



Password Storage



By Steve Maynard
10 July, 2018



Steve's narrative: *I'm going to describe a few apps available for password storage. Mostly I'll talk about one particular app that wasn't intended for saving passwords, but it can be used for it, and it does a good job.*

What to look for in a password storage app:

I'll start off by describing what features your password storage should have.

1. Security

Obviously it needs to be secure; if someone gets access to your computer or phone, then your password storage app should have another layer of security.

2. Syncs across all your devices

You want an app that syncs across all of your devices; in other words, you need to be able to access and edit your passwords on your Mac, your iPhone, your iPad, and so on.

3. Ease of use

You also want an app that is easy to use.

4. Low cost

You also want an app that doesn't cost a lot.

5. (optional) a Password Generator

An extra feature included with many storage apps is a Password Generator, which have their advantages and disadvantages. You want one that gives you control over what characters go into a password: capital letters, numerals, punctuation, and special characters such as dollar signs or ampersands. You also want the app to suggest passwords you can remember.

I did not find any apps that met all of those criteria, at least not to my satisfaction. Most want you to sign up for an account with a monthly or annual fee. And the password generators tend to simply spit out random characters that don't make any sense and are difficult to remember.

Typical approach to password storage:

THE MASTER PASSWORD



(i.e., one password to open the app and reveal all other passwords)

Most apps designed for password storage use the same approach. You create a master password to gain access to all your stored passwords. If your password storage app does not have its own password, then you're probably better off getting a different app.

A few recommended apps for Apple devices:



Keeper—4.5 stars; various rates and plans



Strongbox—5 stars; various rates and plans



1Password—MacWorld 4.5; \$4 / mo or \$36 / yr

<https://www.macworld.com/article/3280090/security/1password-7-for-mac-review.html>



Dashlane—4.5 stars; subscription as low as \$100 for five years

The five criteria:

✓ Security

Cost

✓ Synching

✓ Password generator

✓ Easy to use

I checked some online reviews, such as MacWorld and PC Magazine, and these are a few highly rated apps for storing passwords.

This is not an exhaustive list, but these four apps are among the most recommended.

Unfortunately, you get what you pay for, so these are also among the most expensive. While the apps are free, actually using the apps requires a subscription.

Pastor (for Mac) <https://mehlau.net/pastor/>

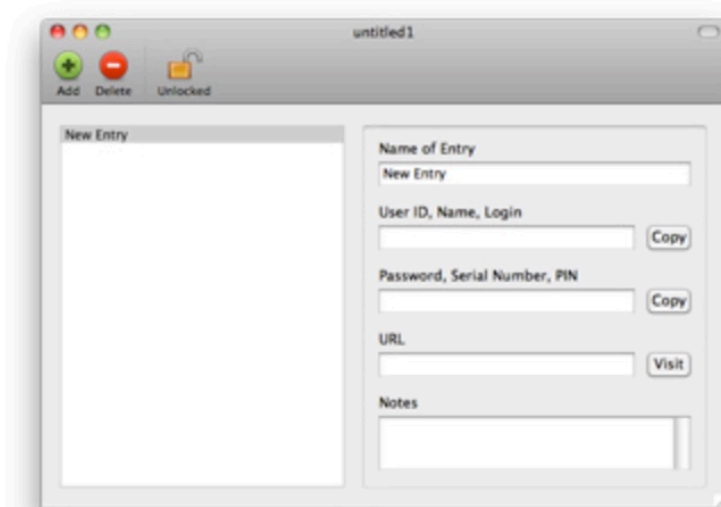
mehlau.net > pastor

Pastor

 Tweet

About

Pastor is a software for storing all your passwords, website logins, serial numbers, etc. encrypted and password-protected. With built-in password generator.



Download

[Pastor 1.8.2](#) (Pastor182-signed.dmg, 6.2 MB)

For 10.7.x and **lower**

[Pastor 1.8.2](#) (Pastor182.dmg, 4.3 MB)

Installation

Drag Pastor to the Applications folder on your Mac OS X disk.

Donationware

Pastor is Donationware. Pay any amount Pastor is worth to you or use it for free. You can donate through PayPal or Kagi by clicking on one of the buttons below:

Pastor Reader (for iOS)



available in the App Store

The five criteria:

Security
Synching
✓ Easy to use

✓ Cost
✓ Password generator

Pastor (for Mac) <https://mehlau.net/pastor/>

*For several years I used a donation-ware app called **Pastor**. The creator is a man in Switzerland who does multimedia consulting. He created Pastor in his spare time, and he's probably made a lot of money from it.*

***Pastor** was written for Macs, but it's not available in the App Store—only from the creator's web site.*

*When you download **Pastor** it says you're welcome to use it for free, or you can make a donation. I sent him ten bucks.*

*Not long after I downloaded **Pastor** to my Mac, he came out with a counterpart for iOS devices called **Pastor Reader**. It's available in the App Store for \$2.*

*On the whole, **Pastor** is a pretty good app. If you try to open your password file with a document reader, all your information is encrypted. I kept my password file in my iCloud account so my wife and I could access it from our MacBooks.*

The app was easy to use. And I liked how the cost was a one-time payment rather than a subscription.

*The downside to **Pastor** was that the password file does not automatically sync across devices. You make all your edits on your Mac, and then you have to manually transfer your password file from your Mac to your phone.*

*Also, there is no second layer of security in **Pastor Reader**. If someone got on my phone, they could have opened the app and seen all my passwords.*

*Then I came across a blog about password storage, and there was a discussion specifically about **Pastor**. One writer commented you can do the same thing on **Numbers** as you can on **Pastor**, and **Numbers** is free and it's more secure. So I transferred all my passwords to a **Numbers** document and gave it its own password.*

Numbers

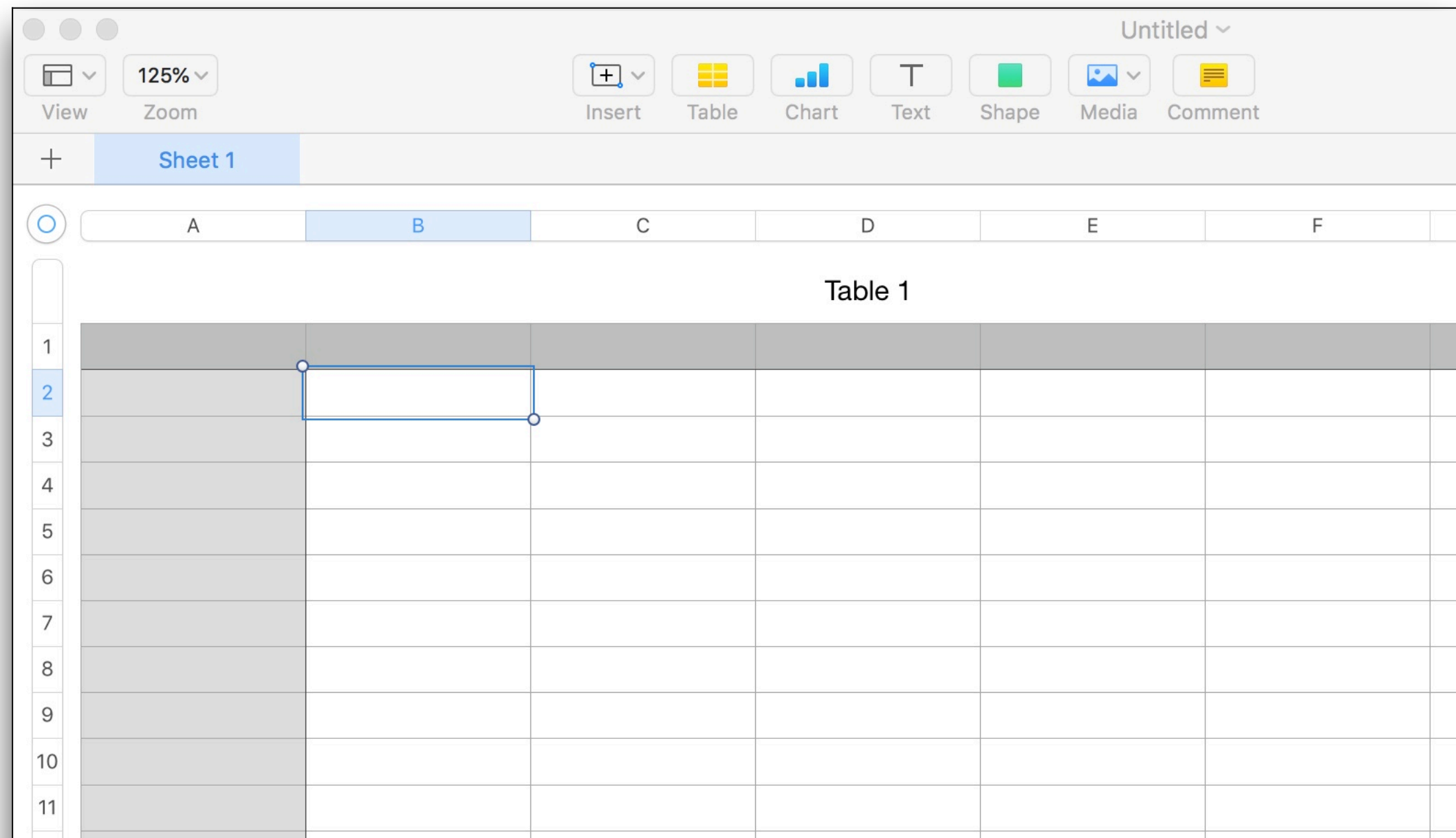


The five criteria:

✓ Security
✓ Synching
Easy to use

✓ Cost
Password generator

How to create a Numbers spreadsheet for storing passwords



***Numbers** is a spreadsheet app, so there is some learning involved, but it's not anywhere near as complex as Microsoft Excel. Also, **Numbers** will not generate a password for you, if you want that feature. Personally, I rarely use it, so it made no difference to me.*

*So rest of this presentation is a demonstration on how to create and use a **Numbers** spreadsheet for storing passwords.*

First, if you have an Apple device, and especially if you have more than one Apple device, then you should take advantage of having an iCloud account.

In iCloud, your Numbers spreadsheet will appear on every Apple device you own. So if you don't have an account, get one! You get 5GB of storage for free, 50GB for a dollar a month, and 200GB for \$3 a month. The links on this slide provide some information on having an iCloud account.

Create an iCloud
account (if you don't
have one already).



<https://www.wikihow.com/Create-an-iCloud-Account-in-iOS>

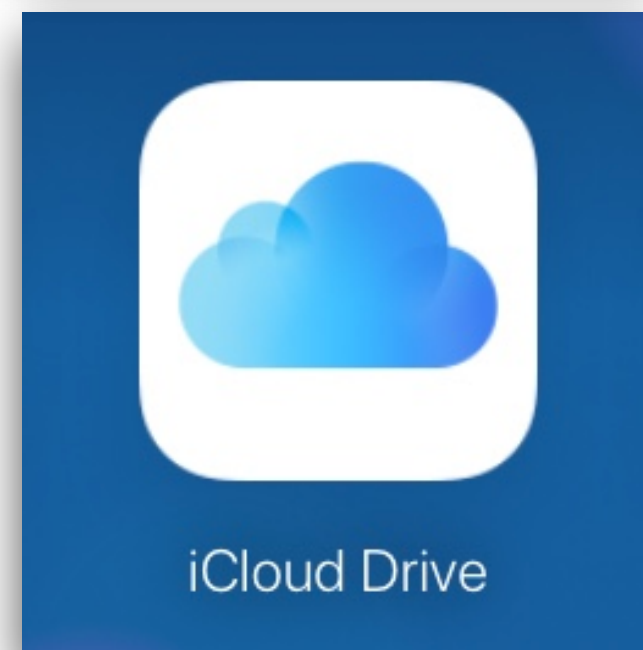
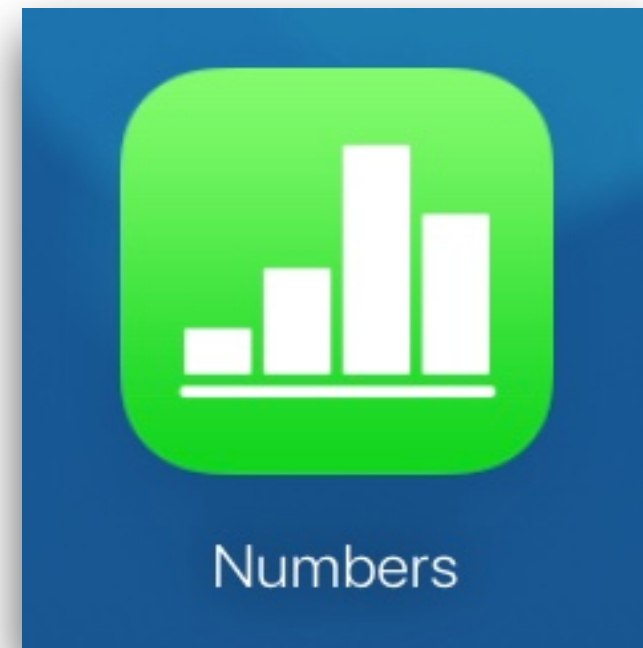
Pricing: <https://support.apple.com/en-us/HT201238>

In your iCloud account are apps and folders:

Mail
Contacts
Calendar
Photos
iCloud Drive
Notes
Reminders
Pages
Numbers
Keynote
Find Friends
Find iPhone



<https://www.icloud.com>



Once you have created your iCloud account, within it you will find a Launchpad for several apps and folders. When you create your password storage spreadsheet, it will be stored in the Numbers folder unless you move it someplace else.

Incidentally, another folder you should get acquainted with is called iCloud Drive. It's like a catch-all folder, and you can save just about any file you want in it. Within iCloud Drive are links to the other folders in your iCloud account, including the Numbers folder.

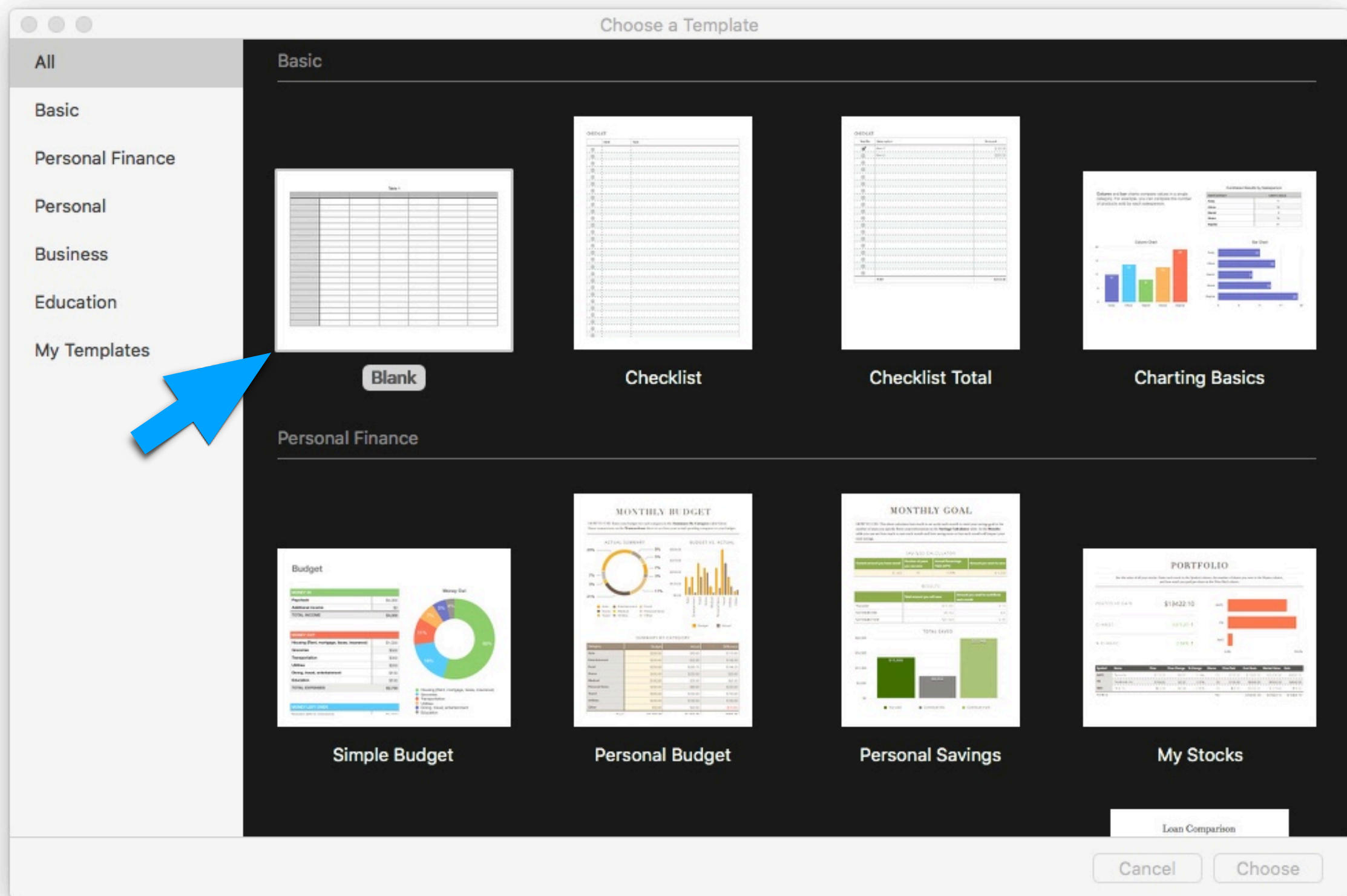
Numbers demonstration



I use Numbers for a lot of record keeping. I currently have more than twenty spreadsheets, including our credit cards, our income and taxes withheld, charitable contributions, the miles I drive for Meals on Wheels, our vehicles' gas mileage, and the month-to-month value of our investment portfolios.

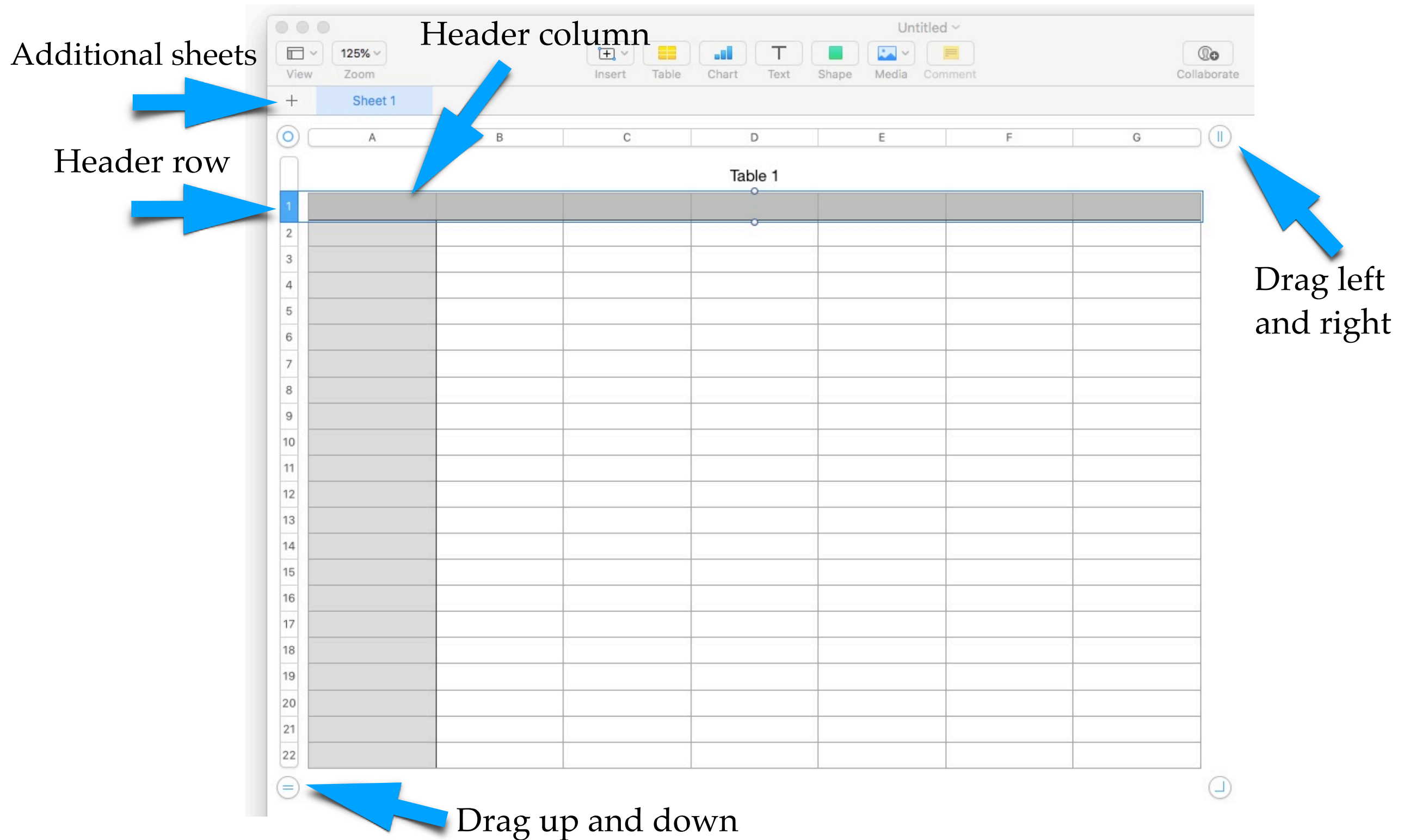
And just recently I started using Numbers to store my passwords.

Open Numbers and choose a template . . .



At this point I'll switch over to Numbers and create a document.

When you first open Numbers, you get several templates to choose from. You can use one of them or create your own. I suggest you use the one in the top left called Blank.



In the template, the top is a Header Row, which means it will always be visible, and the other rows will scroll under it. In the same way, the first column is a Header Column, and the other columns will scroll under it. You can turn off the Header feature if you want to. After the last column and row there are buttons you can click and drag to control the height and width your spreadsheet.

Column names and Tweaks . . .

Fill in names and
center them over
the columns



	A	B	C	D	E
1	ACCOUNT	ID	PASSWORD	WEB SITE	NOTES
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

Get rid of
extraneous
columns

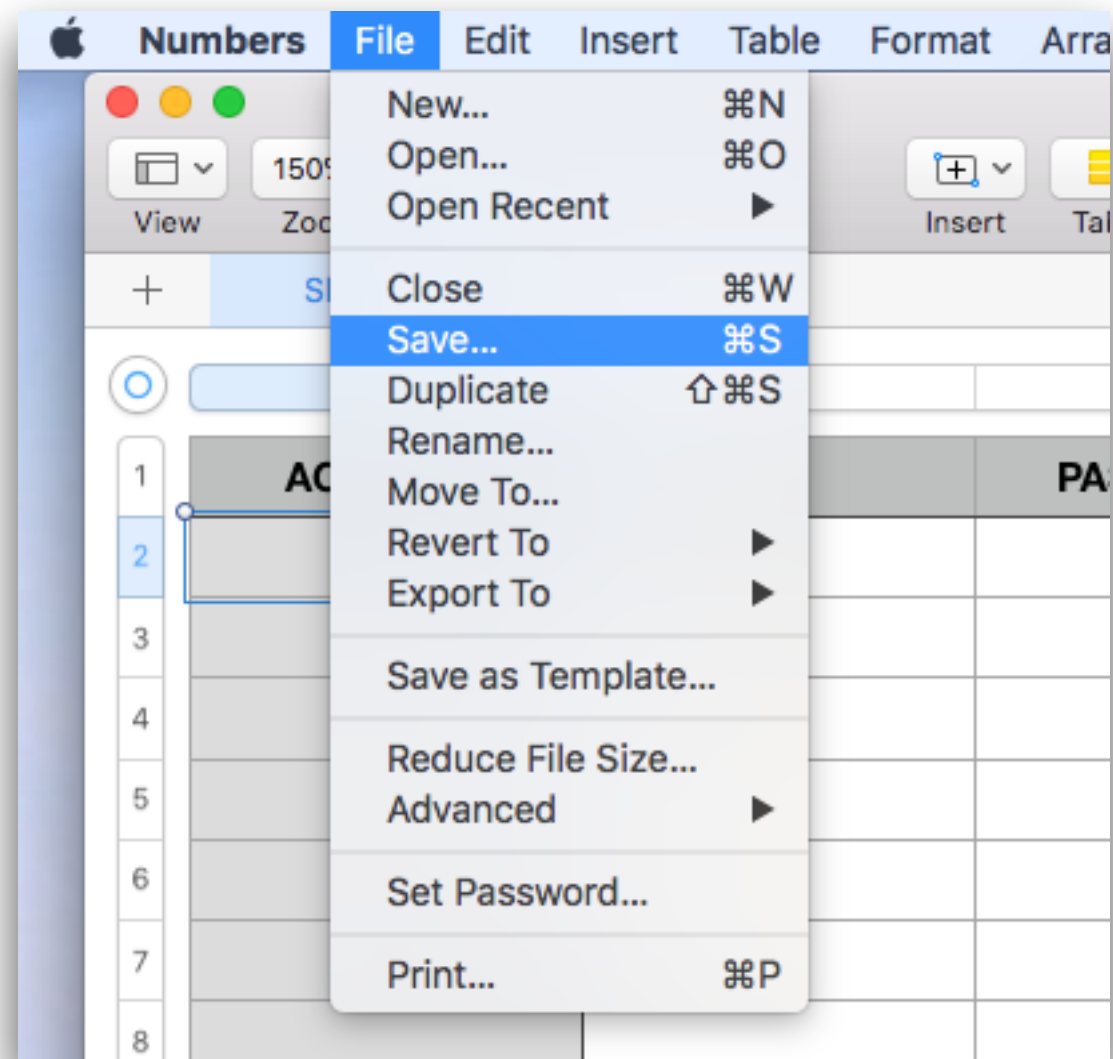


I've filled in some names for the columns to give you an idea on how to set up the spreadsheet for passwords.

I can tweak the appearance of the spreadsheet to make it more to my liking. I can delete extraneous columns. By using a panel called the "Inspector," I can accent the Header row by making the bottom edge a heavier line, and I can center the text in the Header row. These changes are purely cosmetic.

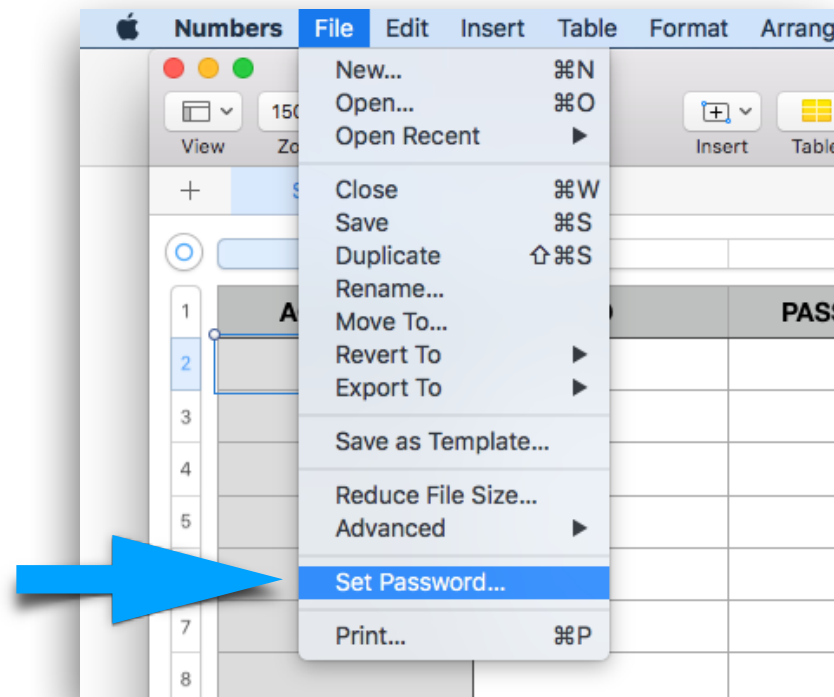
Save!

Save the spreadsheet to the Numbers folder in your iCloud account

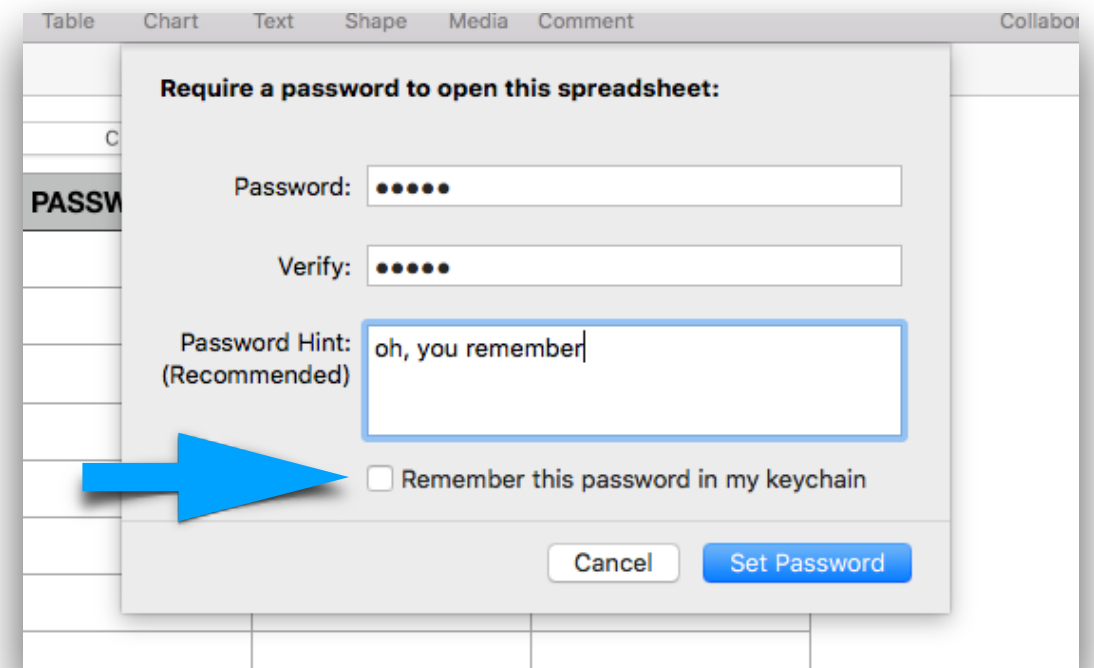


At this point you'll want to Save your spreadsheet so you don't inadvertently lose your work.

Create a password . . .



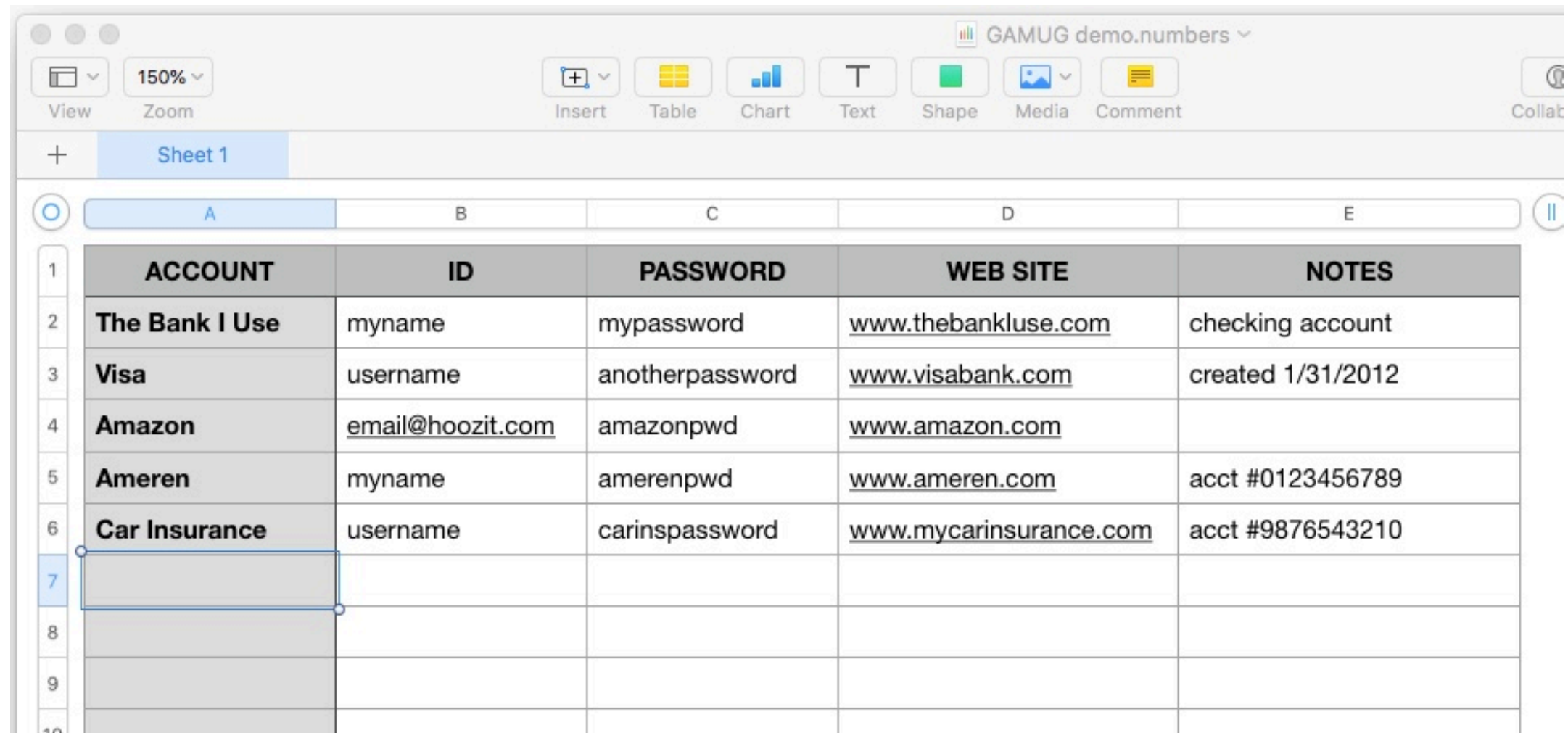
Do NOT check this box



This next step is what makes the spreadsheet secure. I'll pull down the File menu, select "Set Password . . .," and give it a password. You can leave yourself a hint. But be warned: If you ever forget your password, then you are hosed. So make it a strong password, but also one you can remember.

Also, do NOT put a checkmark next to "Remember this password in my keychain." Keep in mind the password you assign to this spreadsheet is the Mother of All Passwords. If someone ever uses your Mac or iPhone or iPad, then you don't want Keychain to automatically fill in the password that protects your spreadsheet.

Start filling in your information . . .



The screenshot shows the Apple Numbers application interface. At the top, there's a toolbar with icons for View, Zoom (set to 150%), Insert, Table, Chart, Text, Shape, Media, Comment, and Collate. Below the toolbar is a sheet tab labeled 'Sheet 1'. The main area displays a spreadsheet with columns A through E. The first row (row 1) contains the headers: ACCOUNT, ID, PASSWORD, WEB SITE, and NOTES. Rows 2 through 6 contain data for various accounts: 'The Bank I Use', 'Visa', 'Amazon', 'Ameren', and 'Car Insurance'. Row 7 is currently selected and is empty. The data in the table is as follows:

	ACCOUNT	ID	PASSWORD	WEB SITE	NOTES
2	The Bank I Use	myname	mypassword	www.thebankluse.com	checking account
3	Visa	username	anotherpassword	www.visabank.com	created 1/31/2012
4	Amazon	email@hoozit.com	amazonpwd	www.amazon.com	
5	Ameren	myname	amerenpwd	www.ameren.com	acct #0123456789
6	Car Insurance	username	carinspassword	www.mycarinsurance.com	acct #9876543210
7					
8					
9					
10					

Now we can start filling in some useful information. I'll just make up some accounts and passwords and so on just to give you an idea of how it will look.

Let's start with a bank account. We'll make up a name for the bank, a user ID, the account password, and the URL for the account's log in page. Notice when you enter a URL in a valid format, Numbers can tell it's a link and automatically sets the format.

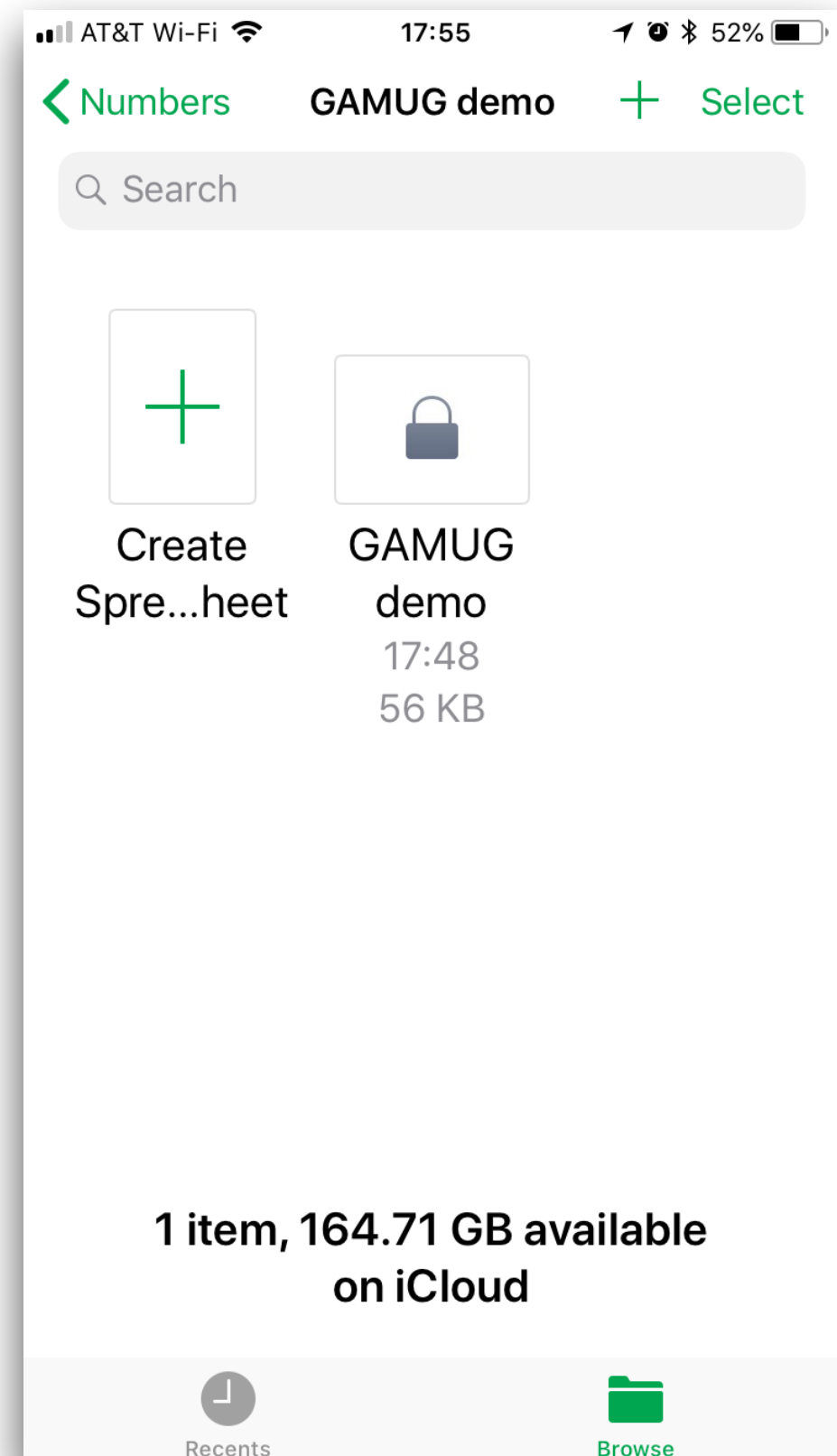
Open Numbers on your iPhone/iPad

Opening the spreadsheet the first time will require the password.

After that you can unlock it with your fingerprint.

Now I'll switch to my iPhone. I'll open Numbers and wait for the spreadsheet to sync to my phone.

You can tell the spreadsheet is password protected by the padlock. The first time I open the spreadsheet, it will ask for the document's password. I have two choices: I can always require the password, or I can set it so I can open the spreadsheet with my fingerprint.



On this last slide I included links to four online articles I thought were good reading.

More reading on Password Storage:

PC Magazine: "The Best Password Managers of 2018"

<https://www.pcmag.com/article2/0,2817,2407168,00.asp>

Intego: "8 Password Manager Options for Mac and iOS"

<https://www.intego.com/mac-security-blog/8-password-manager-options-for-mac-and-ios/>

iMore: "Best password manager apps for Mac"

<https://www.imore.com/best-password-manager-apps-mac>

Lifehacker: "The Five Best Password Managers"

<https://lifehacker.com/5529133/five-best-password-managers>