Announcements

- Homework 1 on website, due Mon.
- TA afternoon hours in small room outside TCL 217, Homework hours in CS lounge area
- Lab work deadlines
  - Mon. Aft. lab = Wed. 11PM
  - Mon. Eve. lab = Thurs. 5PM
  - Tue. Aft. lab = Thurs. 11PM
Today’s Plan

- Java program structure
- Constructions
- Method invocations
- Using variable names
BENEDICT CUMBERBATCH IS OUTSTANDING

THE BEST BRITISH FILM OF THE YEAR
⭐⭐⭐⭐⭐
THE INDEPENDENT

AN INSTANT CLASSIC
⭐⭐⭐⭐⭐
GLAMOUR

A SUPERB THRILLER
⭐⭐⭐⭐⭐
EMPIRE

TIME OUT
⭐⭐⭐⭐
The Times

THE IMITATION GAME

BASED ON THE INCREDIBLE TRUE STORY

IN CINEMAS NOVEMBER 14
In addition to basically saving the world during World War II by helping crack the 'impenetrable' Enigma code used by the Nazis, Alan Turing's elaborate thought experiments became the precursor on which modern computers were built.

Despite his invaluable contributions to science, Turing was also a homosexual male, which was still a crime in the UK in the 1950's. Given the choice between chemical castration and imprisonment, he chose the former.

He killed himself 2 years later.

It is harder to crack a prejudice than an atom.
The Turing Test

1950: Alan Turing's "Computing Machinery and Intelligence" (the "Turing Test")


COMPUTING MACHINERY AND INTELLIGENCE

By A. M. Turing

1. The Imitation Game

I propose to consider the question, "Can machines think?" This should begin with definitions of the meaning of the terms "machine" and "think." The definitions might be framed so as to reflect so far as possible the normal use of the words, but this attitude is dangerous. If the meaning of the words "machine" and "think" are to be found by examining how they are commonly used it is difficult to escape the conclusion that the meaning and the answer to the question, "Can machines think?" is to be sought in a statistical survey such as a Gallup poll. But this is absurd. Instead of attempting such a definition I shall replace the question by another, which is closely related to it and is expressed in relatively unambiguous words.
import squint.*;
import javax.swing.*;

public class UnfriendlyLogin extends GUIManager {

    private final int WINDOW_WIDTH = 200, WINDOW_HEIGHT = 200;

    public UnfriendlyLogin() {
        this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );
        contentPane.add( new JLabel( "Username:" ) );
        contentPane.add( new JTextField( 8 ) );
        contentPane.add( new JLabel( "Password:" ) );
        contentPane.add( new JPasswordField( 8 ) );
        contentPane.add( new JButton( "Authenticate" ) );
    }

    public void buttonClicked() {
        contentPane.add( new JLabel( "Login Rejected!" ) );
    }
}
import squint.*;
import javax.swing.*;

public class TouchyButton extends GUIManager {

    private final int WINDOW_WIDTH = 170, WINDOW_HEIGHT = 300;

    public TouchyButton() {
        this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );
        contentPane.add( new JLabel( "Click on the button below" ) );
        contentPane.add( new JButton( "Click Here" ) );
    }

    public void buttonClicked() {
        contentPane.add( new JLabel( "That tickles!" ) );
    }
}

import squint.*;
import javax.swing.*;

public class AngryWords extends GUIManager {

    private final int WINDOW_WIDTH = 170, WINDOW_HEIGHT = 300;
    private JTextField firstNoun;

    public AngryWords () {
        this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );
        contentPane.add( new JLabel( "NOUN" ) );
        firstNoun = new JTextField( 10 );
        contentPane.add( firstNoun );
    }

    public void buttonClicked() {
        contentPane.add( new JLabel( "Be kind to your " + firstNoun.getText() ) );
    }
}

import squint.*;
import javax.swing.*;

public class UnfriendlyLogin extends GUIManager {
    private final int WINDOW_WIDTH = 200, WINDOW_HEIGHT = 200;
    private JTextField firstNoun;

    public UnfriendlyLogin() {
        this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );
        contentPane.add( new JLabel( "Username:" ) );
        contentPane.add( new JTextField( 8 ) );
        contentPane.add( new JLabel( "Password:" ) );
        contentPane.add( new JPasswordField( 8 ) );
        contentPane.add( new JButton( "Authenticate" ) );
    }

    public void buttonClicked( ) {
        contentPane.add( new JLabel( "Login Rejected!" ) );
    }
}

public class TouchyButton extends GUIManager {
    private final int WINDOW_WIDTH = 170,
    WINDOW_HEIGHT = 300;

    public TouchyButton() {
        this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );
        contentPane.add( new JLabel( "Click on the button below" ) );
        contentPane.add( new JButton( "Click Here" ) );
        contentPane.add( new JTextField( 10 ) );
        contentPane.add( new JPasswordField( 8 ) );
        contentPane.add( new JButton( "Authenticate" ) );
    }

    public void buttonClicked( ) {
        contentPane.add( new JLabel( "That tickles!" ) );
    }
}

public class AngryWords extends GUIManager {
    private final int WINDOW_WIDTH = 170,
    WINDOW_HEIGHT = 300;

    public AngryWords() {
        this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );
        contentPane.add( new JLabel( "NOUN" ) );
        firstNoun = new JTextField( 10 );
        contentPane.add( firstNoun );
        contentPane.add( new JButton( "Authenticate" ) );
    }

    public void buttonClicked( ) {
        contentPane.add( new JLabel( "Be kind to your " + firstNoun.getText() + !" ) );
    }
}
import squint.*;
import javax.swing.*;

public class Class-name extends GUIManager {
    private final int WINDOW_WIDTH = width, WINDOW_HEIGHT = height;

    public Class-name () {
        . . .      constructor's body      . . .
    }

    public void buttonClicked() {
        . .      buttonClicked method's body      . . .
    }
}

package squint;
import javax.swing.*;
import javax.swing.*;

public class Class-name extends GUIManager {
    // instance variable declarations

    public Class-name () {
        // constructor's body
    }

    public void some-method-name() {
        // some-method's body
    }

    public void some-other-method-name() {
        // some-other-method's body
    }
}

...
import squint. *
import javax.swing. *

public class Class-name extends GUIManager {

    ...
    instance variable declarations ...

    public Class-name () {

        ...
        constructor's body ...

    }

    public void some-method-name( ) {

        ...
        some-method's body ...

    }

    public void some-other-method-name( ) {

        ...
        some-other-method's body ...

    }

    ...
}
import squint.*;
import javax.swing.*;

public class Class-name extends GUIManager {
    ... instance variable declarations ... 

    public Class-name () {
        ... constructor's body ... 
    }

    public void some-method-name( ) {
        ... some-method's body ... 
    }

    public void some-other-method-name( ) {
        ... some-other-method's body ... 
    }

    ... 
}
import squint.*;
import javax.swing.*;

public class Class-name extends GUIManager {
    ... instance variable declarations ...

    public Class-name () {
        ... constructor's body ...
    }

    public void some-method-name() {
        ... some-method's body ...
    }

    public void some-other-method-name() {
        ... some-other-method's body ...
    }

    ... 
}
contentPane.add( new JLabel( "Click on the button below" ) );
contentPane.add( new JButton( "Click Here" ) );
contentPane.add( new JLabel( "Username:" ) );
contentPane.add( new JTextField( 8 ) );
contentPane.add( new JLabel( "Password:" ) );
contentPane.add( new JPasswordField( 8 ) );
contentPane.add( new JButton( "Authenticate" ) );
contentPane.add( new JLabel( "NOUN" ) );
contentPane.add( new JLabel( "Where the weather is always “+... 
contentPane.add( lastNoun );
Constructions

new JLabel( "Click on the button below" )
new JButton( "Click Here" )
new JTextField( 8 )
Constructions

new JLabel( "Click on the button below" )
new JButton( "Click Here" )
new JTextField( 8 )

new type-of-thing-to-create( ... details ... )
Constructions

new JLabel( "Click on the button below" )
new JButton( "Click Here" )
new JTextField( 8 )

new type-of-thing-to-create( ... details ... )
contentPane.add( new JLabel( "Click on the button below" ) );
contentPane.add( new JButton( "Click Here" ) );
contentPane.add( new JLabel( "Username:" ) );
contentPane.add( new JTextField( 8 ) );
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contentPane.add( new JPasswordField( 8 ) );
contentPane.add( new JButton( "Authenticate" ) );
contentPane.add( new JLabel( "NOUN" ) );
contentPane.add( new JLabel( "Where the weather is always “+... 
contentPane.add( lastNoun );
contentPane.add( new JLabel( "Click on the button below" ) );
contentPane.add( lastNoun );
contentPane.add( new JLabel( "Click on the button below" ) );
this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );
Method Invocation

contentPane.add( new JLabel( "Click on the button below" ) );
this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );

actor . thing-to-do ( ... details/parameters ... );
contentPane.add( new JLabel( "Click on the button below" ) );
this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );

actor . thing-to-do ( ... details/parameters ... );
Mutator

Method Invocation

contentPane.add( new JLabel( "Click on the button below" ) );
this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );

actor . thing-to-do ( ... details/parameters ... );

noun?  
verb?  
object/subordinate phase?
contentPane.add( new JLabel( "Be kind to your " + firstNoun.getText() );

actor . thing-to-get ( ... details/parameters ... )
private JTextField firstNoun;
private JTextField pluralNoun;

....

firstNoun = new JTextField( 10 );
pluralNoun = new JTextField( 10 );

....
Instance Variable Declarations

private JTextField noun1;
private int count;
private JLabel counterLabel;

private type-of-thing-name-will-identify name;
The executive Power shall be vested in a President of the United States of America. No person except a natural born Citizen, or a Citizen of the United States, at the time of the Adoption of this Constitution, shall be eligible to the Office of President; neither shall any Person be eligible to that Office who shall not have attained to the Age of thirty-five Years, and been fourteen Years a Resident within the United States.
Assignment Statements

firstNoun = new JTextField( 10 );
pluralNoun = new JTextField( 10 );

variable-name = expression-describing-value;
public LoginWithPanels() {
    this.createWindow( WINDOW_WIDTH, WINDOW_HEIGHT );

    JPanel userNamePanel;
    JPanel passwordPanel;

    userNamePanel = new JPanel();
    userNamePanel.add( new JLabel( "Username:" ) );
    userNamePanel.add( new JTextField( 8 ) );
    contentPane.add( userNamePanel );

    . . .

}