Theory

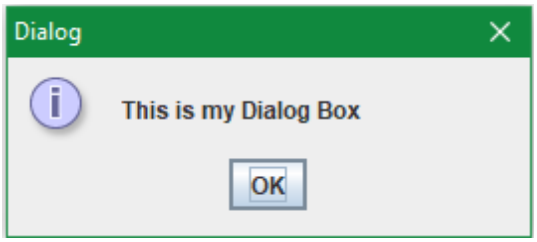
Java has Graphical User Interface (GUI) feature by which many types of graphical expression can be printed on the screen by importing some packages. This packages contains many classes that help to make the GUI with Java. These classes are such as **JFrame**, **JPanel** and **JApplet**. The GUI component classes , such as **JButton**, **JTextField**, **JTextArea**, **JCombobox**, **JList**, **JRadioButton** and **JMenu** are subclasses of **JMenu**. The Helper Classes, such as **Graphics**, **Color**, **Font**, **FontMetrics** and **Dimension**.

Printing "This is my Dialog Box" in a Dialog Box.

Code

```
1   package dialog;
2   import javax.swing.JOptionPane;
3   public class Dialog {
4     public static void main(String[] args) {
5       JOptionPane.showMessageDialog(null,"This is my Dialog Box","Dialog",JOptionPane.YES_NO_CANCEL_OPTION);
6     }
7   }
```

Output



Comment

In the above code, **javax.swing.JOptionPane** was imported to print the message in a dialog box.

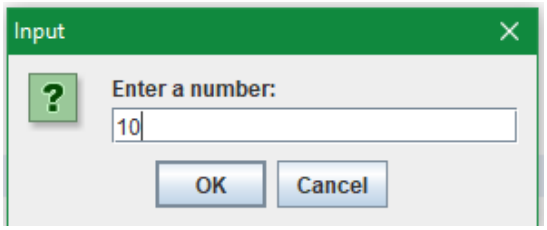
And **showMessageDialog()** was a function of **JOptionPane** object.

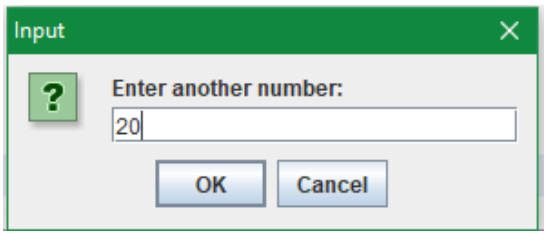
Adding two numbers in dialog box

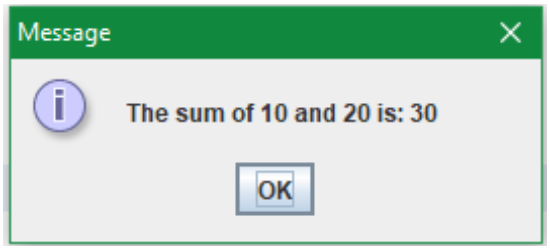
Code

```
1   package dialoginputoutput;
2   import javax.swing.JOptionPane;
3   public class DialogInputOutput {
4       public static void main(String[] args) {
5           String S = JOptionPane.showInputDialog(null,"Enter a number: ");
6           int i = Integer.parseInt(S);
7           String S1 = JOptionPane.showInputDialog("Enter another number: ");
8           int j = Integer.parseInt(S1);
9           String S2 = "The sum of "+i+" and "+j+" is: "+(i+j);
10          JOptionPane.showMessageDialog(null,S2);
11      }
12  }
```

Output







Comment

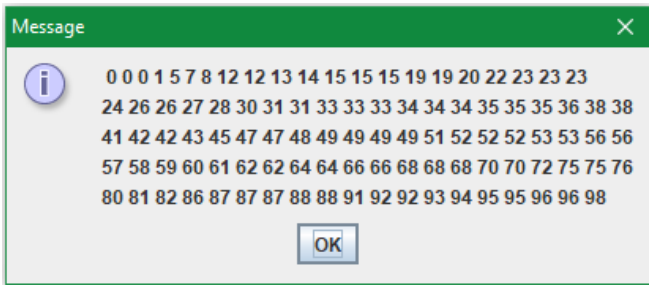
In the above code, using JOptionPane two numbers were taken from the user in dialog box and was printed their sum in another dialog box.

Sorting 100 random numbers in a Dialog Box

Code

```
1   package random;
2   import javax.swing.JOptionPane;
3   import java.math.*;
4   public class Random {
5       public static void main(String[] args) {
6           double array[] = new double [100];
7           int i,j,k,a;
8           double t;
9           int x;
10          for(a = 0 ; a<100 ; a+=1)
11              array[a] = Math.random()*100;
12          for (i = 0 ; i<100 ; i+=1)
13              for (j = 0 ; j<(100-1) ; j+=1) {
14                  if (array[j] > array[j+1]) {
15                      t = array[j];
16                      array[j] = array[j+1];
17                      array[j+1] = t;
18                  }
19              }
20          String S = "Sorted Array Element: "+(int)array[0];
21          String S2 = " ";
22          for (x = 0 ; x<100 ; x+=1) {
23              String S1 = " "+(int)array[x];
24              S2= S2 + S1;
25              if (x==20 || x==40 || x==60 || x==80) {
26                  S2 += "\n";
27                  JOptionPane.showMessageDialog(null,S2);
28              }
29          }
30          JOptionPane.showMessageDialog(null,S2);
31      }
32  }
```

Output



Comment

In the above code, a function named **random()** under **math** object was used for random inputs of number and then using **JOptionPane** the sorted array was printed on the dialog box.