// Exercise 7.13 Solution: Unique.java

**2** // Applet reads in 20 numbers and prints only the non-duplicates.

**3** import java.awt.event.\*;

**4** import java.awt.\*;

**5** import javax.swing.\*;

**67**

public class Unique extends JApplet implements ActionListener {

**89**

JTextField input; // input text field

**10** JTextArea output; // output text area

**11** JLabel prompt;

**12**

**13** int array[], counter = 0, numberCount = 0;

**14**

**15** // initialize applet

**16** public void init()

**17** {

**18** array = new int[ 5 ];

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**19**

**20** input = new JTextField( 5 );

**21** input.addActionListener( this );

**22** prompt = new JLabel( "Enter number:" );

**23**

**24** output = new JTextArea( 1, 10 );

**25** output.setEditable( false );

**26**

**27** Container container = getContentPane();

**28** container.setLayout( new FlowLayout() );

**29** container.add( prompt );

**30** container.add( input );

**31** container.add( output );

**32**

**33** } // end method init

**34**

**35** // read number input and print if non-duplicate

**36** public void actionPerformed( ActionEvent actionEvent )

**37** {

**38** int number = Integer.parseInt( input.getText() );

**39**

**40** input.setText("");

**41**

**42** // validate the input

**43** if ( number < 10 || number > 100 ) {

**44**

**45** showStatus( "Invalid Entry!!!" );

**46** return;

**47** }

**48**

**49** // count to see if all the numbers have been entered

**50** if ( numberCount < 5 ) {

**51** showStatus( "Number entered: " + ( ++numberCount ) );

**52**

**53** // compare input number to unique numbers in array

**54** for ( int i = 0; i < counter; i++ )

**55**

**56** // if new number is duplicate, do nothing

**57** if ( number == array[ i ] )

**58** return;

**59**

**60** // append new number to text area

**61** output.append( " " + number );

**62**

**63** // store new and unique number

**64** array[ counter++ ] = number;

**65** }

**66** else

**67** showStatus( "Number entered exceed 5." );

**68**

**69** } // end method actionPerformed

**70**

**71** }

OR

// Lab 1: Unique.java 2

// Reads in 5 unique numbers.

3 import java.util.Scanner;

4 5 public class Unique

6

{

7 // gets 5 unique numbers from the user

8 public void getNumbers()

9

{

10 Scanner input = new Scanner( System.in );

11

12 /\* Create an array of five elements\*/

13 int count = 0;

// number of uniques read

14 int entered = 0;

// number of entered numbers

15 16 while( entered < numbers.length )

17

{

18 System.out.print( "Enter number: " );

19 /\* Write code here to retrieve the input from the user \*/

20 21 // validate the input

22 /\* Write an if statement that validates the input \*/

23

{

24 // flags whether this number already exists

25 boolean containsNumber = false;

26 27 // increment number of entered numbers

28 entered++;

29 30 /\* Compare the user input to the unique numbers in the array using a for

31 statement. If the number is unique, store new number \*/

32 33 /\* add the user input to the array only if the number is not already

34 in the array \*/

35 if ( !containsNumber )

36

{

37 /\* Write code to add the number to the array and increment

38 unique items input \*/

39 } //

Else

41 System.out.printf( "%d has already been entered\n",

42 number );

43 } // end if

44 else

45 System.out.println( "number must be between 10 and 100" );

46 47 // print the list of unique values

48 /\* Write code to output the contents of the array \*/

49 } // end while

50 } // end method getNumbers

51 } // end class Unique

1 // Lab 1: UniqueTest.java

2 // Test application for class Unique

3 public class UniqueTest

4 { 5 public static void main( String args[] )

6 { 7 Unique application = new Unique();

8 application.getNumbers();

9 } // end main 10 } // end class U