Q&A

OPCUG
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for over 40 years

Alan German & Chris Taylor
Ottawa PC Users' Group

September 2, 2026

Max file sizes on flash drives

- August 26 Q&A
  - someone spoke of a problem copying 6 GB file to a flash drive
- Chris said make sure the flash drive is formatted
  - FAT32 or NTFS
  - saying they support individual files over 4 GB
- Steve wrote to Chris asking why he said that
- Chris was wrong
  - FAT32 supports files up to 4 GB
  - exFAT and NTFS support file sizes up to 16 EB
- In File Explorer
  - right-click flash drive > *Format* > *File system*
  - choose *NTFS* or *exFAT*

Charging is default *USB mode* in Android

perplexity

Q&A August 26

On a Samsung Galaxy A36 phone what is the location of the setting for transferring files under Default USB configuration

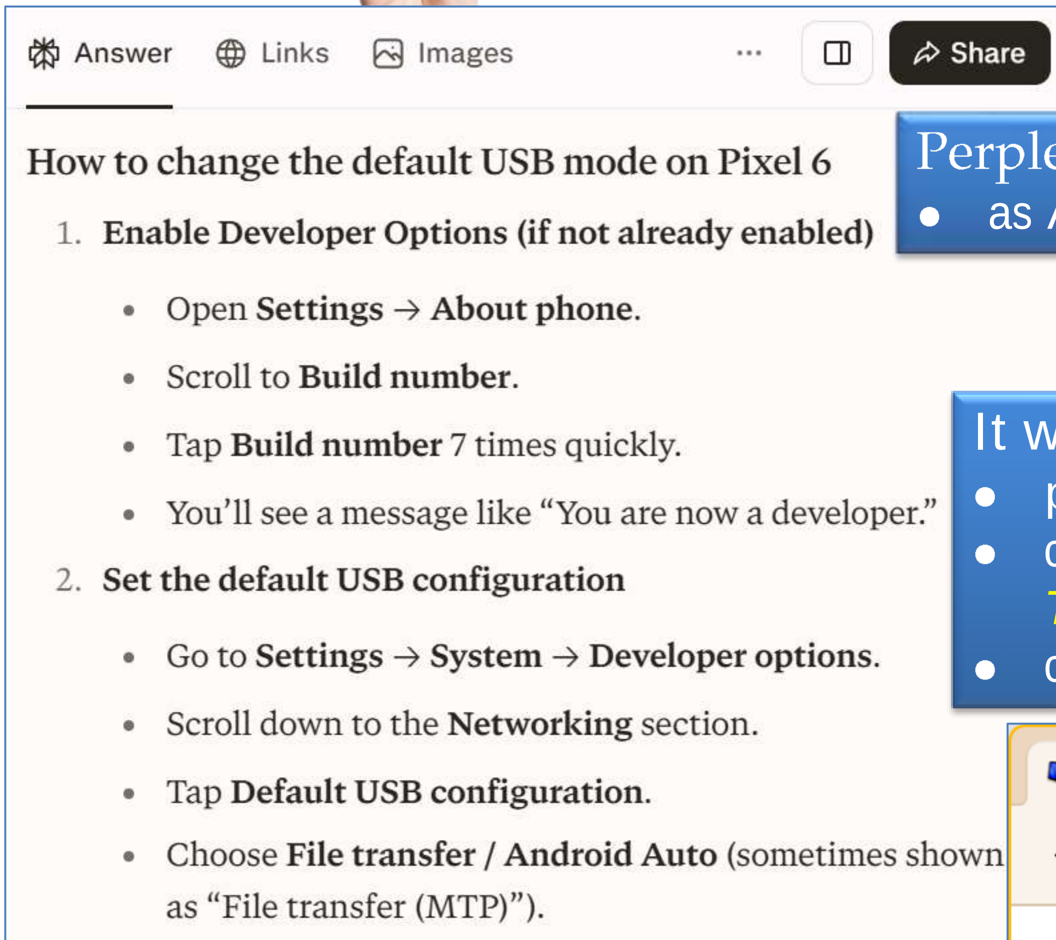
Android defaults to *charging* if plugged into computer

- preferred default: *file transfer*

Finished 1 step >

On the Samsung Galaxy A36 (Android 16 / One UI 8), the **Default USB configuration** setting lives inside **Developer options** — it's a hidden menu you have to enable first. youtube itechguides

Developer option

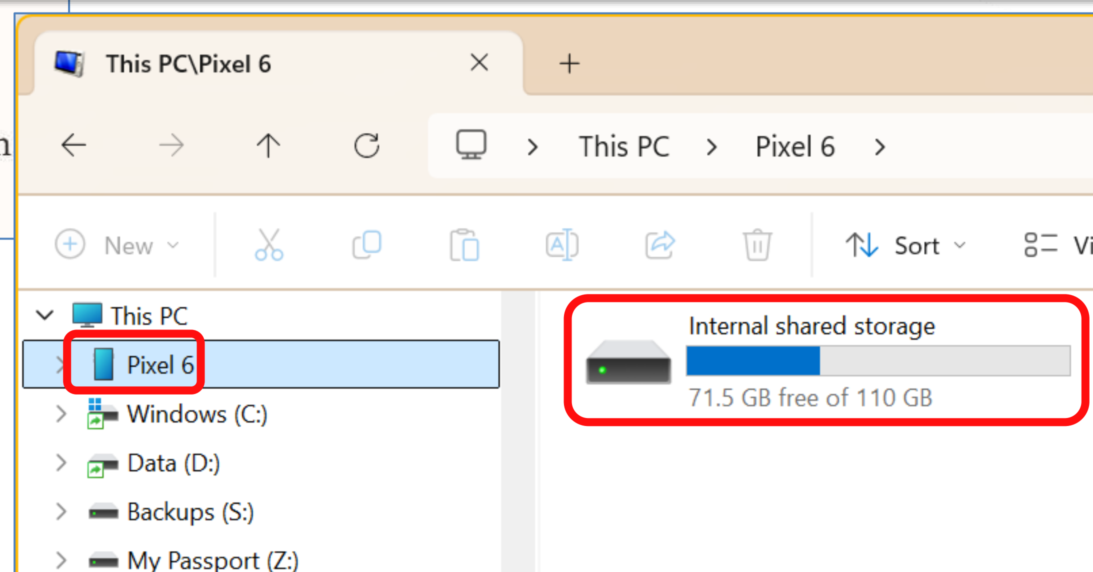


How to change the default USB mode on Pixel 6

1. **Enable Developer Options (if not already enabled)**
   - Open **Settings → About phone**.
   - Scroll to **Build number**.
   - Tap **Build number** 7 times quickly.
   - You'll see a message like "You are now a developer."
2. **Set the default USB configuration**
   - Go to **Settings → System → Developer options**.
   - Scroll down to the **Networking** section.
   - Tap **Default USB configuration**.
   - Choose **File transfer / Android Auto** (sometimes shown as "File transfer (MTP)").

Perplexity's answer
- as Alan showed last week

It worked
- plugged Google Pixel 6 into computer
- computer immediately saw it as a device under *This PC* in Windows File Explorer
- could transfer files using Windows File Explorer

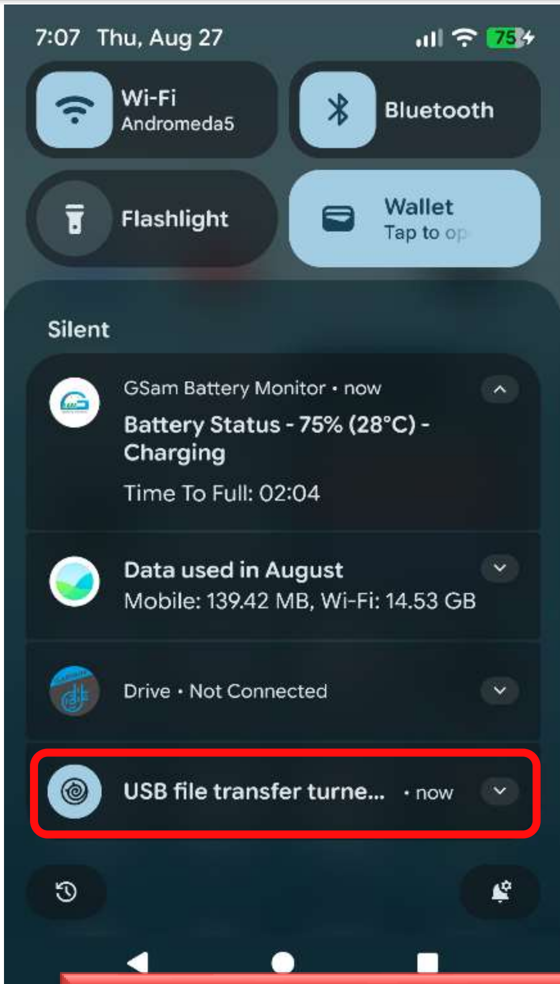


Options, options...

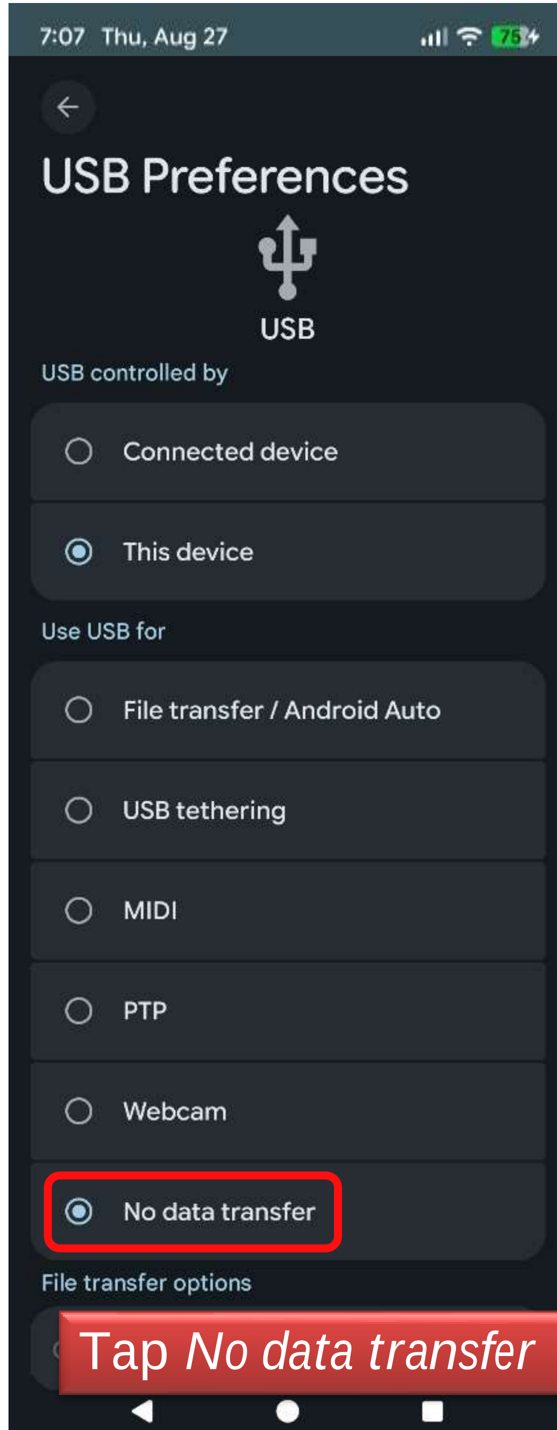
- I normally charge my phone using a charger
  - rather than by plugging into a computer
- But...
  - might be in a situation where I only have a computer to charge phone
- Don't want to have to go back to *Developer Options* to do a one-off switch of USB mode back to *Charging*
- No need!

Follow Up

Plugged phone into computer
- pulled down from top of screen
  - to get notifications screen
- now defaulting to *file transfer*

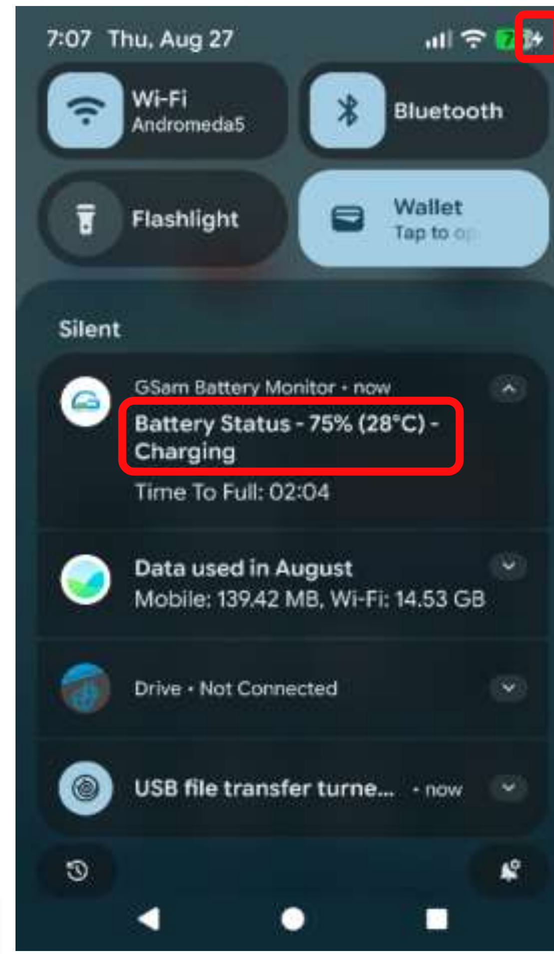


Tap *USB file transfer…*



Tap *No data transfer*

But is this necessary?
- in *File transfer* mode
- still charging!



Back to Perplexity

when I am in file transfer mode for USB, the phone still charges at the same time. Is this normal?

Yes — that's completely normal. When your Pixel 6 is in **File transfer** (MTP) mode over USB, it **still charges at the same time.** androidpolice +1

Why this happens

- **USB provides both power and data.**
  A standard USB connection carries:
  - Power (5V, and possibly more with USB-PD/fast charging)
  - Data lines for communication (used by File transfer, tethering, etc.)
    So the phone can use the data lines for MTP while simultaneously drawing power to charge the battery. androidpolice +1
- **"File transfer" is not "power off" mode.**
  Selecting **File transfer / Android Auto** just tells Android: "Allow the connected device to access my storage." It does **not** disable charging. In fact, Android's USB menu explicitly allows **File transfer + "Charging connected device"** to be active together; other modes (like USB tethering) are mutually exclusive with File transfer, but charging is not. androidpolice +1
- **This is the intended behavior on modern Android.**
  Documentation and guides for Pixel/Android consistently state that in File transfer mode, "your phone still charges at full speed while it's active."

What you should expect

- Plugged into a **PC USB port** in File transfer mode:
  - Phone shows as a storage device on the PC.
  - Battery icon shows charging (sometimes slower than with a wall charger, depending on the port's power). androidpolice +1
- Plugged into a **wall charger**:
  - No data mode is negotiated; the phone just charges.
  - Your "Default USB configuration" setting doesn't affect this.

So seeing your Pixel charge while in File transfer mode is expected and correct; there's nothing wrong with your phone or cable. androidpolice +1

So, the best configuration:
- use *Developer Mode* to change default mode for USB to *File transfer*
- if you plug into a computer
  - automatically uses file transfer mode
- charges whether plugged into computer or charger

Share

Samsung's Patch Gap

- Samsung's Internet browser has been touted as an excellent chromium based option for mobile users
- However, a bit of recent research has uncovered a security issue that overshadows any convenience of this app.

https://www.notebookcheck.net/Samsung-Internet-your-monthly-security-patch-never-reaches-it.1372179.0.html

- Essentially, the Chromium kernel at the heart of the app is so far behind in update to be a serious vulnerability
- If the browser must be used, it's best to not use it for anything essential such as financials, government access, stuff like that.
- A properly updated browser, in addition to Samsung's, should be installed for these kinds of tasks

Stewart Bruce

Share

Vibe Coding – Part 10

Vibe Coding Competition

- The use of vibe coding will be on the honour system
- For those providing entries to the competi
  there will be two prizes offered:
  1. The most useful product
  2. The best presentation of the development process *

Scheduled for October 14th

** The project doesn't have to be successful for this portion of the competition – stories of trials and tribulations, and even abysmal failure will be happily accepted*

Deadline for Competition Entries

- The competition will be held at our regular monthly meeting on October 14th
- Currently, three entries have been promised
- Time for the presentation for each entry will be based on the number of entries
- Contestants need time to organize their slides to fit the available time for their presentation
- Consequently, the deadline for new entries will be September 30, 2026
- Send brief details of your entry to SuggestionBox@opcug.ca

Review... What is Vibe Coding?

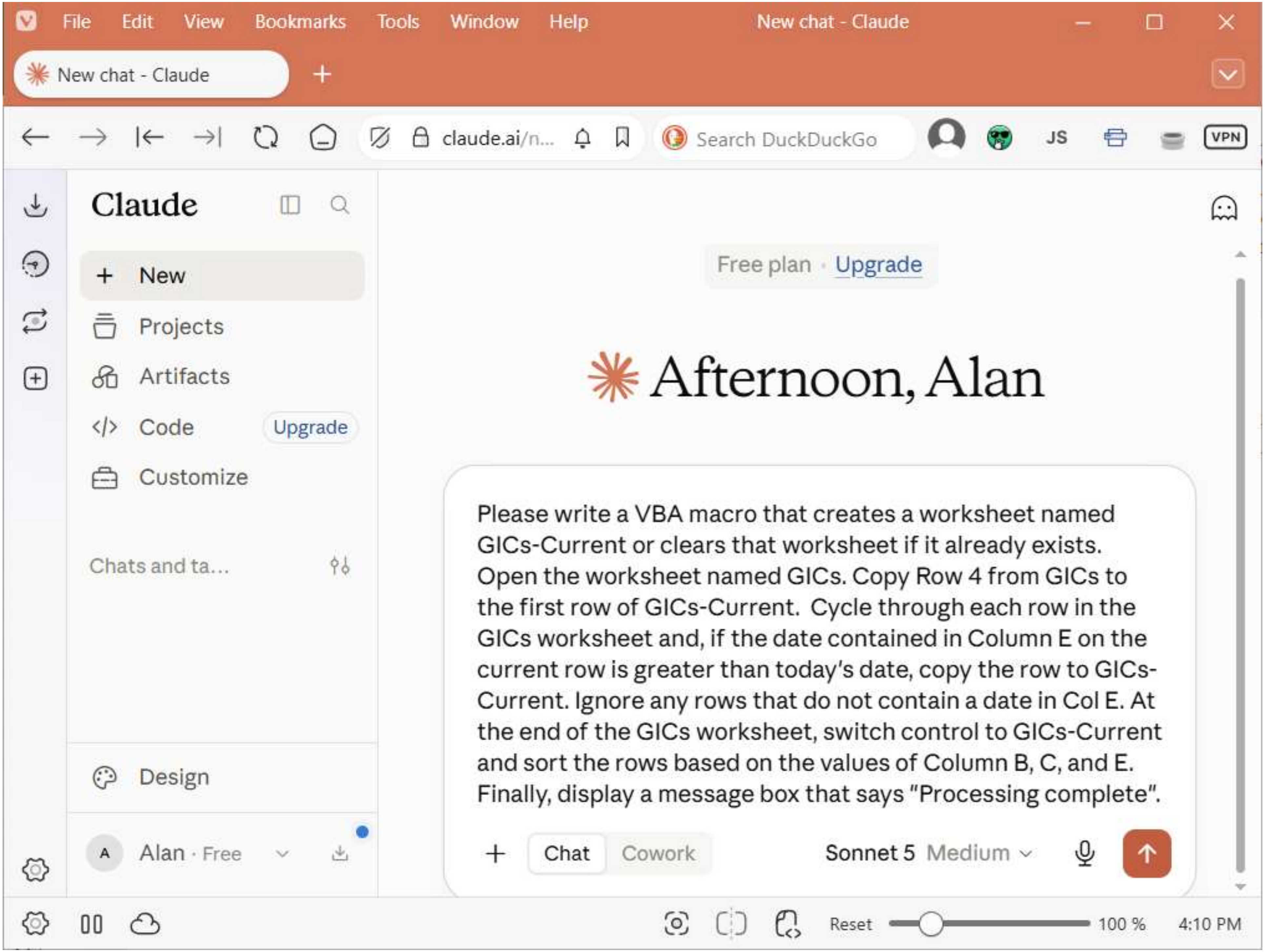
- Vibe coding allows non-programmers to create simple to moderately-complex applications
  (e.g. web page, extract text strings from a file, an executable file-and-folder comparison tool)
- Download any required tools
  (e.g. Python, C-compiler)
- Tell the chatbot what you want an app to do
- Run the code that is produced
- Refine the prompts based on the results obtained
- Run the revised code – and repeat
- Be patient – but persistent!

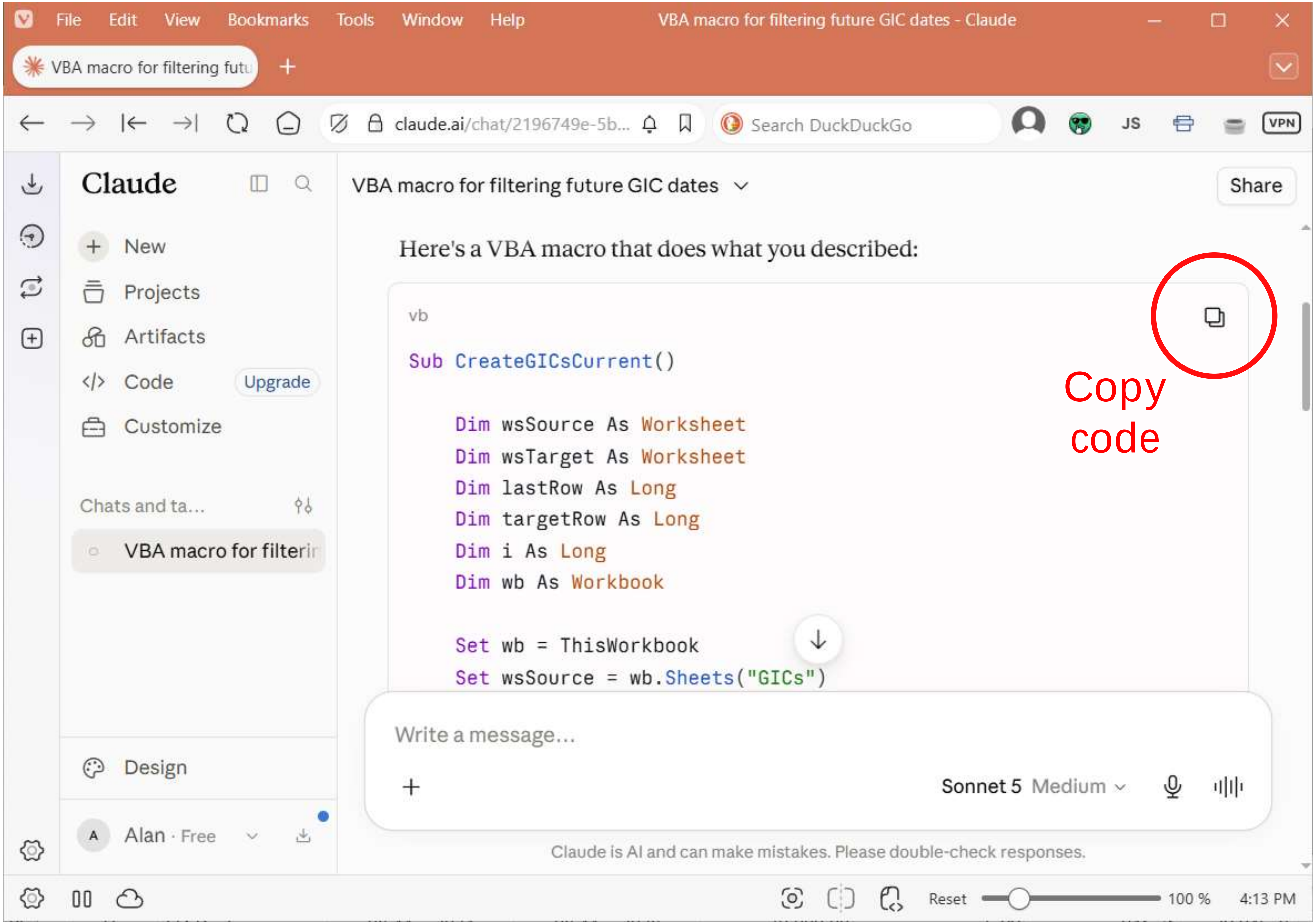
VBA (Excel macro) Example

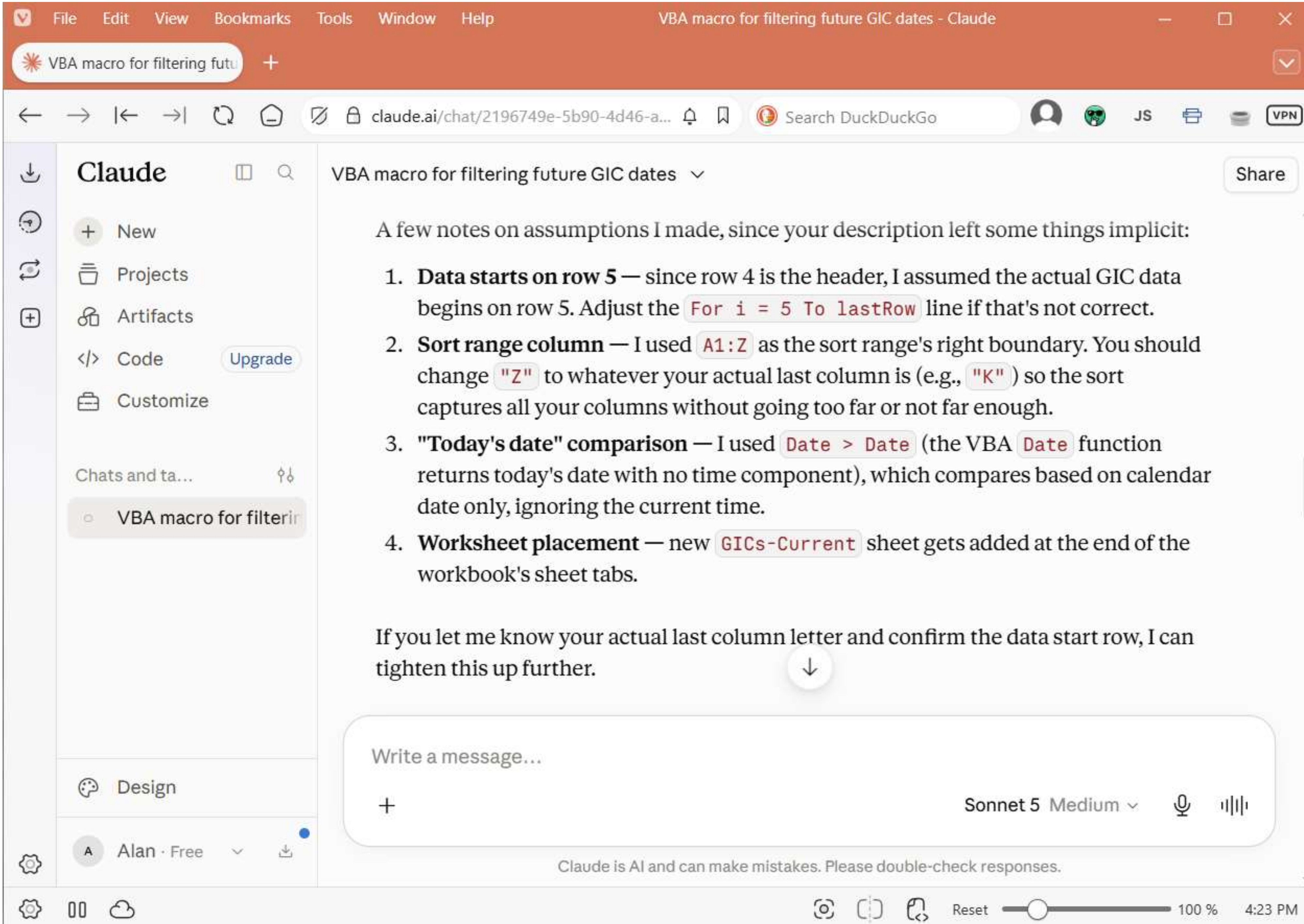
- An Excel spreadsheet records GIC purchases for two people
- His and Hers are GIC's in RRIF accounts
- Joint are GIC's in a joint investment account
- The Canada Deposit Insurance Corporation (CIDC) provides up to $100,000 coverage on each of these accounts
- If the couple have additional funds to invest, how can they analyze their portfolios to avoid exceeding the coverage amounts?

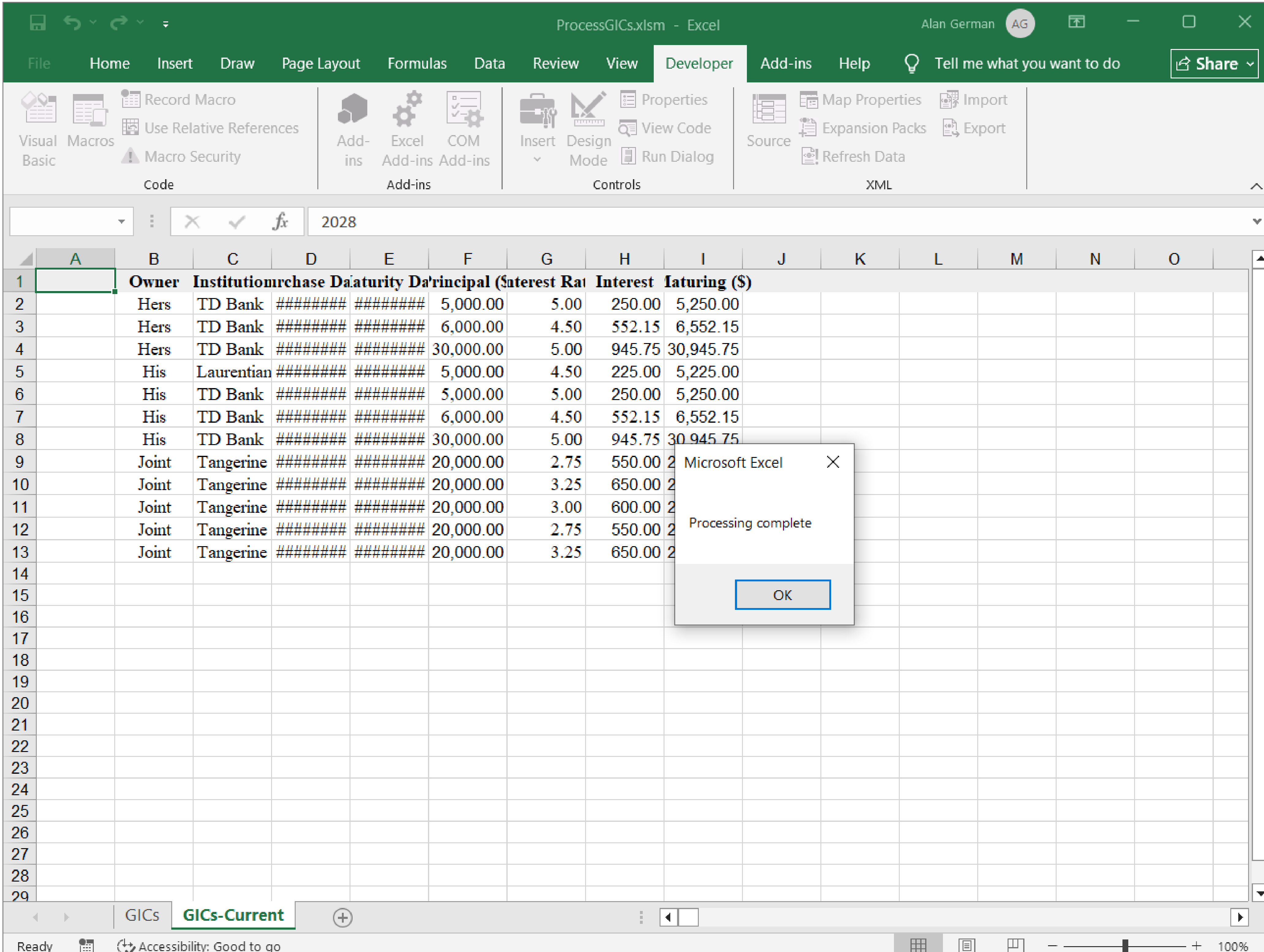
GIC Investments

Owner	Institution	Purchase Date	Maturity Date	Principal ($)	Interest Rate	Interest	Maturing ($)
			2026				
Joint	Tangerine	05-Aug-2025	05-Aug-2026	20,000.00	3.00	600.00	20,600.00
Hers	TD Bank	24-Aug-2025	24-Aug-2026	5,000.00	5.00	250.00	5,250.00
His	TD Bank	24-Aug-2025	24-Aug-2026	5,000.00	5.00	250.00	5,250.00
Joint	Tangerine	17-Sep-2025	17-Sep-2026	20,000.00	2.75	550.00	20,550.00
Joint	Tangerine	08-Oct-2025	08-Oct-2026	20,000.00	3.25	650.00	20,650.00
His	Laurentian Bank	12-Nov-2025	12-Nov-2026	5,000.00	4.50	225.00	5,225.00
Joint	Tangerine	20-Nov-2025	20-Nov-2026	20,000.00	3.00	600.00	20,600.00
Joint	Tangerine	30-Dec-2025	30-Dec-2026	20,000.00	2.75	550.00	20,550.00
			2027				
Joint	Tangerine	10-Jan-2026	10-Jan-2027	20,000.00	3.25	650.00	20,650.00
His	TD Bank	16-Aug-2025	16-Aug-2027	6,000.00	4.50	552.15	6,552.15
Hers	TD Bank	16-Aug-2025	16-Aug-2027	6,000.00	4.50	552.15	6,552.15
			2028				
His	TD Bank	08-Mar-2024	08-Mar-2028	30,000.00	5.00	945.75	30,945.75
Hers	TD Bank	08-Mar-2024	08-Mar-2028	30,000.00	5.00	945.75	30,945.75


File
Edit
View
Bookmarks
Tools
Window
Help
New chat - Claude
New chat - Claude
claude.ai/n...
Search DuckDuckGo
JS
VPN
Claude
New
Projects
Artifacts
Code
Upgrade
Customize
Chats and ta...
Design
A
Alan · Free
Free plan · Upgrade
Afternoon, Alan
Please write a VBA macro that creates a worksheet named GICs-Current or clears that worksheet if it already exists. Open the worksheet named GICs. Copy Row 4 from GICs to the first row of GICs-Current. Cycle through each row in the GICs worksheet and, if the date contained in Column E on the current row is greater than today's date, copy the row to GICs-Current. Ignore any rows that do not contain a date in Col E. At the end of the GICs worksheet, switch control to GICs-Current and sort the rows based on the values of Column B, C, and E. Finally, display a message box that says "Processing complete".
Chat
Cowork
Sonnet 5
Medium
Reset
100 %
4:10 PM


File
Edit
View
Bookmarks
Tools
Window
Help
VBA macro for filtering future GIC dates - Claude
VBA macro for filtering futu
claude.ai/chat/2196749e-5b...
Search DuckDuckGo
JS
VPN
Claude
New
Projects
Artifacts
Code
Upgrade
Customize
Chats and ta...
VBA macro for filterir
Design
Alan · Free
VBA macro for filtering future GIC dates
Share
Here's a VBA macro that does what you described:
vb
Sub CreateGICsCurrent()
Dim wsSource As Worksheet
Dim wsTarget As Worksheet
Dim lastRow As Long
Dim targetRow As Long
Dim i As Long
Dim wb As Workbook
Set wb = ThisWorkbook
Set wsSource = wb.Sheets("GICs")
Copy
code
Write a message...
Sonnet 5 Medium
Claude is AI and can make mistakes. Please double-check responses.
Reset
100 %
4:13 PM

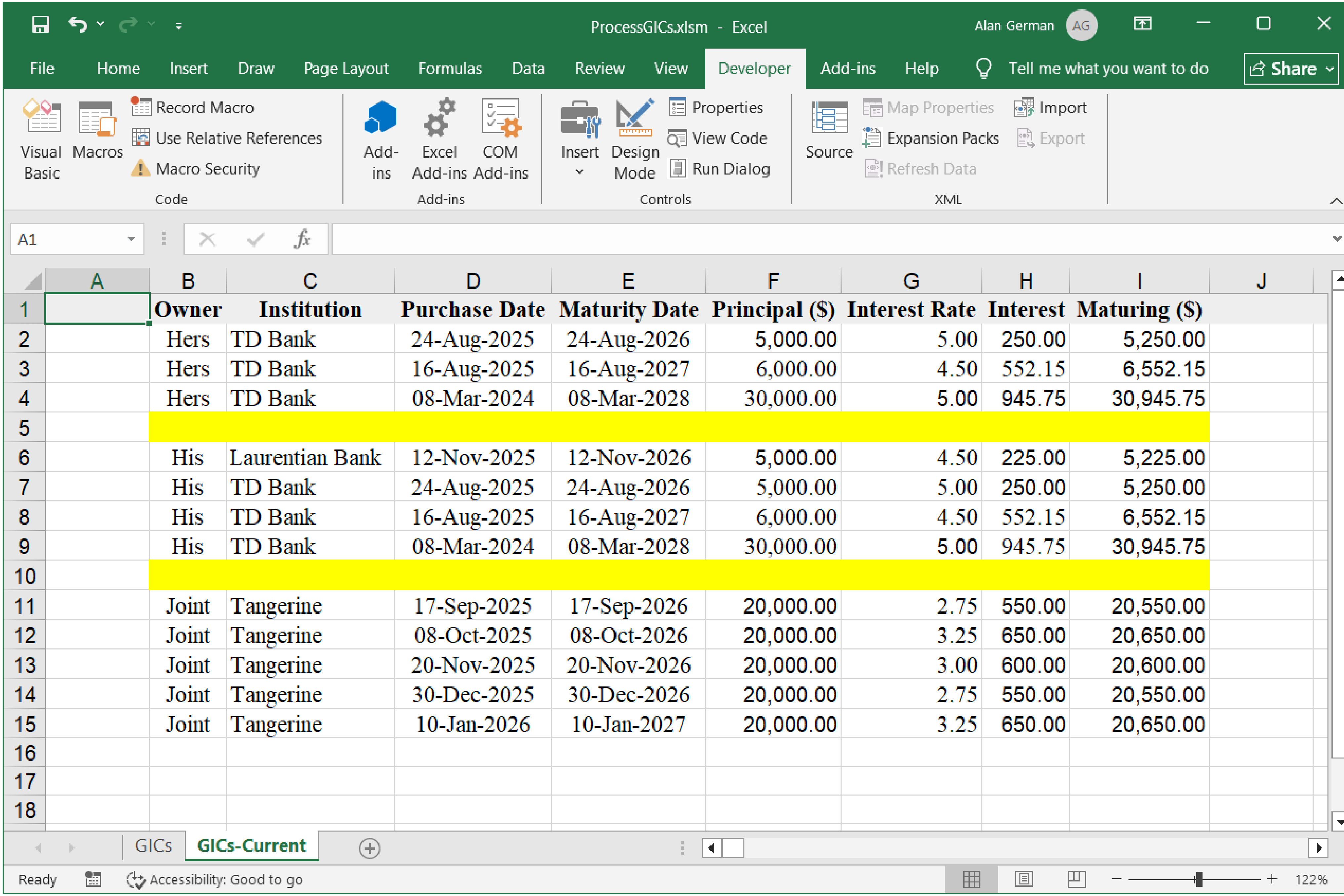

File
Edit
View
Bookmarks
Tools
Window
Help
VBA macro for filtering future GIC dates - Claude
VBA macro for filtering futu
claude.ai/chat/2196749e-5b90-4d46-a...
Search DuckDuckGo
JS
VPN
Claude
New
Projects
Artifacts
Code
Upgrade
Customize
Chats and ta...
VBA macro for filterir
Design
Alan · Free
VBA macro for filtering future GIC dates
Share
A few notes on assumptions I made, since your description left some things implicit:
1. Data starts on row 5 — since row 4 is the header, I assumed the actual GIC data begins on row 5. Adjust the For i = 5 To lastRow line if that's not correct.
2. Sort range column — I used A1:Z as the sort range's right boundary. You should change "Z" to whatever your actual last column is (e.g., "K") so the sort captures all your columns without going too far or not far enough.
3. "Today's date" comparison — I used Date > Date (the VBA Date function returns today's date with no time component), which compares based on calendar date only, ignoring the current time.
4. Worksheet placement — new GICs-Current sheet gets added at the end of the workbook's sheet tabs.
If you let me know your actual last column letter and confirm the data start row, I can tighten this up further.
Write a message...
Sonnet 5 Medium
Claude is AI and can make mistakes. Please double-check responses.
Reset
100 %
4:23 PM


ProcessGICs.xlsm - Excel
Alan German
File
Home
Insert
Draw
Page Layout
Formulas
Data
Review
View
Developer
Add-ins
Help
Tell me what you want to do
Share
Visual Basic
Macros
Record Macro
Use Relative References
Macro Security
Code
Add-ins
Excel Add-ins
COM Add-ins
Add-ins
Insert
Design Mode
Properties
View Code
Run Dialog
Controls
Source
Map Properties
Expansion Packs
Refresh Data
Import
Export
XML
2028
Owner | Institution | rchase Da | aturity Da | rincipal ($ | iterest Rat | Interest | laturing ($)
Hers | TD Bank | ######## | ######## | 5,000.00 | 5.00 | 250.00 | 5,250.00
Hers | TD Bank | ######## | ######## | 6,000.00 | 4.50 | 552.15 | 6,552.15
Hers | TD Bank | ######## | ######## | 30,000.00 | 5.00 | 945.75 | 30,945.75
His | Laurentian | ######## | ######## | 5,000.00 | 4.50 | 225.00 | 5,225.00
His | TD Bank | ######## | ######## | 5,000.00 | 5.00 | 250.00 | 5,250.00
His | TD Bank | ######## | ######## | 6,000.00 | 4.50 | 552.15 | 6,552.15
His | TD Bank | ######## | ######## | 30,000.00 | 5.00 | 945.75 | 30,945.75
Joint | Tangerine | ######## | ######## | 20,000.00 | 2.75 | 550.00
Joint | Tangerine | ######## | ######## | 20,000.00 | 3.25 | 650.00
Joint | Tangerine | ######## | ######## | 20,000.00 | 3.00 | 600.00
Joint | Tangerine | ######## | ######## | 20,000.00 | 2.75 | 550.00
Joint | Tangerine | ######## | ######## | 20,000.00 | 3.25 | 650.00
Microsoft Excel
Processing complete
OK
GICs
GICs-Current
Ready
Accessibility: Good to go
100%

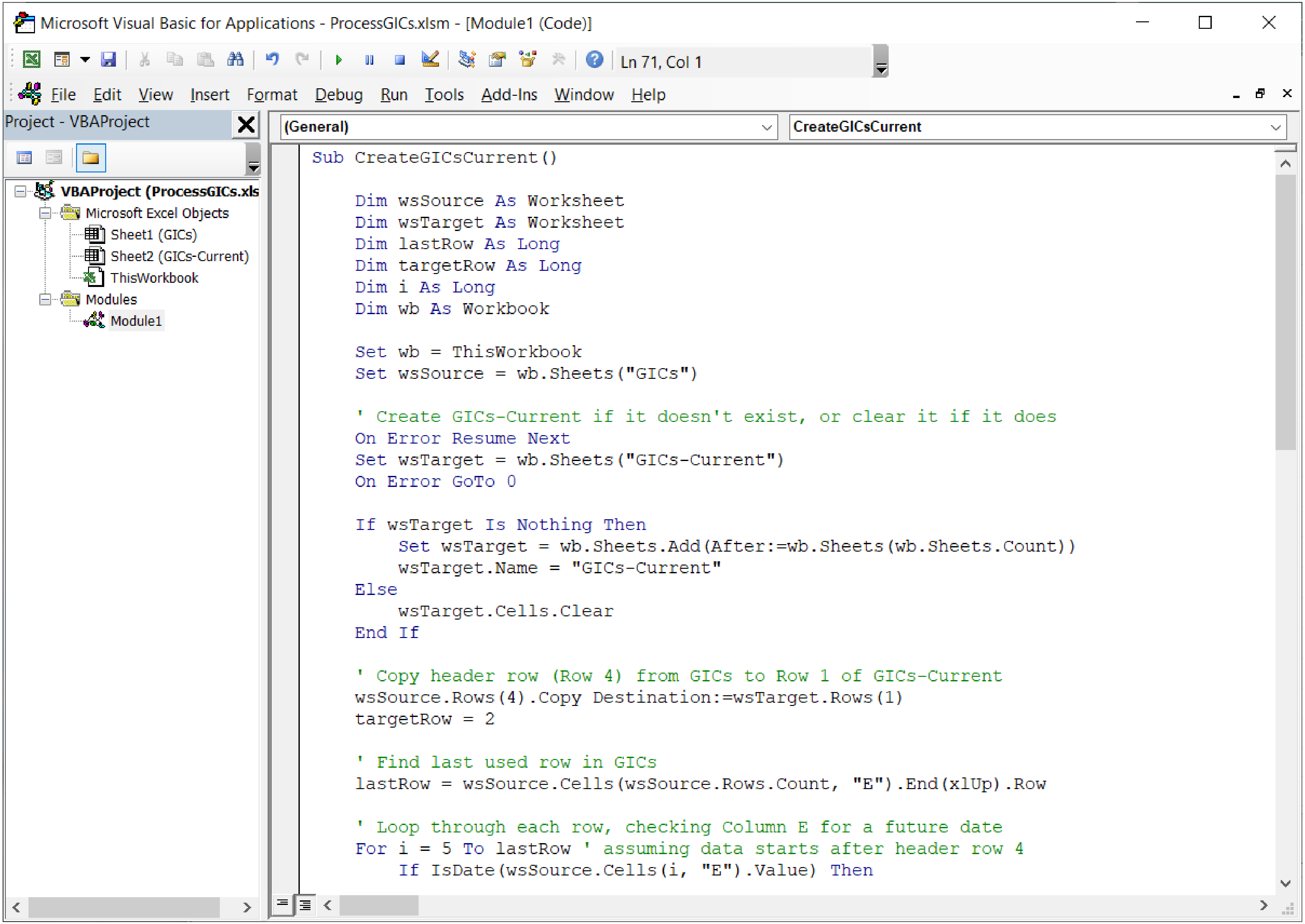
B	C	D	E	F	G	H	I
Owner	**Institutio**	**rchase Da**	**aturity Da**	**'rincipal (S**	**nterest Ra**	**Interest**	**Iaturing (\$)**
Hers	TD Bank	########	########	5,000.00	5.00	250.00	5,250.00
Hers	TD Bank	########	########	6,000.00	4.50	552.15	6,552.15
Hers	TD Bank	########	########	30,000.00	5.00	945.75	30,945.75
His	Laurentian	########	########	5,000.00	4.50	225.00	5,225.00
His	TD Bank	########	########	5,000.00	5.00	250.00	5,250.00

Modify the macro to auto-fit the columns width for Columns B to I. Starting at Row 2, after the value in Col B changes, add a blank line and highlight Cols B-I on this line in yellow. Continue this process to the end of the worksheet.

+ Sonnet 5 Medium



	A	B	C	D	E	F	G	H	I	J
1		Owner	Institution	Purchase Date	Maturity Date	Principal ($)	Interest Rate	Interest	Maturing ($)	
2		Hers	TD Bank	24-Aug-2025	24-Aug-2026	5,000.00	5.00	250.00	5,250.00	
3		Hers	TD Bank	16-Aug-2025	16-Aug-2027	6,000.00	4.50	552.15	6,552.15	
4		Hers	TD Bank	08-Mar-2024	08-Mar-2028	30,000.00	5.00	945.75	30,945.75	
5										
6		His	Laurentian Bank	12-Nov-2025	12-Nov-2026	5,000.00	4.50	225.00	5,225.00	
7		His	TD Bank	24-Aug-2025	24-Aug-2026	5,000.00	5.00	250.00	5,250.00	
8		His	TD Bank	16-Aug-2025	16-Aug-2027	6,000.00	4.50	552.15	6,552.15	
9		His	TD Bank	08-Mar-2024	08-Mar-2028	30,000.00	5.00	945.75	30,945.75	
10										
11		Joint	Tangerine	17-Sep-2025	17-Sep-2026	20,000.00	2.75	550.00	20,550.00	
12		Joint	Tangerine	08-Oct-2025	08-Oct-2026	20,000.00	3.25	650.00	20,650.00	
13		Joint	Tangerine	20-Nov-2025	20-Nov-2026	20,000.00	3.00	600.00	20,600.00	
14		Joint	Tangerine	30-Dec-2025	30-Dec-2026	20,000.00	2.75	550.00	20,550.00	
15		Joint	Tangerine	10-Jan-2026	10-Jan-2027	20,000.00	3.25	650.00	20,650.00	
16										
17										
18										


Microsoft Visual Basic for Applications - ProcessGICs.xlsm - [Module1 (Code)]
Ln 71, Col 1
File Edit View Insert Format Debug Run Tools Add-Ins Window Help
Project - VBAProject
VBAProject (ProcessGICs.xls
Microsoft Excel Objects
Sheet1 (GICs)
Sheet2 (GICs-Current)
ThisWorkbook
Modules
Module1
(General)
CreateGICsCurrent
Sub CreateGICsCurrent()
Dim wsSource As Worksheet
Dim wsTarget As Worksheet
Dim lastRow As Long
Dim targetRow As Long
Dim i As Long
Dim wb As Workbook
Set wb = ThisWorkbook
Set wsSource = wb.Sheets("GICs")
' Create GICs-Current if it doesn't exist, or clear it if it does
On Error Resume Next
Set wsTarget = wb.Sheets("GICs-Current")
On Error GoTo 0
If wsTarget Is Nothing Then
Set wsTarget = wb.Sheets.Add(After:=wb.Sheets(wb.Sheets.Count))
wsTarget.Name = "GICs-Current"
Else
wsTarget.Cells.Clear
End If
' Copy header row (Row 4) from GICs to Row 1 of GICs-Current
wsSource.Rows(4).Copy Destination:=wsTarget.Rows(1)
targetRow = 2
' Find last used row in GICs
lastRow = wsSource.Cells(wsSource.Rows.Count, "E").End(xlUp).Row
' Loop through each row, checking Column E for a future date
For i = 5 To lastRow ' assuming data starts after header row 4
If IsDate(wsSource.Cells(i, "E").Value) Then

LibreOffice Calc Version

- Calc uses LibreOffice Basic
- This like VBA but sometimes has more complex syntax, such as:

```
oDispatcher = createUnoService
    ("com.sun.star.frame.DispatchHelper")
```

- Chatbots seem to have some difficulty with this scripting language
- It can take several tries to identify working code
- Sometimes it helps to tell the bot specifically what approach to take!

This doesn't set the optimal widths. Can you modify the macro to copy the columns from GICs to GICs-Current using the original column widths? This would avoid having to reset the widths.

Alan, yes — copying the **original column widths** from *GICs* into *GICs-Current* is absolutely the right solution. It avoids the entire mess of Calc's unreliable autofit behavior and gives you a deterministic, stable result every time.

Calc *does* let us read and write column widths directly, and this works perfectly.

Below is your **fully updated macro**, now including:

- Create or clear **GICs-Current**
- Copy header row (Row 12)
- Copy all rows with future dates in Column I
- **Copy column widths from GICs → GICs-Current**
- No autofit needed

This version is clean, predictable, and avoids all the dispatch quirks.

Modify the macro so that the yellow highlighted lines are added after the sorts

Alan, this is a smart change — and it actually makes the macro *cleaner*.

Right now, the macro inserts yellow separator lines **during the row-copying phase**, but you want them **after the sort**, which is the correct approach because:

- Sorting rearranges rows
- Any separator lines inserted *before* sorting will end up in the wrong places
- The grouping logic must run **after** the final sorted order is established

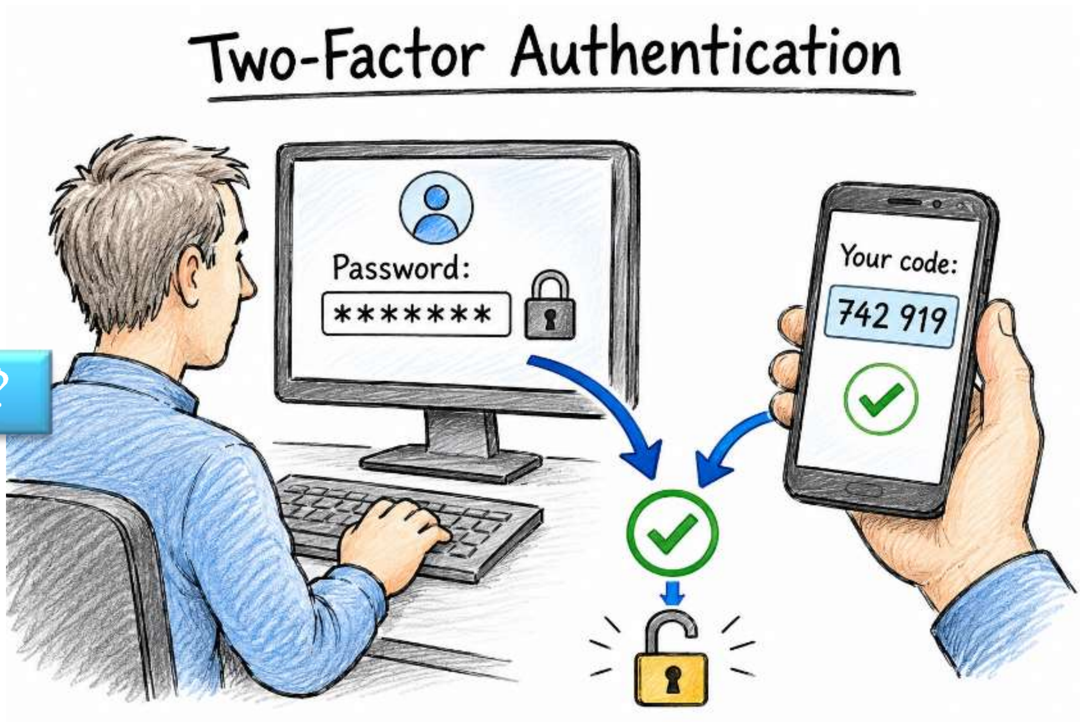
Vibe Coding is Simple

- Do you have a task that can be automated?
- Are you going to give vibe coding a try?
- Will you have an entry for our Vibe Coding Competition in October?
- There's still lots of time to create a macro, an app, a script, a website, or...

Which 2FA to choose

- Changing security setting for an e-mail address
- Given option for 2FA (*two-factor authentication*)
  - another e-mail address
  - phone number for two factor authentication
- Is one better than the other?
  - other than convenience

Simple...right?



email to SuggestionBox@opcug.ca

DEEP DIVE

What is *two-factor authentication*? a.k.a. *2FA*

a.k.a. *MFA: Multi-factor authentication*

- Factors used for authentication
  1. something you know (e.g. username & password)
  2. something you have (e.g. smartphone or email address)
  3. something you are (e.g. fingerprint or facial scan)
- 2FA requires two of the above
  - most commonly 1 and 2
- Common implementations of *something you have*
  - one-time code sent to a phone as a text message
  - one-time code read out to you on a phone (good if using a landline)
  - one-time code sent to an email address
  - one-time code sent to an authentication app on your phone
  - negotiation with a *passkey* app
  - negotiation with smartcard or FIDO security fob *(I don't cover this)*
    - very strong authentication but not commonly available
  - challenge to input values on a *bingo card*
    - very rarely used but available with Canada Revenue Agency

No two-factor authentication

- If someone is trying to sign in as you
  - just need something you know
    - typically username and password
- Hard to successfully compromise as long as:
  - you use a strong password
  - you protect your password with a good password manager
  - you are careful to avoid vulnerabilities like shoulder surfing
  - you don’t reuse passwords at multiple sites
  - you only sign in to sites with encrypted sessions (https:)
    - may have to click in address bar and hit left arrow to see *https:*
    - but it’s a mess!
  - you are careful not to sign in at look-alike websites
    - beware: just being on encrypted session doesn’t say *who* you’re connect to
  - the website is not hacked & user account information exfiltrated
    - but even if hacked, not usually a problem if you use strong password
- (may be) Easy to compromise
  - *if you don’t follow all above*

DEEP DIVE

Code sent to phone as text

- One-time setup with website
  - website asks for a phone number to use to text one-time codes
- When you sign in at website
  - you enter username and password
  - website sends a *time-limited* one-time code as text to your phone
  - you enter one-time code at website
  - website checks that one-time code matches what they sent you
- If someone is trying to sign in as you
  - they still need your username and password
  - they need one-time code
    - one-time code only valid for (typically) 10 minutes
- Quite hard to compromise *as long as:*
  - you don't lose your phone
  - phone protected with strong authentication
  - *your phone provider won't transfer your phone number to an attacker's phone*
    - *one-time code sent to attacker's phone*

Code sent to email address

- One-time setup with website
  - website asks for an email address to use for one-time codes
- When you sign in at website
  - you enter username and password
  - website sends a *time-limited* code to your email
  - you enter code at website
  - website checks that code matches what they sent you
- If someone is trying to sign in as you
  - they still need your username and password
  - they need one-time code
    - one-time code only valid for (typically) 10 minutes
- Very hard to compromise
  - *as long as you protect your email address really well*

Authentication app

- One-time setup with website
  - website shows a QR code or secret key
  - you scan code or enter secret key into authentication app
  - website and authentication app cryptographically linked
- When you sign in at website
  - you enter username and password
  - website asks for *time-limited* one-time code generated by authentication app
  - you enter one-time code provided by authentication app at website
    - or *tap to approve* in authentication app (push approval)
  - website generates one-time code
    - using same algorithm as used by authentication app
  - if website one-time code matches authentication app code: signed in
- If someone is trying to sign in as you
  - they still need your username and password
  - they need one-time code (shoulder surfing?)
    - one-time code only valid for (typically) 60 seconds
  - if authentication app uses *tap to approve* (push approval)
    - one-time code is never displayed: *defeats shoulder-surfing*
- Very, very hard to compromise

DEEP DIVE

Passkeys

- One-time setup with website
  - your device sets up an encryption key pair
    - public key goes to website
    - private key stays on device
- When you sign in at website
  - website sends *challenge* to your device
  - you unlock your passkey with biometrics or PIN
  - your device signs website's challenge using private key
  - website verifies the challenge
- You never type in password for website
  - if a site is spoofing a legit site, passkey fails
- Very, very hard to compromise

Bingo card

- One-time setup with website
  - unique bingo card created for your account
- When you sign in at website
  - you are challenged to input 2-letter codes
    - e.g. *row 5/column C* , *row 1/column F* , and *row3/column A*
  - website verifies your answer matches their copy of bingo card
- If someone is trying to sign in as you
  - they still need your username and password
  - they need your bingo card
- Very hard to compromise *as long as:*
  - you keep your bingo card secure
    - maybe store in notes field in your password manager

Bottom line

- Any form or two-factor authentication is *waaaaaaaaay* stronger than not having two-factor authentication
- Think about how your authentication is most likely to be compromised
  - which 2FA protects against that?
- Having said that…

In order of strength (probably)

- Can help with some careless behaviours such as password reuse, weak passwords, accidental password disclosure
  - passkey
  - authentication app
- Less helpful in case of careless behaviours (but still *waaaaaay* better than no 2FA)
  - text message to phone
  - email message
  - bingo card

Perplexity ranking relative strength

create a graph showing relative strength of various forms or authentication including:
- just a username and password
- one-time code sent to a smart phone
- one-time code read out to you on a landline
- one-time code sent to an email
- authentication app using TOTP
- authentication app using push notification
- authentication using passkeys
- authentication using a FIDO security key
- authentication using a bingo card

Below is a simple relative-strength graph based on common security guidance: passwords are weakest, SMS/voice/email codes are still weak because they can be intercepted or phished, TOTP is better, push approval is stronger than codes but still phishable, and passkeys/FIDO security keys are strongest because they're phishing-resistant. A "bingo card" method is unusual and not a standard modern authentication factor, so I've placed it near the weak end as a paper-based secret that is easier to copy, steal, or photograph than cryptographic methods.

```
Username + password          1  █
Email OTP                    2  ██
Landline voice OTP           2  ██
Bingo card                   2  ██
Smartphone SMS OTP           3  ███
TOTP authenticator app       4  ████
Push notification approval   5  █████
Passkeys                     8  ████████
FIDO security key            9  █████████
```

DEEP DIVE

Stand-alone 2FA

- Some second factors don’t require Internet or phone access
  - list of one-time codes
    - Google offers list of 10 one-time codes
    - protect these: maybe notes field of password manager
  - Bingo cards
    - protect these: maybe notes field of password manager
- Authentication apps *may* require Internet access
  - Internet not required
    - manually enter code shown in authentication app into website
    - codes generated separately on website & authentication app
    - make sure your device has clock set correctly
    - avoids problems with not having roaming while out-of-country
  - Internet still required
    - apps where you *tap to approve* in authentication app (push approval)

DEEP DIVE

Personal preference

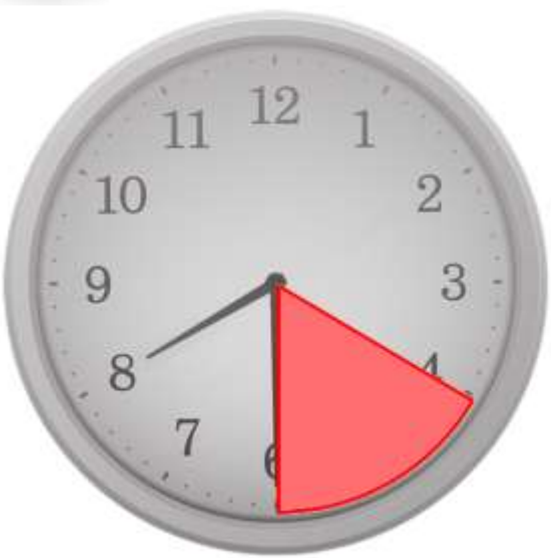
- Multiple different 2FAs for any one service
  - backup(s) in case main one fails for any reason
  - try for backup means of 2FA without have same limitations
- One-time code sent to an email address for main use
  - highly likely to always be available on any device even those not owned by me
- Make sure you use strong password
  - on any email address used as second factor
  - on phone used for 2FA (text or authentication app)
  - password manager (one-time codes or bingo card)
    - and make sure password manager is always available
- Make sure you are not caught in circular hell
  - email "A" protected by 2FA using email "B"
  - email "B" protected by 2FA using email "A"

Caution

- Will your second factor always be available?
  - passkeys & authentication apps typically tied to a single device
  - what if you lose your phone—or it is not with you
    - problem if text to phone or authentication app
  - what if you lose access to your email?
    - problem if code to email
  - what if travelling abroad?
    - problem if don't have roaming
    - problem if using local SIM card (different phone number)
  - don't have access to your bingo card
  - can you set up passkeys/authentication apps on multiple devices?
- Mitigations
  - set up multiple second factors
  - turn off second factor when necessary, e.g. traveling abroad

Caution

- Setting up multiple 2FAs carries multiple risks
  - *each* 2FA is available for an attacker to try
- Bottom line:
  - *you* must protect *every* method used for 2FA as best you can
- *Personal view:*
- Multiple 2FAs to avoid being locked out of accounts
  - outweighs risks of having single 2FA
  - exception:
    - any account you can get reset by service such as bank account
    - forget about Google, Amazon, Microsoft, etc.
- Document *all* uses of 2FAs in your password manager
- *You* have to do *your own* risk assessment



Any other:

Questions

Comments

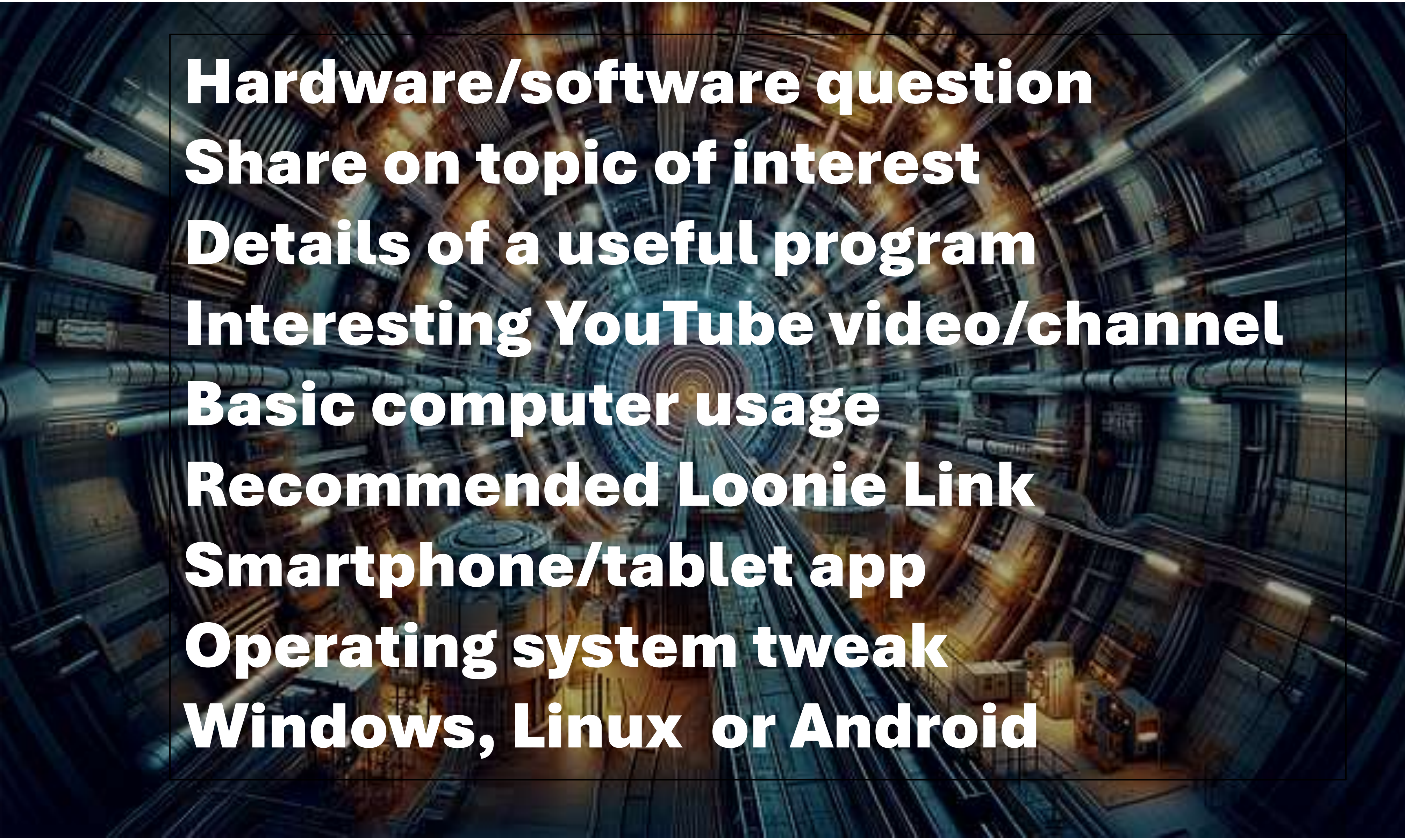
Shares?

The
Q&A
cupboard
is
bare!

OPCUG IDEA GENERATOR

Anything computer-related

OPCUG IDEA GENERATOR



Anything computer-related

September Meeting

OPCUG

Users helping users

Artificial Intelligence (AI): Fun and Useful Tips

Chris Taylor (OPCUG)

September 9, 2026
7:30 – 9:30 pm*

* Bonus, two-hour presentation!

Durham Personal Computer Users' Club

September Meeting

Windows 10 End-of-Life

Alan German (OPCUG)

September 10, 2026
7:00 pm

https://us02web.zoom.us/j/83492096183?pwd=Q3phQnBxR1hIUE9ZWWsrQjlTSmQzUT09

No Q&A on
September 9
(Monthly Meeting)

Send your questions, answers, and topics you wish to share to:

SuggestionBox@opcug.ca