHgap(10)
Gpane.setVgap(10)
Gpane.setAlignment(Pos.CENTER)
```

```
Gpane.add(tf1,0,0,3,1)
```

```
Gpane.add(bt1, 0, 2)
Gpane.add(bt2,1,2)
Gpane.add(bt3,2,2)
Gpane.add(bt4,3,2)
Gpane.add(bt8,4,2)
```

```
Gpane.add(bt5,0,3)
Gpane.add(bt6,1,3)
Gpane.add(bt7,2,3)
Gpane.add(bt12,3,3)
Gpane.add(bt13,4,3)
```

```
Gpane.add(bt9,0,4)
```

```
Gpane.add(bt10,1,4)
Gpane.add(bt11,2,4)
Gpane.add(bt14,3,4)
```

```
CREATE scene AS Scene
scene←new Scene(Gpane,200,200)
```

```
CREATE e AS EventHandler<ActionEvent>
e←NEW EventHandler<ActionEvent>()
BEGIN
    METHOD handle(ActionEvent e)
    BEGIN
        float number←0f
        String op←""
        IF(e.getSource().equals(bt1)) THEN
            BEGIN
                SET tf1 AS tf1.getText()+"1"
            ELSE IF(e.getSource().equals(bt2))
                SET tf1 AS tf1.getText()+"2"
            ELSE IF(e.getSource().equals(bt3))
                SET tf1 AS tf1.getText()+"3"
            ELSE IF(e.getSource().equals(bt5))
                SET tf1 AS tf1.getText()+"4"
            ELSE IF(e.getSource().equals(bt6))
                SET tf1 AS tf1.getText()+"5"
            ELSE IF(e.getSource().equals(bt7))
                SET tf1 AS tf1.getText()+"6"
            ELSE IF(e.getSource().equals(bt9))
                SET tf1 AS tf1.getText()+"7"
            ELSE IF(e.getSource().equals(bt10))
                SET tf1 AS tf1.getText()+"8"
            ELSE IF(e.getSource().equals(bt11))
                SET tf1 AS tf1.getText()+"9"
            ELSE IF(e.getSource().equals(bt4))
                number1←Float.parseFloat(GET text tf1)
                op←"/"
                SET tf1 AS ""
            ELSE IF(e.getSource().equals(bt8))
                number1←Float.parseFloat(GET text tf1)
                op←"*"
                SET tf1 AS ""
```

```

ELSE IF(e.getSource().equals(bt12))
    number1←Float.parseFloat(GET text tf1)
    op←"+"
    SET tf1 AS ""
ELSE IF(e.getSource().equals(bt13))
    number1←Float.parseFloat(GET text tf1)
    op← "-"
    SET tf1 AS ""
ELSE (e.getSource().equals(bt14))
    float number2=Float.parseFloat(GET text tf1)
    IF(op=="/") THEN
        float answer=number1/number2
        SET tf1 AS ""+answer
    ELSE IF (op=="*")
        Float answer=number1*number2
        SET tf1 AS ""+answer
    ELSE IF(op=="+")
        Float answer=number1+number2
        SET tf1 AS ""+answer
    ELSE
        Float answer=number1-number2
        SET tf1 AS ""+answer
    END IF
END IF

END IF
END METHOD
END EventHandler<ActionEvent>

```

```

SET Action bt1 on e
SET Action bt2 on e
SET Action bt3 on e
SET Action bt5 on e
SET Action bt6 on e
SET Action bt7 on e
SET Action bt9 on e
SET Action bt10 on e
SET Action bt11 on e
SET Action bt4 on e
SET Action bt8 on e
SET Action bt12 on e
SET Action bt13 on e
SET Action bt14 on e

```

```
    SET Title of primaryStage AS "Calculator"
    SET Scene of primaryStage AS scene
    SHOW primaryStage

    END Start()
    METHOD Main(String [] args)
    BEGIN
        LAUNCH args
    END Main()
END CLASS
```