

Mr. Hanley's Java Cookbook

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Purpose	Command	Example
Section I: Numeric Section		
Generate pseudo random numbers	Random	<pre>import java.util.Random; static Random r = new Random(); //one time outside of all methods public static void main(String[] args) { int x = r.nextInt(5); //Gives numbers from 0-4 System.out.println("x = " + x); }</pre>
Converting a string into a floating point value (double)	Double. parseDouble Integer. parseInt	<pre>String str1 = "1337"; //set up a string that has a number in it double x; //From String str1 To double x //Note: If the value of str1 is null (if there is no string), trim() will throw a //NullPointerException. If you don't use trim(), make sure //there's no trailing white space. For JDK 1.2.x or better: try { x = Double.parseDouble(str1.trim()); } catch (NumberFormatException e) { System.out.println("There was a problem formatting the string, bye"); } //When this command is done, x has the value 1337, if str1 contained //other types of characters like \$>#@jkaBN, then the parseDouble command //would have thrown an exception int y = Integer.parseInt(temp); //also works for ints</pre>

TOP↑

Formatting numbers with specific requirements	Decimal Format	<pre> import java.text.DecimalFormat; double total =<some number you have found> String displayTot; //This string will hold the result of our formatting DecimalFormat numFormat1 = new java.text.DecimalFormat("###,##0.00"); //NOTE: # will suppress leading 0's, 0 forces a number there and the decimal anchors where the decimal will go displayTot = numFormat1.format(total); //Scientific notation (JDK 1.2.x on up): double sciCalc = <some number you have found> DecimalFormat scienceFormat = new DecimalFormat("0.000000000E00"); String displaySci; displaySci = scienceFormat.format(sciCalc); </pre>
Using math constants	Math.	<pre> //no imports necessary when using Math double radius = 2.5; double circum = Math.PI*2*radius; </pre>
Using math methods	Math.	<pre> //no imports necessary when using Math System.out.println(Math.pow(2,5)); //prints 2 to the 5th power //Figure out the square root of a number double in; in = 5.6; double squareRoot = Math.sqrt(in); </pre>

TOP↑

Rounding off a float or a double	An old trick taught to me by Mr. Brodt from Haverford High School	<pre>//Let's truncate the number after moving it over a certain # of spaces //let's say the variable to round off is called cost double cost = <some calculation>; cost = cost *100; //move the decimal over 2 places cost = (int) (cost + .5); //add .5 and then chop off decimal cost = cost /100; //move the decimal place back //This trick also works for rounding off to thousandths, etc. //just change the 100 to a 1000 in both places</pre>
Get the current date and time and format for printing	Date and DateFormat	<pre>import java.util.Date; import java.text.DateFormat; public static void menu() { Date now = new Date(); String display = DateFormat.getDateTimeInstance(DateFormat.FULL, DateFormat.FULL).format(now); }</pre>
Section II: Console Section		
Reading in data from the keyboard in a console application	<i>Scanner</i>	<p>NOTE: This requires JDK 1.5</p> <pre>import java.util.Scanner; public class ConsoleDemol { public static void main(String[] args) { Scanner input = new Scanner(System.in); //do this once to be able to read in data int x; double y; String name; System.out.println("Please enter your name:"); name = input.next(); //Reads in a string from the keyboard with no spaces System.out.println("Please enter a whole number");</pre>

<p>TOP↑</p>		<pre> x = input.nextInt(); System.out.println("Please enter a decimal number:"); y = input.nextDouble(); } } import java.util.Scanner; public class ConsoleDemo2 { //To read in a value without spaces followed by a value with spaces public static void main(String[] args) { Scanner input = new Scanner(System.in); //do this once to be able to read in data int x; x = input.nextInt(); //read an int //Must skip the newline in order to read data with spaces next input.skip("\n"); String phrase; phrase = input.nextLine(); } } </pre>
<p>Printing out cool Symbols(Props to Matt Keyoskey, 10)</p>	<p>Special alt characters</p>	<pre> public static void dispAuthor() { sc.println(" °°¤¤,, °°¤¤,,,, ¤¤°°,, ¤¤°°"); sc.println(" °°¤¤,, JAVA ,, ¤¤°°"); sc.println(" ,, ¤¤°° ROCKS! °°¤¤,, "); sc.println(" ,, ¤¤°° ,, ¤¤°°°°¤¤,, °°¤¤ "); } </pre>
<p>Printing out variables and phrases to the console</p> <p>TOP↑</p>	<p>System.out.print and System.out.println</p>	<pre> System.out.print("this phrase will be on one line"); System.out.print("***** these stars will on the same line as above"); int myVar = 6; System.out.println("The variable is " + myVar); </pre>

Redirecting
System.in and
System.out to text
files

```
import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.PrintStream;

public class ChangeForTwenty {
    public static void main(String[] args) {
        String inFileName = "in.txt", outFileName = "out.txt";
        System.out.println("Redirecting input -> " + inFileName);
        System.out.println("Redirecting output -> " + outFileName);
        //Redirect the input
        try {
            System.setIn(new FileInputStream(new File(inFileName)));
        } catch (FileNotFoundException e) {
            System.out.println("File Problem " + e);
        }
        //Redirecting console output to file (System.out.println)
        try {
            //Prepare the output file
            PrintStream fileStream = new PrintStream(new FileOutputStream(outFileName,
false));
            System.setOut(fileStream);
        } catch (IOException e) {

        }
        //Read the data
        Scanner input = new Scanner(System.in);
        //loops all data in file
        while (input.hasNext()) {
            double charge = input.nextDouble();
            double change = 20 - charge;
            //etc
        }
        SEPARATE FILE: in.txt, must be in the main folder of the project NOT THE src or build
        directories
    }
}
```

Printing out control characters to the console	System.out.print and System.out.println	System.out.print("This will be on one line\nthis on another"); System.out.println("\t\t\tThis will be after 3 tabs"); System.out.println("Here's how to print out a double quote\" OK?"); System.out.println("Here's how to print a back slash \\ OK?");

Section III: Swing Section

Determining which button was clicked(or menu item, combo box)

e.getSource()

```
public void actionPerformed(ActionEvent e) {
    if(e.getSource() == radiusBUT)
    {
        //logic here for radius button
    }
    if(e.getSource() == sodaBUT)
    {
        //logic here for soda button
    }
    if(e.getSource() == fileExitMI)
    {
        System.exit(0); //exit the program
    }
}
```

TOP↑

Setting the background of your frame as an image (Props to Ryan Knapp 09)

getLayeredPane().add among other commands

```
//Add this to the constructor of your Frame
public JavaOutletFrame() {
    //Java Students – Start Copying Here
    //Load the background Image
    ImageIcon backIm = new ImageIcon(ClassLoader.getResource(
        "images/CoffeeDrinker.jpg"));
    JLabel backLBL = new JLabel(backIm); //make a JLabel from background image
    //Set the bounds of the label to be the whole window
    backLBL.setBounds(0, 0, backIm.getIconWidth(), backIm.getIconHeight());
    getLayeredPane().add(backLBL, new Integer(Integer.MIN_VALUE));
    JPanel myPanel = new JPanel();
    myPanel.setOpaque(false);
    setContentPane(myPanel);
    //Java Students – Stop Copying Here
    initComponents();
}
```

TOP↑

Changing the icon of your swing app(Props to Chris Bouchard 06)	setIconImage and getToolkit	<p>//YOU NEED TO FIND ICON IMAGE FILES OR MAKE YOUR OWN. //HERE IS A SITE WHERE I FOUND SOME FREE DOWNLOADABLE ICONS //http://www.icongalore.com/sales/purchase-and-download.php</p> <p>public class YourFrame extends JFrame implements.... //Declare this as a global variable Image image1;</p> <p>//inside the jbInit() method somewhere, add this private void jbInit() { //other stuff //load the image image1 = Toolkit.getDefaultToolkit().getImage(java.net.URLClassLoader .getResource("images/world.gif")); //make the image the icon image for this project setIconImage(image1); }</p>
Making sure that only certain characters are entered into a textfield(props to Jon Diaz)	KeyAdapter	<p>public class YourFrame extends JFrame implements.... //assuming you have a textfields called monTF, etc JTextField monTF = new JTextField(); //Gen by NetBeans JTextField tuesTF = new JTextField(); JTextField wedTF = new JTextField(); JTextField thurTF = new JTextField(); JTextField friTF = new JTextField();</p> <p>//YOU ADD A GLOBAL DIGIT LISTENER SOMEWHERE //OUTSIDE OF ANY METHOD //Create a digitKeyListener DigitKeyListener dg = new DigitKeyListener();</p> <p>//inside the jbInit() method somewhere private void jbInit() { //other stuff monTF.addKeyListener(dg); //add digit key listeners to each tuesTF.addKeyListener(dg); wedTF.addKeyListener(dg); thurTF.addKeyListener(dg); friTF.addKeyListener(dg);</p>

TOP 

TOP ↑

```
}  
//Below the Frame class or in another file  
import java.awt.event.*;  
  
class DigitKeyListener  
    extends KeyAdapter {  
  
    //consumes all values except numbers period, delete and backspace  
    public void keyTyped(KeyEvent f) {  
        char ch = f.getKeyChar();  
        //If it's not a period, backspace, digit or delete...  
        if (!(  
            (ch == KeyEvent.VK_PERIOD) ||  
            (Character.isDigit(ch)) || (ch == KeyEvent.VK_BACK_SPACE) ||  
            (ch == KeyEvent.VK_DELETE) ||  
            ch == KeyEvent.VK_MINUS) ) )  
        {  
            f.consume(); //prevent from appearing in the textfield  
        }  
    }  
}
```

Making a field
uneditable or read-
only

Set
Editable

```
scoreFieldTF.setEditable(false);
```

Change the
background color
of a button

setback
ground

```
b1.setBackground(Color.blue); //NOTE: b1 is an initialized Button reference
```

Change the foreground color of a button	setFore ground	b1.setForeground(Color.yellow); //NOTE: b1 is an initialized Button reference
Popping up a message using a dialog box (Props to Craig Ceremuga for this info)	JOption Pane	import javax.swing.*; JOptionPane.showMessageDialog(null, "There is not enough \$\$\$ for this purchase","Change calculation error", JOptionPane.ERROR_MESSAGE); the general format is JOptionPane.showMessageDialog(null, "Main message in the pop-up", "Title bar of the window", type of dialog desired); //You can also use the following parameters to vary the style of the dialog box that you end up with... PLAIN_MESSAGE – plain dialog box without any icon in it INFORMATION_MESSAGE – icon denoting information QUESTION_MESSAGE – question mark WARNING_MESSAGE – warning icon
Using combo boxes	get Select edIndex(); getItem At();	public void actionPerformed(ActionEvent e) { //was this the combo box? if(e.getSource() == topicCB) { //Figure out which topic they selected int a = topicCB.getSelectedIndex(); String choice = (String)topicCB.getItemAt(a); } //now choice contains the phrase from the combo box }

TOP↑

Getting data from a JTextField	get Text()	<pre> public class RegisterFrame extends JFrame implements ActionListener { JTextField searchTF = new JTextField(); private void plusBUTActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_plusBUTActionPerformed String temp = searchTF.getText(); //temp now contains whatever was typed into //the text field } } </pre>
<u>TOP↑</u>		
Pausing a program for a while(Props to Jameson Ma)	Thread .sleep	<pre> try { Thread.sleep(1000); //sleep for one second } catch(InterruptedException e) { Thread.currentThread().interrupt();} } </pre>
Making a frame not resizeable	Set Resize able()	<pre> //This can be done using the properties on the frame public static void main(String[] args) { ComputerQuiz computerQuiz1 = new ComputerQuiz(); computerQuiz1.setSize(400,400); computerQuiz1.setResizable(false); computerQuiz1.setVisible(true); } </pre>
Getting in data from a pop up dialog box	show Input Dialog	<pre> import javax.swing.*; //to get a String String input; input = JOptionPane.showInputDialog("Please enter a word"); //to get an integer String input = JOptionPane.showInputDialog("Please enter an int); int x = Integer.parseInt(input); </pre>
<u>TOP↑</u>		

		<pre>//to get a double String input = JOptionPane.showInputDialog("Please enter a double); double y = Double.parseDouble(input);</pre>
--	--	--

The End For Now!! Adios!!!