# What the Digerati Know

*Other people can teach you computer applications or you can figure them out for yourself*

# Learning New Tools

## How do we learn to use new tools?

- 🔴 Reading the owner's manual -- chain saw
- 🟡 Be taught in their use -- car, bicycle
- 🟢 Figure them out ourselves -- CD player

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- Software designers wanting you to learn their tool ASAP, try for 'intuitive'

  - **Consistent Interfaces -- build on experience**

  - **Suggestive icons -- bypass terminology**

  - **Metaphors -- exploit analogous reasoning**

# Standard Functionality
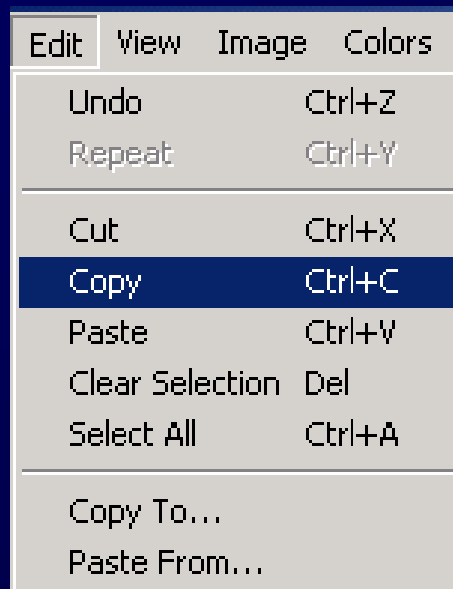
Most applications have **File** and **Edit**

| Edit | View | Image | Colors |
|------|------|-------|--------|
| Undo | | | Ctrl+Z |
| Repeat | | | Ctrl+Y |
| | | | |
| Cut | | | Ctrl+X |
| Copy | | | Ctrl+C |
| Paste | | | Ctrl+V |
| Clear Selection | | | Del |
| Select All | | | Ctrl+A |
| | | | |
| Copy To… | | | |
| Paste From… | | | |

| File | Edit | View | Image | Colors | Help |
|------|------|------|-------|--------|------|
| New | | | | | Ctrl+N |
| Open… | | | | | Ctrl+O |
| Save | | | | | Ctrl+S |
| Save As… | | | | | |
| | | | | | |
| Print Preview | | | | | |
| Page Setup… | | | | | |
| Print… | | | | | Ctrl+P |
| | | | | | |
| Send… | | | | | |
| | | | | | |
| Set As Wallpaper (Tiled) | | | | | |
| Set As Wallpaper (Centered) | | | | | |
| | | | | | |
| 1 World3 | | | | | |
| 2 AWA | | | | | |
| 3 C:\WINNT\Gone Fishing | | | | | |
| 4 C:\WINNT\Coffee Bean | | | | | |
| | | | | | |
| Exit | | | | | Alt+F4 |

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# Standard Functionality

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**ELECOM UC-T Series**

ファイル　編集　接続　ウィンドウ　表示　ヘルプ

| 切取り | Ctrl+X |
|--------|--------|
| コピー | Ctrl+C |
| 貼付け | Ctrl+V |
| 削除 | Del |

???

3com

File Name

3com

**Impress your friends with your knowledge of Japanese**

# What does 'New' Mean?

## 'New' means create a 'blank instance'

To understand 'blank instance' know that information has properties as well as content which are all stored in a table with a place for everything

Document: Date created, date modified, creator, fonts, content, diagrams, pictures, tables, ...

A 'blank instance' is simply the structure without any of the content

# "Click Around"

Software designers use standard ideas to make applications intuitive

- To learn a new application, check it out by clicking around

  * Take a minute to ...
    - **Look under all menus to see operations**
    - **Follow the "..." for menu operations**
    - **Try to recognize what the icons mean**

**Clicking around is exploration**

# "Blazing Away"

## Learn an application fast by trying it

- Beginning with a new instance, assertively try menu items
  * *Expect to fail* and make a mess
  * Exit the application, and if you are asked "Save?" reply "No"
  * Try repeatedly until becoming familiar

**If you are trying to achieve some goal, keep your eyes on the prize**

# To Learn A New Tool

Software systems build on a consistent interface, standard metaphors, etc.

∗ Expect to teach yourself applications

∗ Do so by familiarizing yourself with the features … "Clicking Around"

∗ Assertively try out the features, "Blaze Away," watching what they do

• **Be efficient -- stay focused, don't type a lot when you expect to exit**

**If all else fails …**

# Differences & Similarities

## Different vendors will produce similar software for the same task

- **Superficially, the GUIs may look dissimilar**
- **Fundamentally, the task largely determines how the software must work … they *must* be similar**

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- Implications …

- Know one word processor, learn others fast
- SW differences: mostly glitz, convenience
- Don't accept lousy … switch to other SW

# Mac or PC???

Arguments about which is better, Mac or PC, create no light, only heat

* They are more alike than different
* Any Fluent person can use both

Assignment 2: To show that Windows OS and Mac OS are more similar than they are different, this assignment will be done using both OSs. Which will you prefer??? Most likely the one you're most familiar with. But this assignment will show you can use either one to good effect.
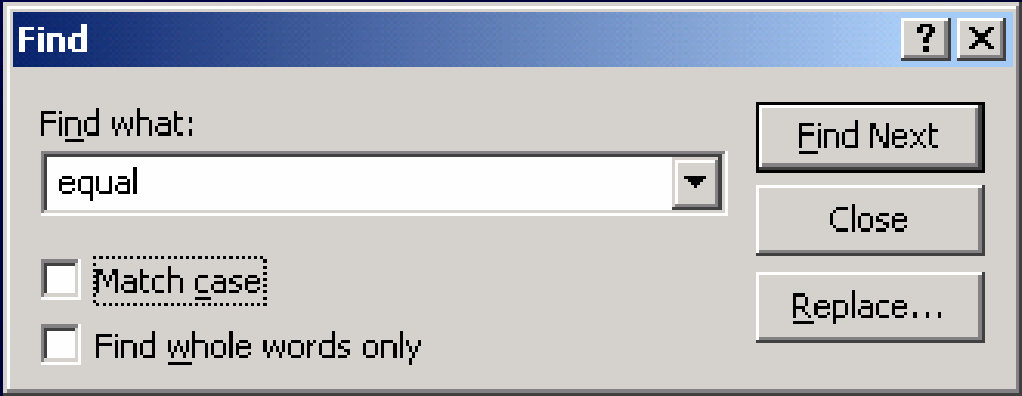Due: Thursday afternoon, 11 January 2007

# Another Implication

If SW is similar at its core, computations can be taught without learning a specific vendor's SW ....

# Another Implication

If SW is similar at its core, computations can be taught without learning a specific vendor's SW … consider text searching and replacement
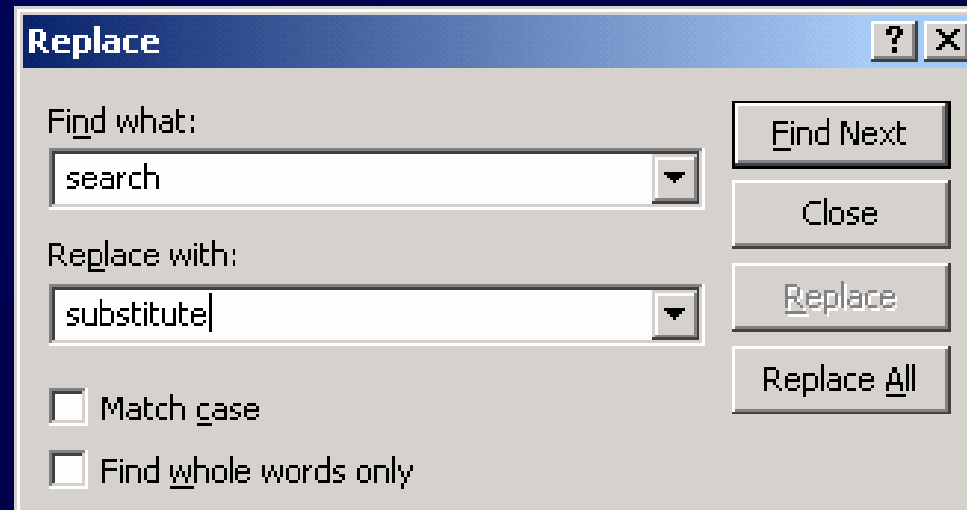
**Article 1. All human beings are born free and equal ...**

**eeeeeeeeeeeequal**

---

**Find**

Find what:
`equal`

☐ Match case
☐ Find whole words only

Find Next
Close
Replace...

# Replacement

Two strings are required: search string and substitution string

**Replace** [?] [X]

Find what:
search ▾

Replace with:
substitute ▾

☐ Match case
☐ Find whole words only

Find Next
Close
Replace
Replace All

• **Adopt a notation:** `search ← substitute`

# Notation Example

## Illustrating the use of the ← notation

* Using the replacement `Clinton ← Bush`

  The sentence

  > "At the White House President Clinton said ..."

  Becomes

  > "At the White House President Bush said ..."

* It's easy to express substitutions

`Gore ← Cheney / Albright ← Rice / Socks ← Buddy`

To show deletion use epsilon, $\varepsilon$, as in: word ← $\varepsilon$

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# Placeholder Technique

## A common problem … copying text off web often trashes the line breaks

```
Roses are red

Violets are blue

Searching is fun

But doesn't rhyme
```

```
Roses are
red

Violets are
blue

Searching is
fun

But doesn't
rhyme
```

Intended

Trashed by extra line breaks

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# Placeholder Technique

## Formatting is performed by special (non printing) characters ...

```
Roses are red↵
↵
Violets are blue↵
↵
Searching is fun↵
↵
But doesn't rhyme↵
```

```
Roses are ↵
red↵
↵
Violets are ↵
blue↵
↵
Searching is ↵
fun↵
↵
But doesn't ↵
rhyme ↵
```

Intended

Trashed by extra line breaks ⟶

# Placeholder Technique

Roses are ↵red↵↵Violets are ↵blue↵↵...

- Deleting the single ↵ deletes them all!

```
Roses are ↵
red↵
↵
Violets are ↵
blue↵
↵
Searching is ↵
fun↵
↵
But doesn't ↵
rhyme ↵
```

⟶

```
Roses are redViolets
are blueSearching is
funBut doesn't rhyme
```

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# Thinking of the Input

Roses are ↵red↵↵Violets are ↵blue↵↵…

- Placeholder technique …

    **Step 1. Substitute a placeholder for the longer string**

    ↵↵ ← #

    Yielding

    **Roses are ↵red#Violets are ↵blue#…**

    **Step 2. Next, delete the shorter string**

    ↵ ← ε

    Yielding

    **Roses are red#Violets are blue#…**

# Placeholder Replaced

**Step 3**. Finally, replace the placeholder with the original long string

$\# \leftarrow \hookleftarrow\hookleftarrow$

**Yielding**

**Roses are red$\hookleftarrow\hookleftarrow$Violets are blue$\hookleftarrow\hookleftarrow$…**

**The intended result!**

- Summarizing the placeholder

$longstring \leftarrow placeholder$

$shortstring \leftarrow \varepsilon$

$placeholder \leftarrow longstring$

# Summarizing

## Humans must learn to use tools

- **Software designers want you to learn easily**
- **SW uses consistent interface, metaphors, …**

∗ Teach yourself applications by "Clicking Around," and "Blaze Away"

∗ SW for a task must share core features

∗ Learn app.s independently of vendor

**Placeholder technique is effective for fixing text**