Introduction to Claude Code for CPG Analytics

Automating Data Standardization for Insights Teams

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The Weekly Data Merge Challenge

`P2W3 2025`	`20250120`	`2025 P2W3 (W7)`

Same week, three different formats

Result: 30+ minutes of manual alignment per report and frustration

Why Claude Code, Not ChatGPT?

Chat-Based AI (ChatGPT/Claude)

1. Shows you code
2. You copy/paste
3. You run it
4. You debug errors
5. Repeat...

Agentic AI (Claude Code)

1. Writes code
2. Executes automatically
3. Sees real results
4. Adjusts approach
5. Delivers final output

Agentic AI closes the execution loop

POV: You are a Jedi

Chat-Based AI: Jedi Council

- Strategic Advisors
- Explains the “why”
- Teaches Techniques and Methods

Agentic AI (Claude Code): Clone Army

- Better with Clear Mission Parameters
- Executes from Start to Finish
- Adapts without Supervision

Good Jedi Leverage BOTH

Claude Code: Your AI Coding Partner

- Command-line tool that executes code autonomously
- Reads your actual files, runs analysis, creates outputs
- Iterates based on real results, not assumptions
- Best for: data transformation, automation, tool building

CPG Use Cases

✓ Standardizing multi-source retailer data (today's demo)

- Automated data quality audits
- Custom calculation tools (ROI, lift, velocity)
- Bulk report generation
- File format conversions at scale

Today we'll focus on date standardization

How to Communicate with Claude Code

Good Prompt Example

```
Standardize all Kroger week formats in sales_data.csv.
Add a new column 'week_standard' in YYYY-MM-DD format.
Use the kroger_calendar_lookup.csv for mappings.
Keep all original columns.
```

Why It Works:

✓ Clear objective

✓ Specific output format

✓ Reference materials provided

✓ Non-destructive approach

Avoid: Vague requests

Bad Prompt Example

```
Make all of these files the same date
format
```

Working with Your Data

- Claude Code works in your local directory
- Can read: CSV, Excel, JSON, text files
- Provide reference materials (lookup tables, examples)
- Outputs saved to your specified location

Pro Tip: Keep original files backed up - test on copies first

Our Challenge: Merging 4 Data Sources

Source	Format Example
Circana	W/E 3-22-2025
84.51°	P2W3 2025
Market6	20250120
Stratum	2025 P2W3 (W7)

Goal: Merge on standardized week for unified analysis

How It Works: 4 Steps

1. SETUP
Provide files and clear instruction

2. EXECUTION
Claude Code writes and runs code

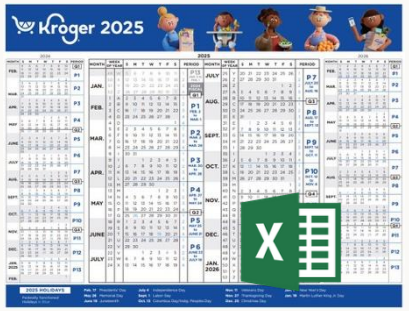
3. ITERATION
Reviews results, adjusts approach

4. DELIVERY
Returns clean output and docs

We will turn data from various sources into one source of truth using Python

Circana.

3451°



Looker

Kroger Market6

Full Prompt

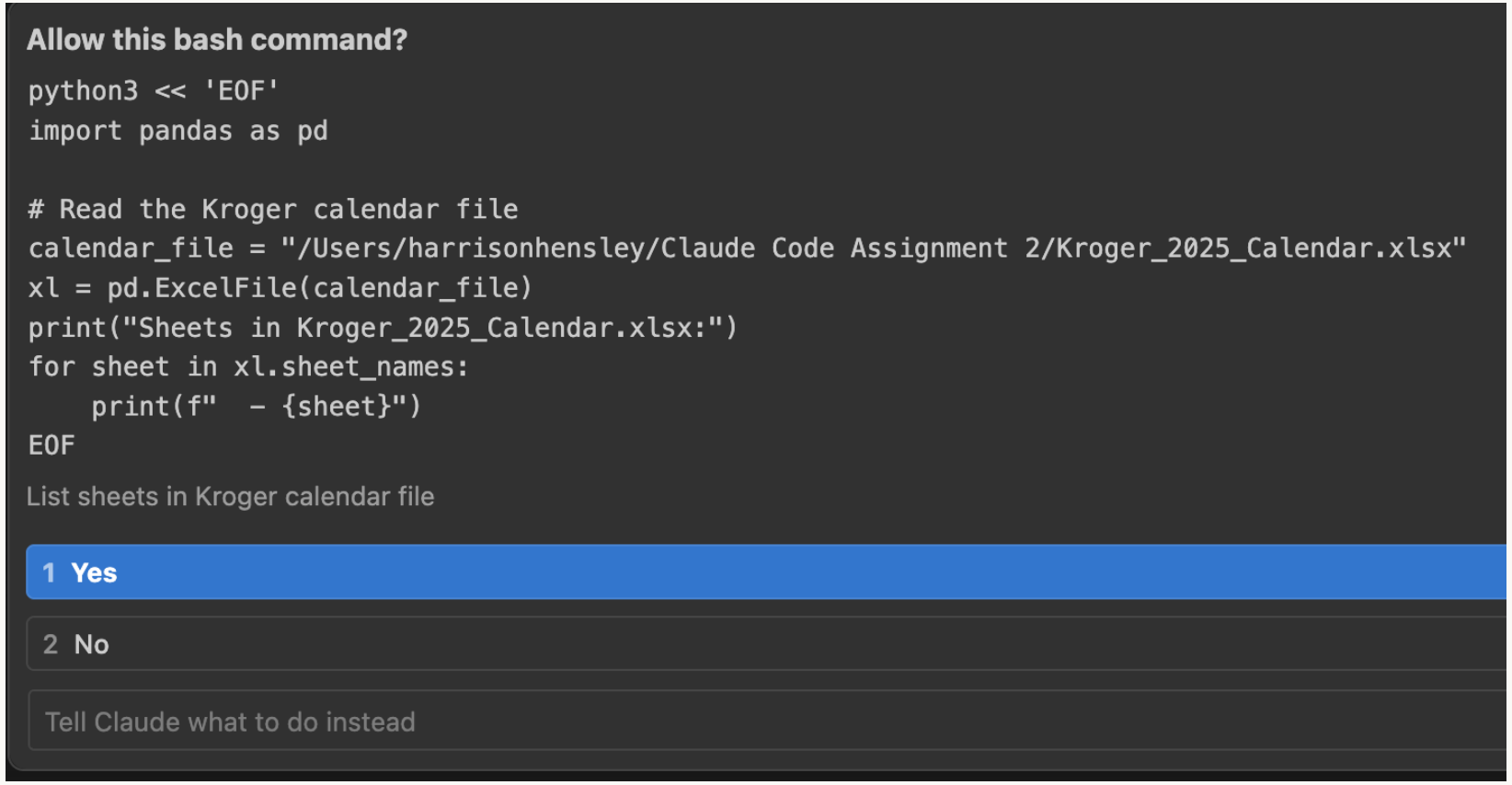
```
CONTEXT:
- All files are in: "Claude Code Assignment 2" folder
- Files use various date formats, such as:
  • "P2W3 2025" (Period Week Year)
  • "20250120" (YYYYMMDD)
  • "2025 P2W3 (W7)" (Year Period Week with week number)
- A lookup table (kroger_calendar_lookup.csv) in raw_data contains mappings for all format types

TASK:
1. Read ALL CSV files from the raw_data folder
2. Read the kroger_calendar_lookup.csv reference table
3. For each data file:
   - Identify the date/period column(s)
   - Add a new column using the format in the "STANDARDIZED" column of the mapping file
   - Use the lookup table to map format variations to standard dates
   - Keep ALL original columns intact
4. Validate all conversions
5. Flag any dates that cannot be mapped

OUTPUT:
Create a single Excel file: "kroger_data_standardized.xlsx"
- Each source CSV becomes a separate tab/sheet
- Tab names should be descriptive based on the source, some examples:
  • sales_8451.csv → "84.51 Sales Data"
  • sales_market6.csv → "Market6 Sales Data"
  • sales_stratum.csv → "Stratum Sales Data"
  • (or extract meaningful names from filenames)
- Each sheet should contain: all original columns + "week_standard" column

VALIDATION & REPORTING:
After completion, provide summary in txt file within the Claude Code Assignment 2 folder:
- Total files processed
- Rows per file
- Successful conversions
- Any mapping errors or warnings
- Location of output file

If file has dating format not in refrence file, make assumptions based on the logic in the file but call it out by highlight it yellow

Please proceed with the standardization.
```

Step 1: Source Files

- Sales_Units_Market6_Expanded.xlsx
- Circana_Weekly_Dollars_Expanded.xlsx
- Digital_Penetration_Raw_Expanded.xlsx
- HH_Trips_Stratum_Expanded.xlsx

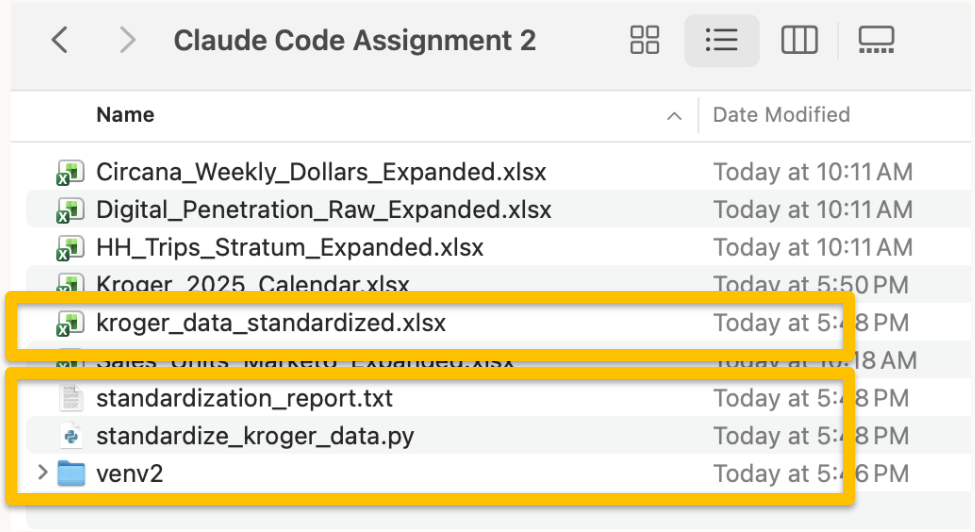
Start Date	End Date	Format1_YYYPPWW	Format2_WE	Format3_YYYY_PXPX_Week	STANDARDIZED	Format3_YYYY_PXPX_	Period	WeekWithinPeriod	KrogerWeekOf52
2025-02-02	2025-02-08	2025P01W1	W/E 2-8-2025	2025 P1W1 (Week 1)	P1W1 2025	2025 P1W1 (1)	1	1	1
2025-02-09	2025-02-15	2025P01W2	W/E 2-15-2025	2025 P1W2 (Week 2)	P1W2 2025	2025 P1W2 (2)	1	2	2
2025-02-16	2025-02-22	2025P01W3	W/E 2-22-2025	2025 P1W3 (Week 3)	P1W3 2025	2025 P1W3 (3)	1	3	3
2025-02-23	2025-03-01	2025P01W4	W/E 3-1-2025	2025 P1W4 (Week 4)	P1W4 2025	2025 P1W4 (4)	1	4	4
2025-03-02	2025-03-08	2025P02W1	W/E 3-8-2025	2025 P2W1 (Week 5)	P2W1 2025	2025 P2W1 (5)	2	1	5
2025-03-09	2025-03-15	2025P02W2	W/E 3-15-2025	2025 P2W2 (Week 6)	P2W2 2025	2025 P2W2 (6)	2	2	6
2025-03-16	2025-03-22	2025P02W3	W/E 3-22-2025	2025 P2W3 (Week 7)	P2W3 2025	2025 P2W3 (7)	2	3	7
2025-03-23	2025-03-29	2025P02W4	W/E 3-29-2025	2025 P2W4 (Week 8)	P2W4 2025	2025 P2W4 (8)	2	4	8
2025-03-30	2025-04-05	2025P03W1	W/E 4-5-2025	2025 P3W1 (Week 9)	P3W1 2025	2025 P3W1 (9)	3	1	9
2025-04-06	2025-04-12	2025P03W2	W/E 4-12-2025	2025 P3W2 (Week 10)	P3W2 2025	2025 P3W2 (10)	3	2	10
2025-04-13	2025-04-19	2025P03W3	W/E 4-19-2025	2025 P3W3 (Week 11)	P3W3 2025	2025 P3W3 (11)	3	3	11
2025-04-20	2025-04-26	2025P03W4	W/E 4-26-2025	2025 P3W4 (Week 12)	P3W4 2025	2025 P3W4 (12)	3	4	12
2025-04-27	2025-05-03	2025P04W1	W/E 5-3-2025	2025 P4W1 (Week 13)	P4W1 2025	2025 P4W1 (13)	4	1	13

Step 2: Claude Code Running

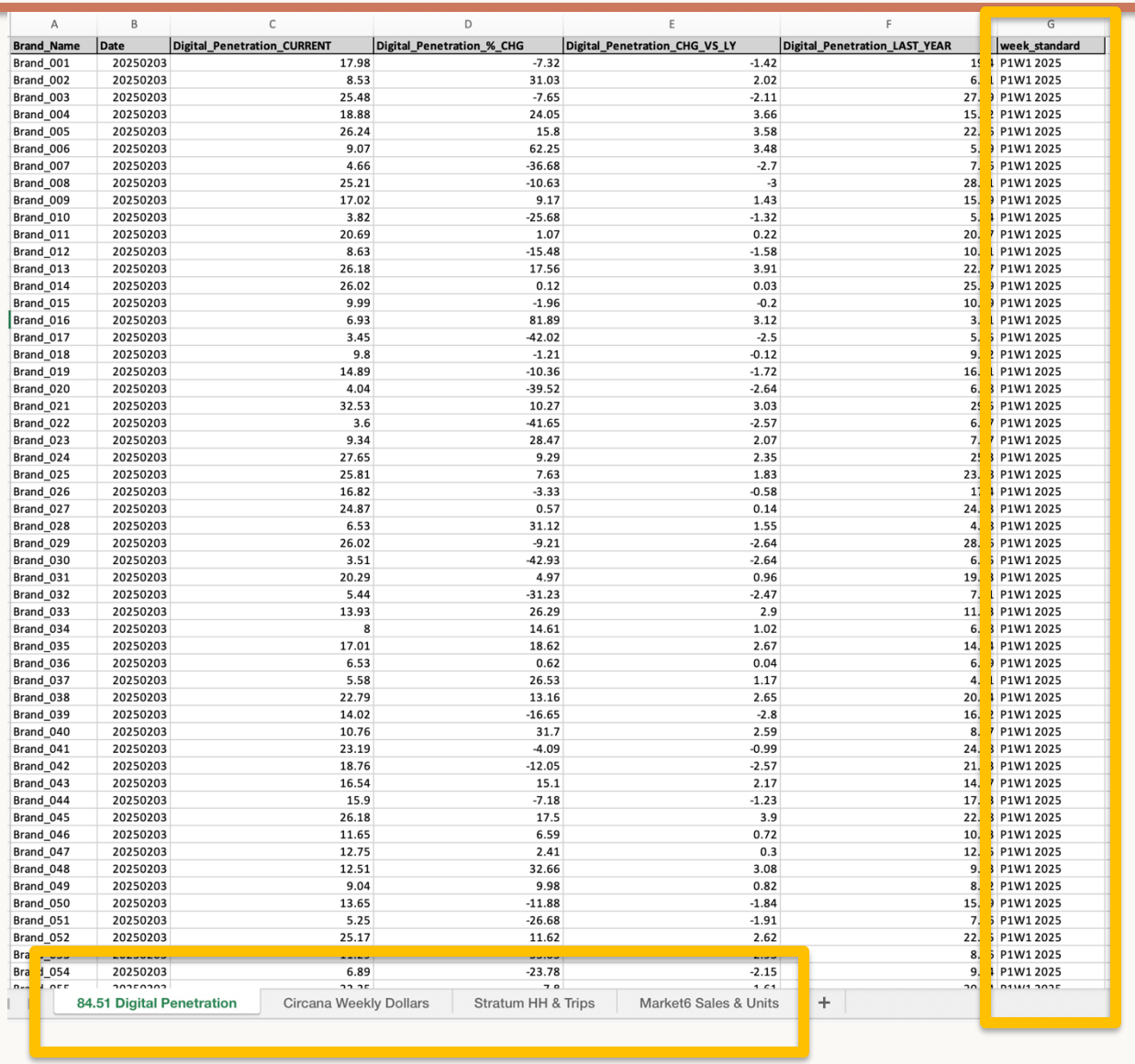


Claude Code will ask for permission. You can choose to pivot if needed.

Step 3: Final Output



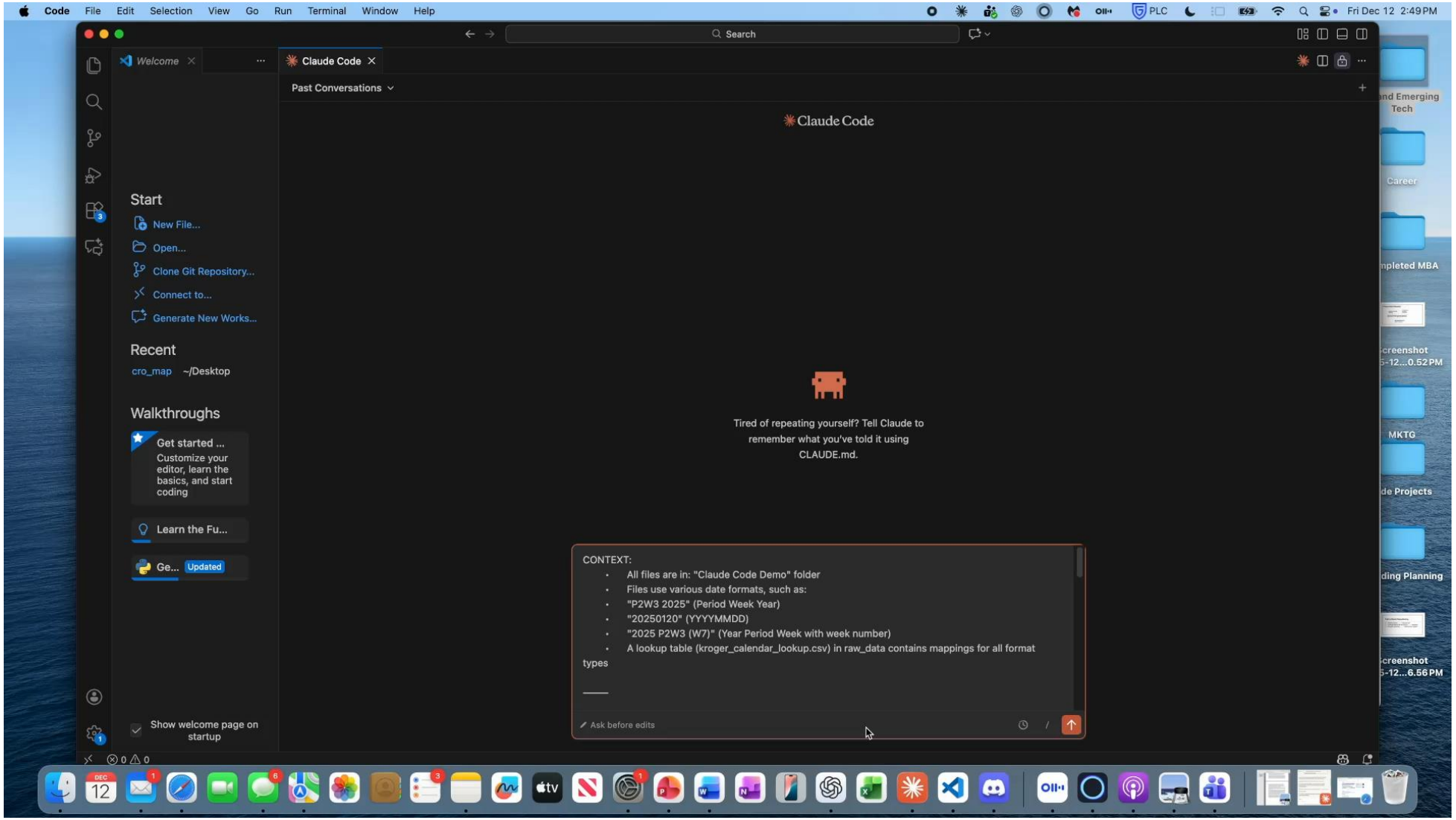
Claude Code generated python script, standardized file with new column and all data on separate tabs, and a txt file documenting everything



Brand_Name	Date	Digital_Penetration_CURRENT	Digital_Penetration_%_CHG	Digital_Penetration_CHG_VS_LY	Digital_Penetration_LAST_YEAR	week_standard
Brand_001	20250203	17.98	-7.32	-1.42	19	P1W1 2025
Brand_002	20250203	8.53	31.03	2.02	6.	P1W1 2025
Brand_003	20250203	25.48	-7.65	-2.11	27.	P1W1 2025
Brand_004	20250203	18.88	24.05	3.66	15.	P1W1 2025
Brand_005	20250203	26.24	15.8	3.58	22.	P1W1 2025
Brand_006	20250203	9.07	62.25	3.48	5.	P1W1 2025
Brand_007	20250203	4.66	-36.68	-2.7	7.	P1W1 2025
Brand_008	20250203	25.21	-10.63	-3	28.	P1W1 2025
Brand_009	20250203	17.02	9.17	1.43	15.	P1W1 2025
Brand_010	20250203	3.82	-25.68	-1.32	5.	P1W1 2025
Brand_011	20250203	20.69	1.07	0.22	20.	P1W1 2025
Brand_012	20250203	8.63	-15.48	-1.58	10.	P1W1 2025
Brand_013	20250203	26.18	17.56	3.91	22.	P1W1 2025
Brand_014	20250203	26.02	0.12	0.03	25.	P1W1 2025
Brand_015	20250203	9.99	-1.96	-0.2	10.	P1W1 2025
Brand_016	20250203	6.93	81.89	3.12	3.	P1W1 2025
Brand_017	20250203	3.45	-42.02	-2.5	5.	P1W1 2025
Brand_018	20250203	9.8	-1.21	-0.12	9.	P1W1 2025
Brand_019	20250203	14.89	-10.36	-1.72	16.	P1W1 2025
Brand_020	20250203	4.04	-39.52	-2.64	6.	P1W1 2025
Brand_021	20250203	32.53	10.27	3.03	29	P1W1 2025
Brand_022	20250203	3.6	-41.65	-2.57	6.	P1W1 2025
Brand_023	20250203	9.34	28.47	2.07	7.	P1W1 2025
Brand_024	20250203	27.65	9.29	2.35	25	P1W1 2025
Brand_025	20250203	25.81	7.63	1.83	23.	P1W1 2025
Brand_026	20250203	16.82	-3.33	-0.58	17	P1W1 2025
Brand_027	20250203	24.87	0.57	0.14	24.	P1W1 2025
Brand_028	20250203	6.53	31.12	1.55	4.	P1W1 2025
Brand_029	20250203	26.02	-9.21	-2.64	28.	P1W1 2025
Brand_030	20250203	3.51	-42.93	-2.64	6.	P1W1 2025
Brand_031	20250203	20.29	4.97	0.96	19.	P1W1 2025
Brand_032	20250203	5.44	-31.23	-2.47	7.	P1W1 2025
Brand_033	20250203	13.93	26.29	2.9	11.	P1W1 2025
Brand_034	20250203	8	14.61	1.02	6.	P1W1 2025
Brand_035	20250203	17.01	18.62	2.67	14.	P1W1 2025
Brand_036	20250203	6.53	0.62	0.04	6.	P1W1 2025
Brand_037	20250203	5.58	26.53	1.17	4.	P1W1 2025
Brand_038	20250203	22.79	13.16	2.65	20.	P1W1 2025
Brand_039	20250203	14.02	-16.65	-2.8	16.	P1W1 2025
Brand_040	20250203	10.76	31.7	2.59	8.	P1W1 2025
Brand_041	20250203	23.19	-4.09	-0.99	24.	P1W1 2025
Brand_042	20250203	18.76	-12.05	-2.57	21.	P1W1 2025
Brand_043	20250203	16.54	15.1	2.17	14.	P1W1 2025
Brand_044	20250203	15.9	-7.18	-1.23	17.	P1W1 2025
Brand_045	20250203	26.18	17.5	3.9	22.	P1W1 2025
Brand_046	20250203	11.65	6.59	0.72	10.	P1W1 2025
Brand_047	20250203	12.75	2.41	0.3	12.	P1W1 2025
Brand_048	20250203	12.51	32.66	3.08	9.	P1W1 2025
Brand_049	20250203	9.04	9.98	0.82	8.	P1W1 2025
Brand_050	20250203	13.65	-11.88	-1.84	15.	P1W1 2025
Brand_051	20250203	5.25	-26.68	-1.91	7.	P1W1 2025
Brand_052	20250203	25.17	11.62	2.62	22.	P1W1 2025
					8.	P1W1 2025
_054	20250203	6.89	-23.78	-2.15	9.	P1W1 2025

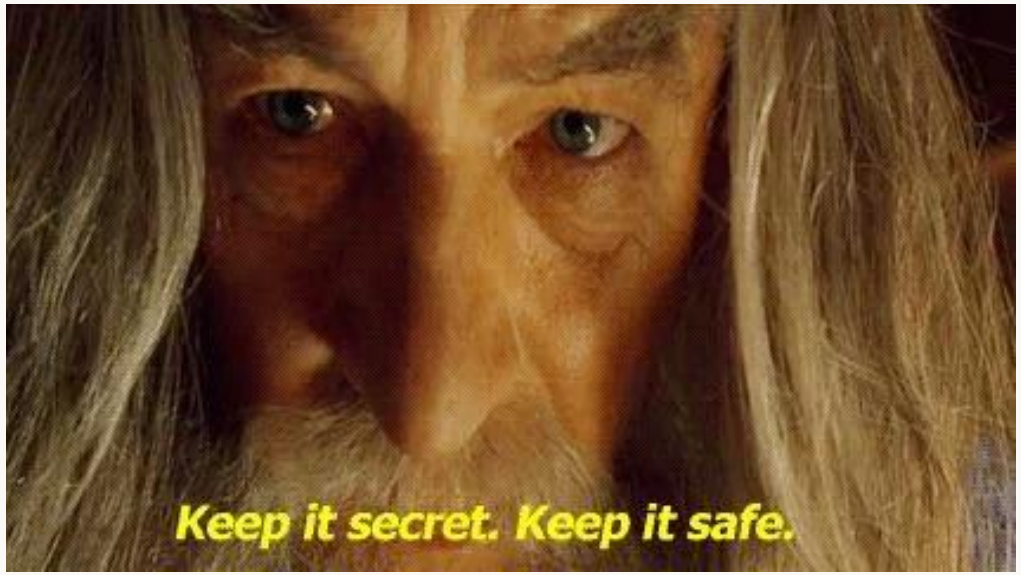
84.51 Digital Penetration | Circana Weekly Dollars | Stratum HH & Trips | Market6 Sales & Units | +

Demo in Action



Protecting Client Data

- Claude Code runs locally - data doesn't leave your machine
- However: Prompts **are** sent to Anthropic servers
- Best practice: Sanitize data or use on non-sensitive files
- Check company policies on AI tool usage
- Never include PII, client names in prompts



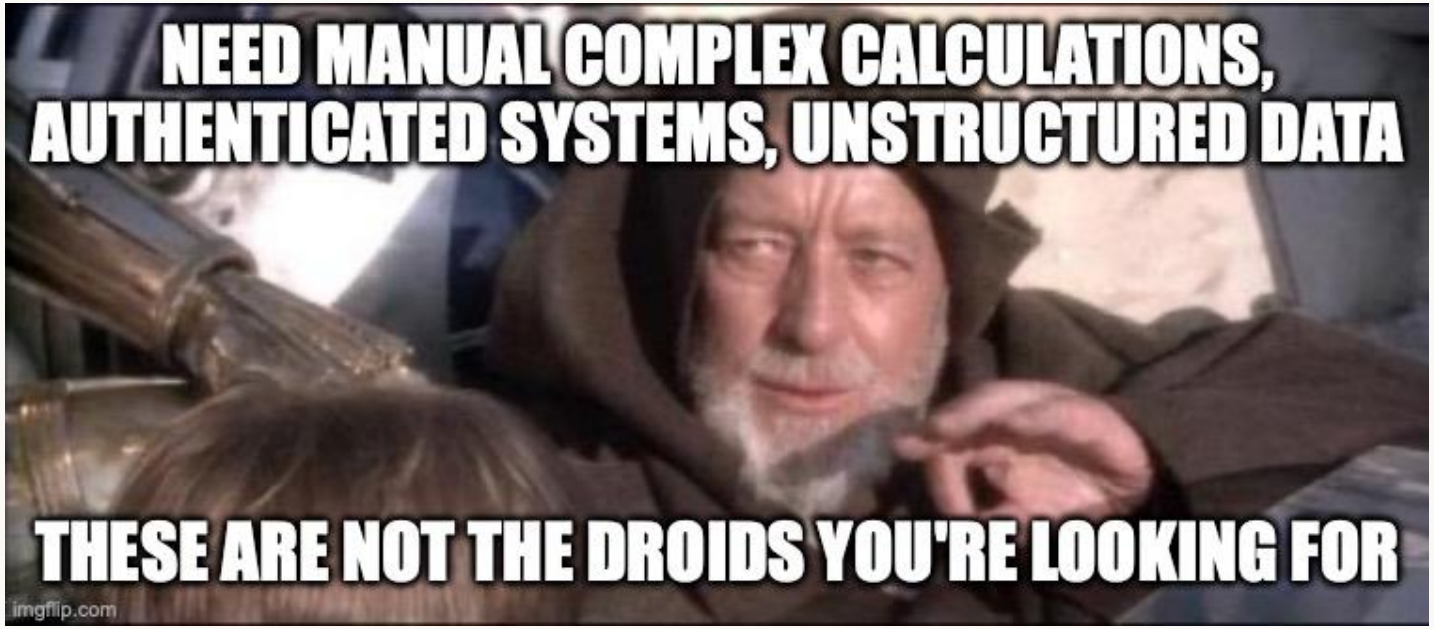
Always Verify the Output

- Claude Code is powerful but not infallible
- Spot-check conversions (especially edge cases)
- Validate against known results
- Review generated code when possible
- Example: Check fiscal year transitions, 53-week years

Remember: You're the analyst - AI is your tool, not your replacement

What Claude Code Can't Do (Yet)

- ✗ Can't access systems requiring authentication
- ✗ Limited with highly complex business logic without examples
- ✗ Works best with structured data
- ✗ Requires clear instructions



Safe Use Guidelines

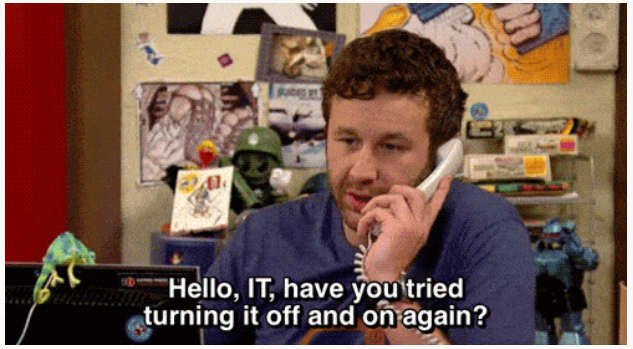
DO ✓

- Use for repetitive data tasks
- Use for tool building, learning
- Validate outputs
- Document your process

DON'T ✗

- Share confidential data in prompts
- Deploy without testing
- Use without understanding output
- Bypass IT/Legal policies

When in doubt, ask IT or Legal



Remember These 3 Things

1. Claude Code executes and iterates - it's different from Chat AI

2. Clear prompts + reference materials (context) = better results

3. Always validate - you're the expert, AI is the accelerator

Next Steps

- Installation: https://github.com/anthropics/claude-code
- Practice: Try with non-sensitive sample data first
- Resources: Anthropic documentation, internal guidelines
- Begin your agentic AI journey!