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Scripting and Automation for mere mortals

Chris Taylor

Users helping users

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Scripting? Automation?

- Scripting
  - Perform tasks using a scripting language
    - (shell scripting, PowerShell, BASH, etc.)
  - Script often call other processes to do things
- Automation
  - Automatically run a process or script
    - Typically as a scheduled task

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Why script & automate

Repetitive tasks

- Manual
  - Slow
  - Inconsistent
  - Run when there
  - Forget
- Scripted
  - Fast
  - Consistent
- Automated
  - Run when you want
  - Don't forget

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Three examples

- Update virus signatures
- Wake drive before backup
- Analyze web data using Excel

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Example 1: Updating AV signature files

- Windows Defender checks once a day
- New signatures 9 times per day

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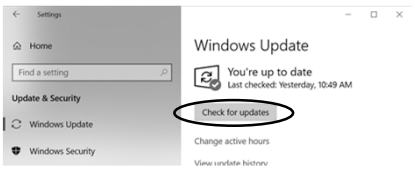
Option 1: Check for updates



- 4 mouse clicks
- … or Win-I and 2 mouse clicks

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Script it?

- Can't script a mouse click
- Command-line program?
  - Yes!
  - MpCmdRun.exe

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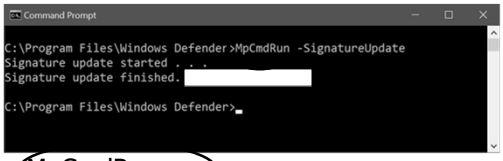
Option 2: Command line updating



- MpCmdRun.exe
  - Windows Defender command-line interface
- –SignatureUpdate
- Why is this better?
  - Script and shortcut

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Mouse click?

Who wants to click if you don't have to?

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Skip to result

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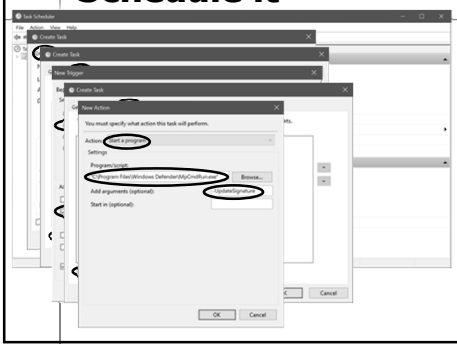
Option 3: Schedule it



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Result

- Frequent check for updates
- I never have to remember
- If my task fails
  - Windows Update

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Example 2: Sleeping backup drive

- Backup drive goes to sleep
  - Saves power & wear on drive (good)
  - Backup may fail (bad)

Start EaseUS Todo Backup

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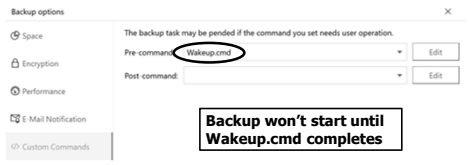
Script to wake up the drive



- Wakeup.cmd
  - Maybe DIR S:
  - Maybe something more useful

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Wakeup.cmd

Echo Start backup %date%, %time% >> s:\Wakeup-log.txt

Start backup 2019-01-01, 3:05:02.83
Start backup 2019-01-02, 3:05:02.48
Start backup 2019-01-03, 3:05:02.98

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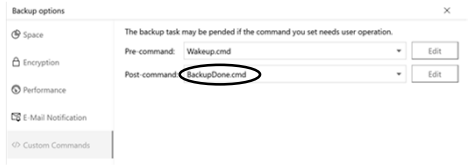
- Wait! Can do a "Post-command" too



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BackupDone.cmd

Echo End backup %date%, %time% >> s:\Wakeup-log.txt

Before backup

After backup

Start backup 2019-01-01, 3:05:02.83
End backup 2019-01-01, 5:16:26.52
Start backup 2019-01-02, 3:05:02.48
End backup 2019-01-02, 3:08:27.14
Start backup 2019-01-03, 3:05:02.98
End backup 2019-01-03, 3:09:55.88

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Result

- Backup drive
  - Spooled up before backup
- Log file
  - Start / end times

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Example 3: OPL Presentation List

- Web page
  - 584 presentations
  - Growing ~70 per year
- Analyse in Excel
- Easier done than said
  - **Once you script it!**

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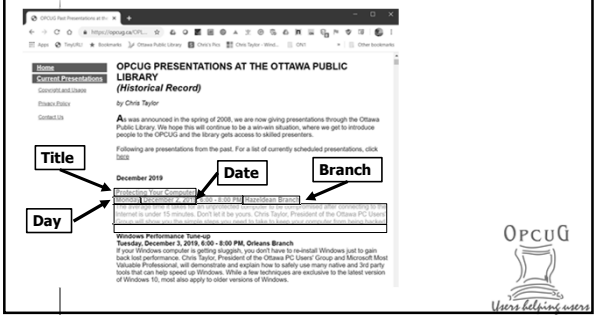

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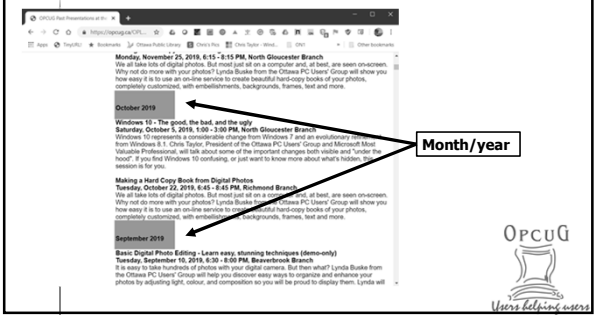

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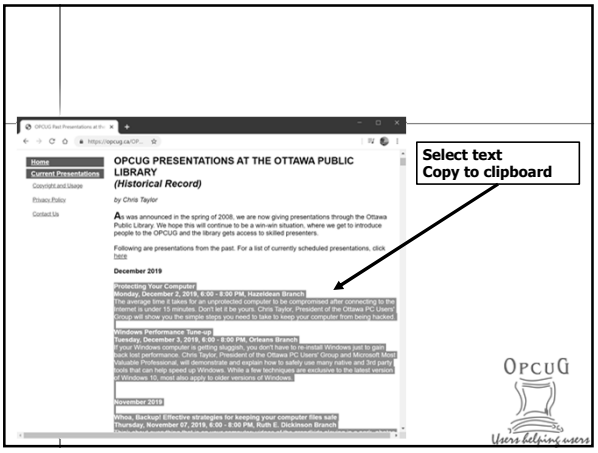

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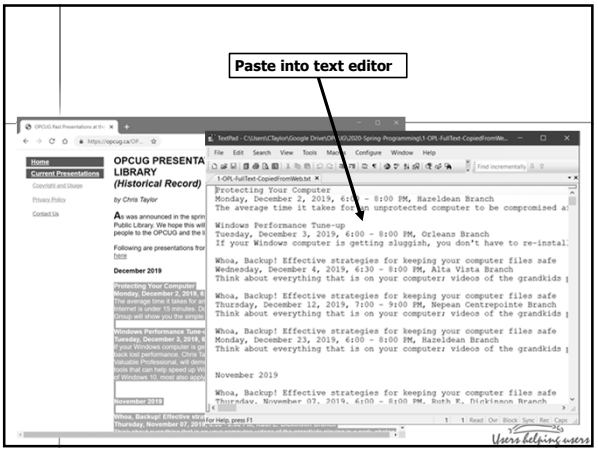

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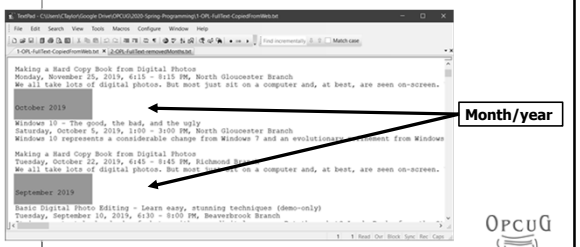
Restructure text



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Demo

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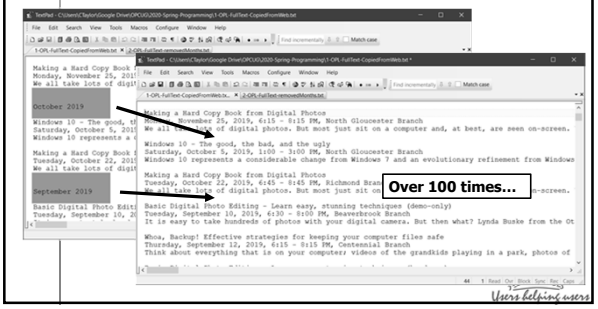
Restructure text



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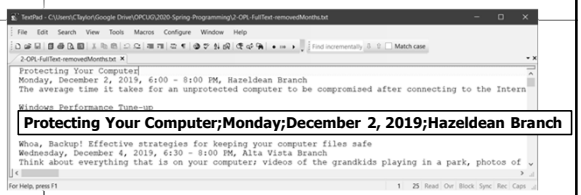
Restructure text



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Demo

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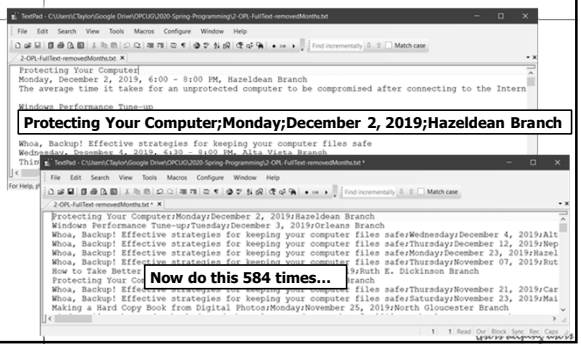
Restructure text



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Restructure text (smarter)

- Advanced text editor
  - Powerful search/replace
    - Regular expressions
  - Record/playback keystrokes (macros)
    - Do it once
    - Play back as often as you need

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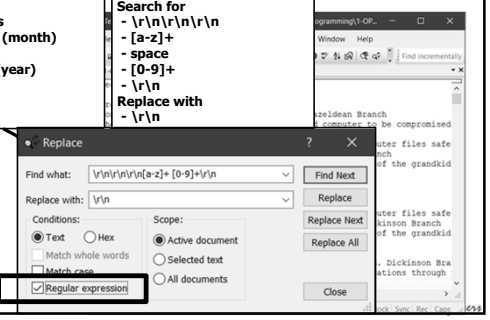
Month markers

Search for
- 2 blank lines
- 3 - 9 letters (month)
- a space
- 4 numbers (year)
- a blank line
Replace with
- 1 blank line

Regular expressions

Search for
- \r\n\r\n\r\n\r\n
- [a-z]+
- space
- [0-9]+
- \r\n
Replace with
- \r\n



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Demo

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Skip to Excel | Skip to result | Skip to bonus | Skip to summary

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Each presentation

- Identical layout
- Record keystrokes (macro)
- Edit structure of one presentation
- Run macro
  - "repeat to end of file"

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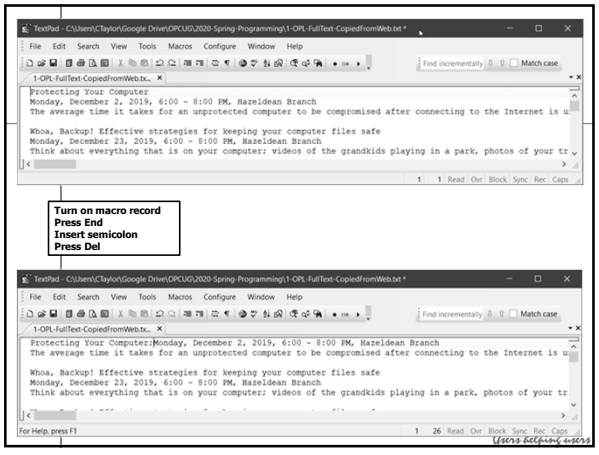

Turn on macro record
Press End
Insert semicolon
Press Del

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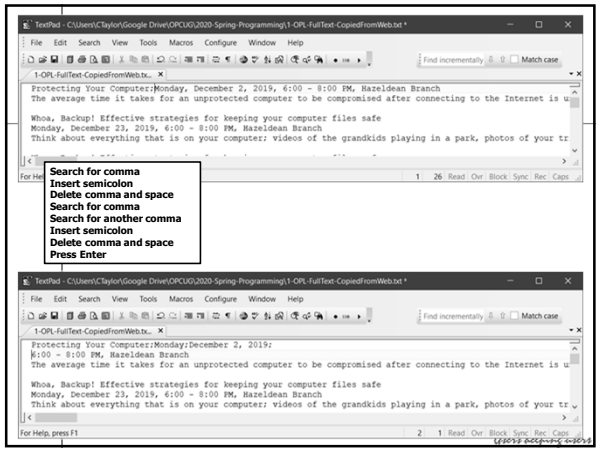

Search for comma
Insert semicolon
Delete comma and space
Search for comma
Search for another comma
Insert semicolon
Delete comma and space
Press Enter

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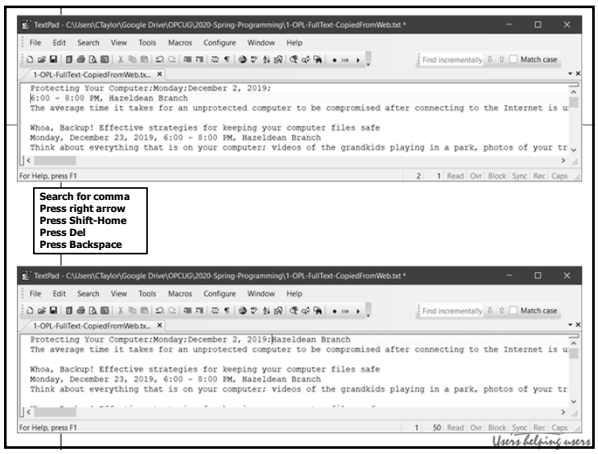

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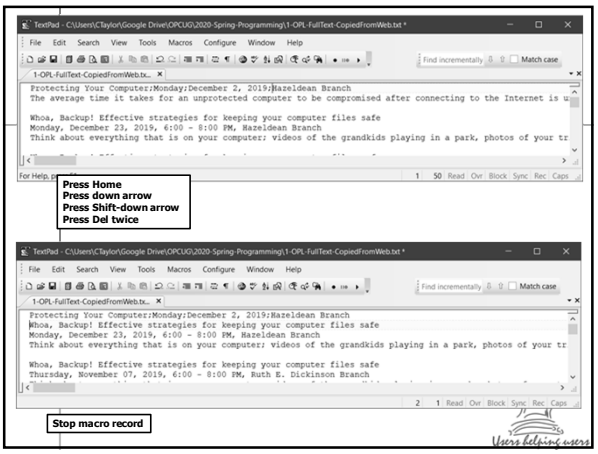

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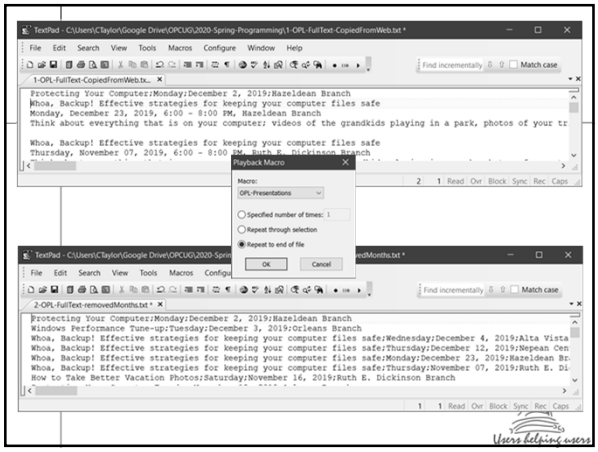

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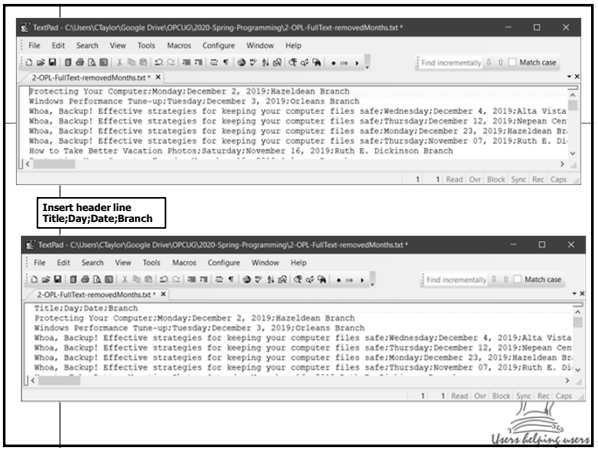

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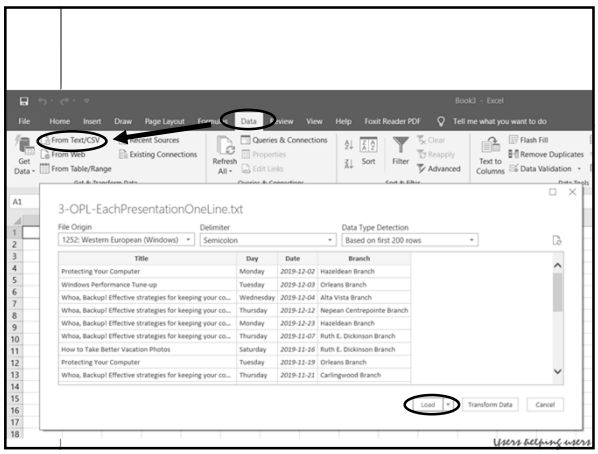

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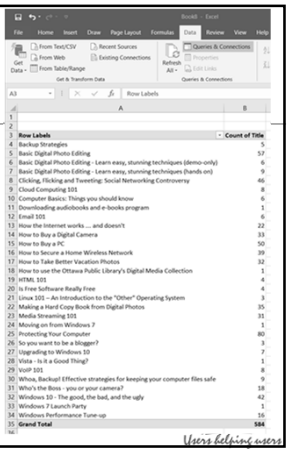
Insights

How many times has each presentation been given



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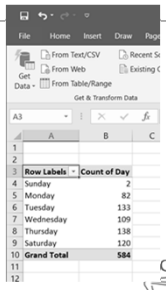
Insights

What days are most popular



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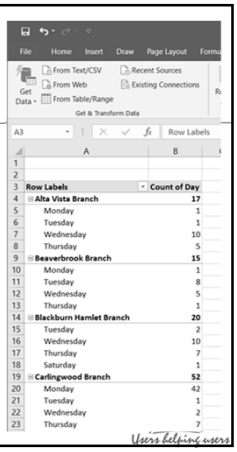
Insights

By branch
- **which days do they choose**
- **how often do they choose each day**



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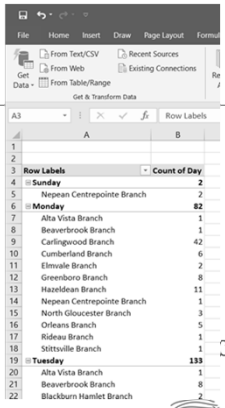
Insights

What branches choose any given day



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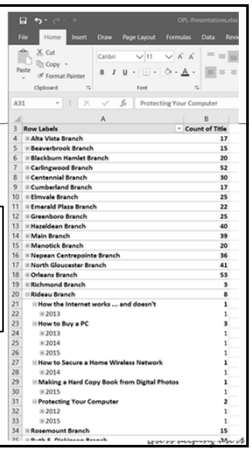
Insights

For Rideau branch
- **how many presentations**
- **what topics**
- **how many times each topic**
- **what year for each topic**



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Result

- Easy to analyse data about programs
  - What was given
  - When was it given
  - Where was it given
  - Etc.
- Can provide to OPL
  - Can aid their planning

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Bonus script

- Get list of files & folders in "documents"

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Demo

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Why script & automate

Repetitive tasks

- Manual
  - Slow
  - Inconsistent
  - Run immediately
  - Forget
- Scripted
  - Fast
  - Consistent
- Automated
  - Run when you want
  - Don't forget

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Go forth and Script & Automate

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