

## Program



## Queue



## Printer

Each program has its own file format. For example, Photoshop can't open a Microsoft Word document.

How do different programs send information to different printers in a way that the printers can understand all of their different formats? Can printers understand every imaginable file format? No. Printers first need documents to be translated for them.

When you print a document, it is first translated to a language the printer can understand. Examples of printer languages are **Postscript** and **PCL**.


The **printer driver** tells the programs how to translate documents into a language the printer can understand. Because different printers have different features and characteristics, a different driver must be installed on your computer for each type of printer you wish to use.

Your printed document is translated via the printer driver to a **print job**, and is then sent to a **print queue** to wait its turn to be printed...

What is a **print queue**? Queue is another word for line. Think of the print queue as the line at an amusement park ride. There are limited seats on the roller coaster, so you have to wait your turn.

Like kids waiting in line at a roller coaster, documents wait in the print queue until there's room for them to go "on the ride" through the printer. There are different "waiting lines" for your printed documents. The most common print queues are:

- **A print queue on your computer:** the print queue on your computer opens whenever you print something. The print queue also talks to the printer and will pause printing if the printer does not respond, or if the printer is out of ink or paper. \*Check it out.
- **A printer-based queue:** sometimes there's extra memory inside the printer, so that it can hold many pages at once. If a print job gets stuck in this queue, you may have to delete or cancel it directly from the printer.

\*To see the print queues on your Mac, click on the  Apple menu, System Preferences... **Print & Fax**. Select a printer from the list on the left and click **Open Print Queue**...

After the document makes it through the **print queue**, it's the printer's turn to do its job, but sometimes things go wrong...

The printer relies on fragile sheets of paper to make it through all the gears and rollers inside as the ink or toner is applied, and it's not unusual for something to go wrong...

- What can we do to keep printers working?
- **Be Careful:** load the paper in neatly. This makes a huge difference!
  - **Be Gentle:** open and close the paper trays and doors gently. Taking your frustration out on the printer will only make it worse.
  - **Be Thoughtful:** think about why your document isn't printing. Is the printer working for other people? If not, then maybe it's jammed, needs paper, or just needs to be turned off and on again.
  - **Print to PDF:** don't print on paper unless you really need to. When you print to a PDF, you save expensive supplies and reduce wear on the printer. On a Mac, print normally, then click the PDF button in the lower-left, instead of Print in the lower-right.