PIXEL LOGIC

The PDF archives

chapter 1: linearts

Introduction

Earthbound+ Mother 3 (1994-2006)

Tekken Card Challenge (WonderSwan, 1999)

Line art is the base of your sprite regardless of whether you start with shapes, loose sketches or no line art at all! It will often be applied at some point in the process.

Consistency is essential.

Natural brushstrokes don't look great in pixels!

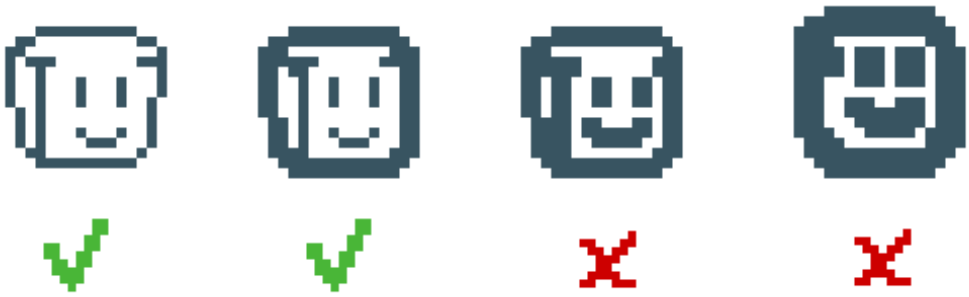
Keep the same line thickness throughout the whole sprite!

It makes sprites more readable and appealing.

Prefer thicker lines? Make sure to keep the line-art clean and easy to follow. Some lines however *can* be thinner than the rest of the drawing if the style requires it

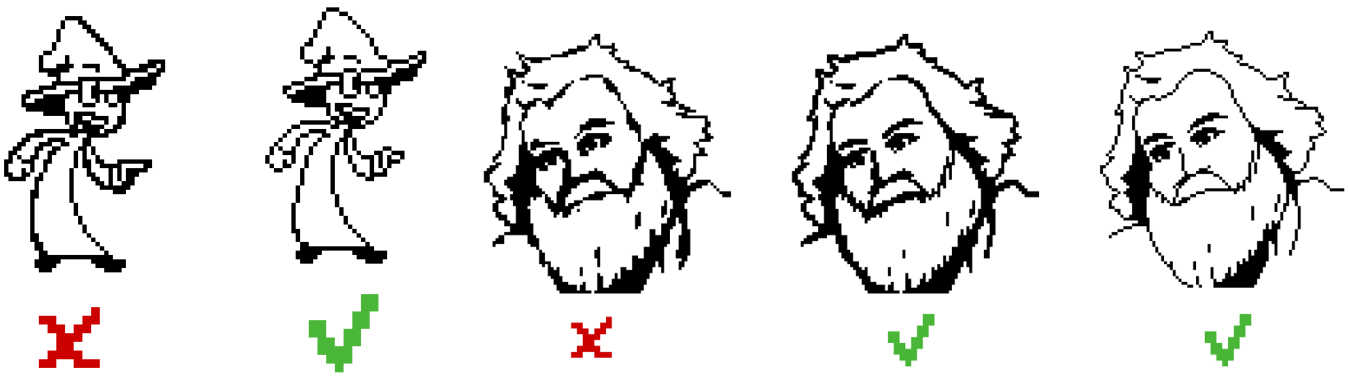
Thin lines are better for small areas.

Bottom Row:
SNK vs Capcom tMotM, Pokémon Pinball (R+S)



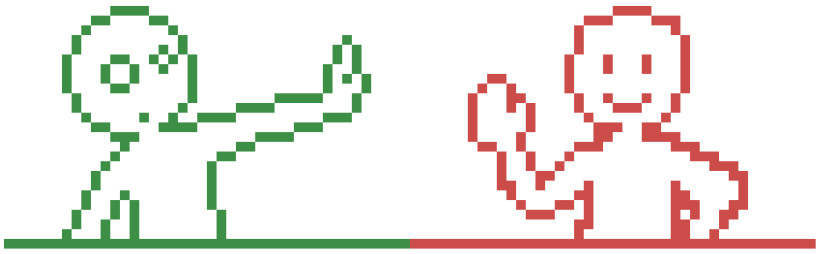
Sprites are often small graphics! As a result, you will notice that in games . . .

Most pixelart has 1px lineart.

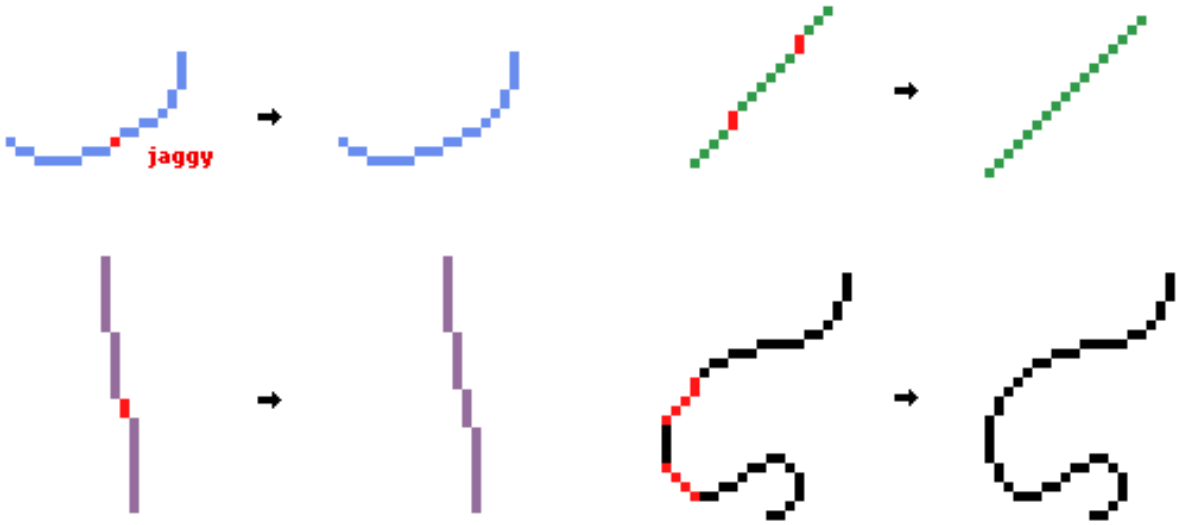


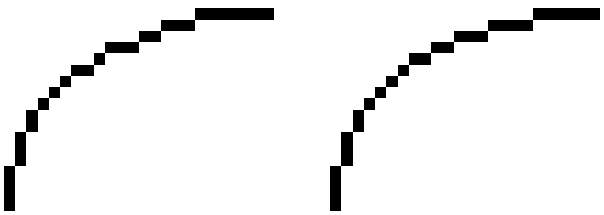
Lines and curves

Ever noticed when drawing a pixel line or curve in 1 stroke, it doesn't look as smooth as you want?



That is because of **jaggies**. These are jagged parts of a line or curve.





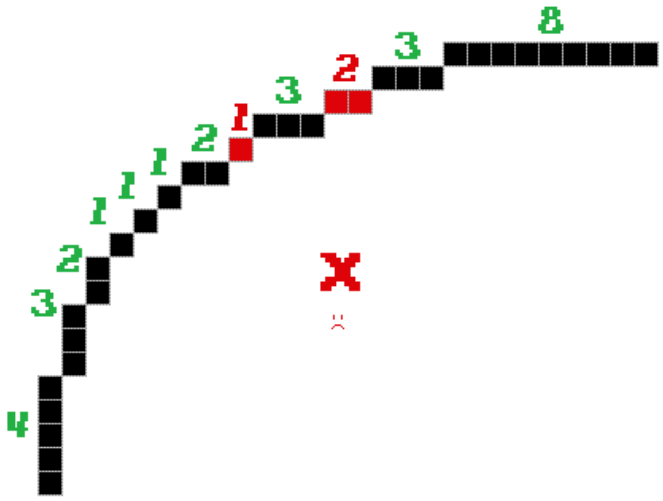
Oh no!

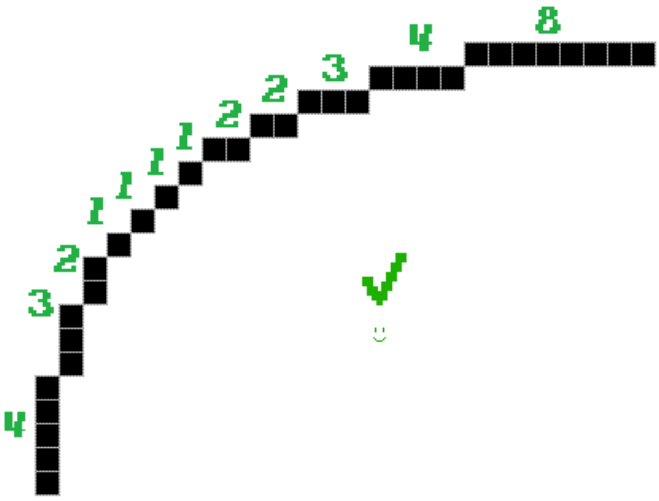
Much better!

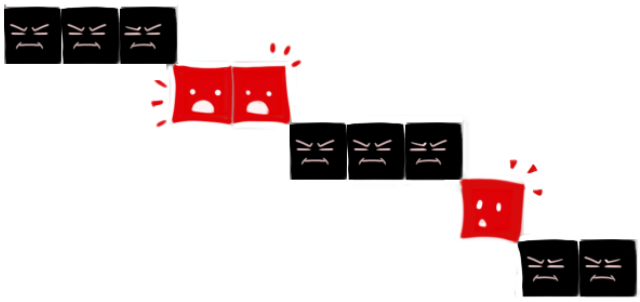
So how do you fix your lines with jaggies? Easy!

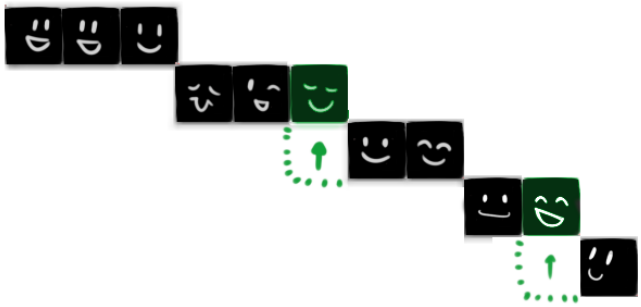
There is a process that works for every type of line!

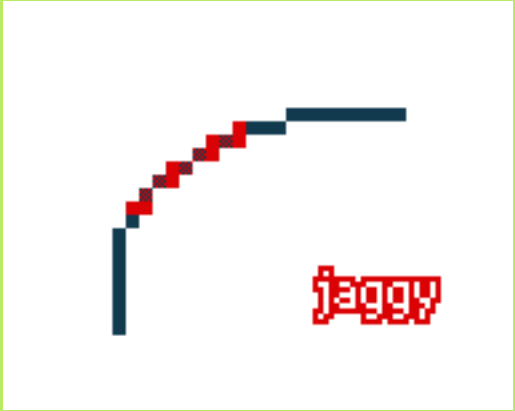
The key thing to remember with jaggies?
Don't surround a row of pixels with bigger ones.











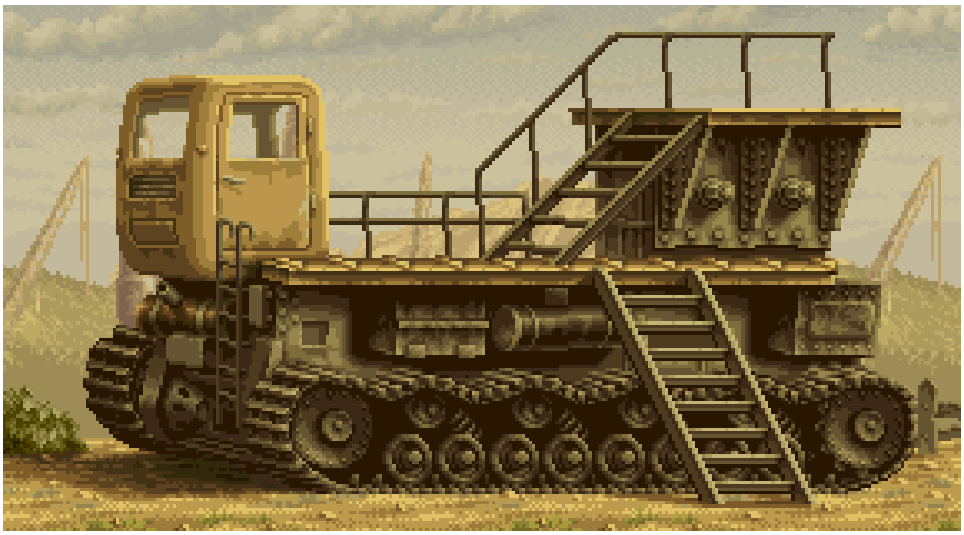
This will happen ALL the time!

Important note!

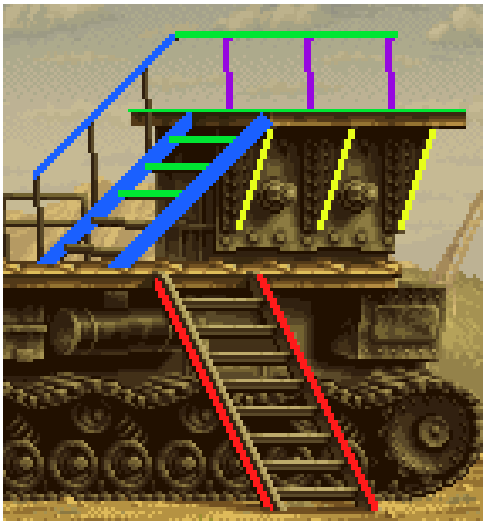
You do NOT need to draw curves pixel by pixel. That's too much work!

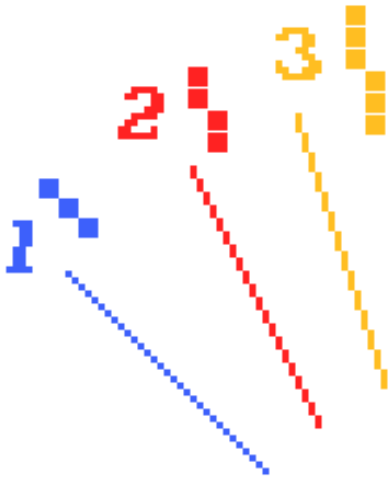
Draw rough lines and chisel away parts you don't need. While some programs offer better pixel brushes that can avoid thicker parts, jaggies are UNAVOIDABLE. ***So fix them!***

Pixelart loves lines that have the same “stairs”,
staircases with the same number of pixels on each step. . . It just looks smoother!



Metal Slug 3 (Neo Geo)





The steeper the line, the bigger the ‘step’!

DON’T MIX STAIRCASES. If you have stairs of TWO, don’t include a ONE. Keep your staircase equal and avoid jaggies.

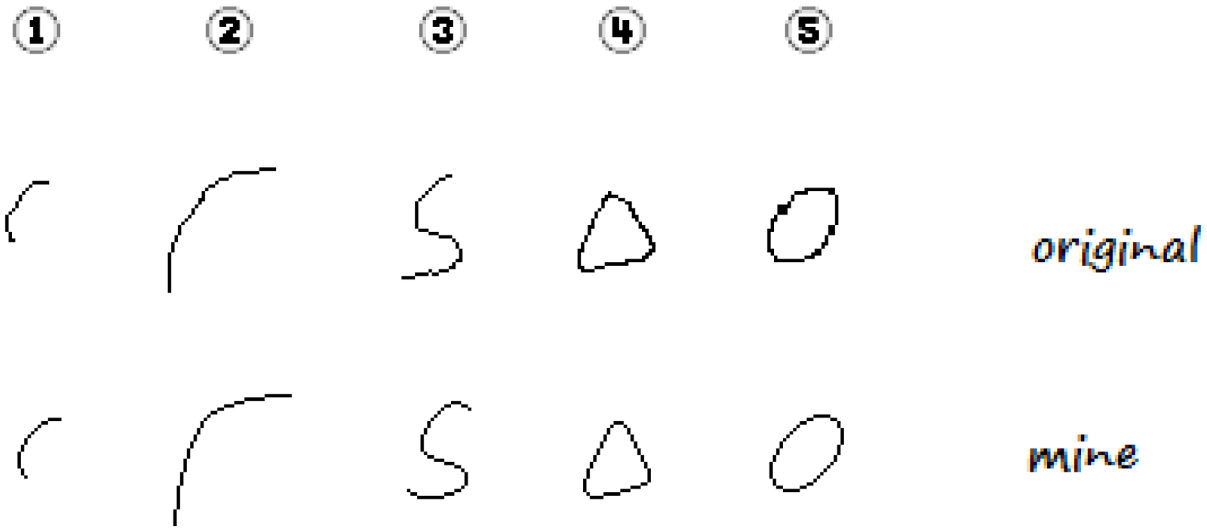
No need to redraw the lines or CTRL+Z every time.

Remember that you can always use the selection tool. You can also chisel away pixels.
Chip away or add pixels so that you obtain nice lines!

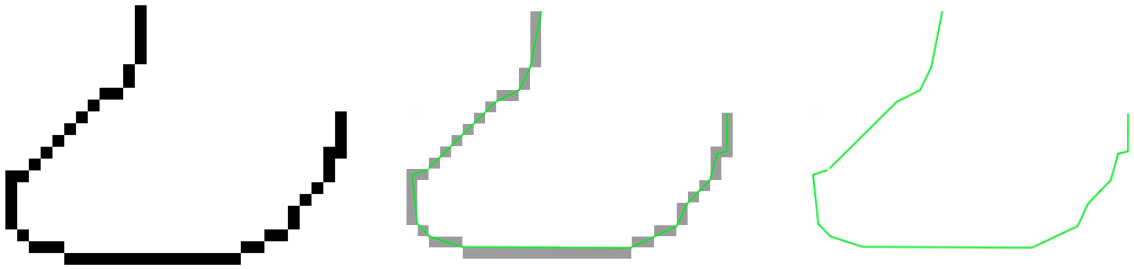
Pixel-Logic bonus #1

Still unsure of how to clean up jaggies? No Problem!
Throughout the guide I'll provide extra tips, starting here!

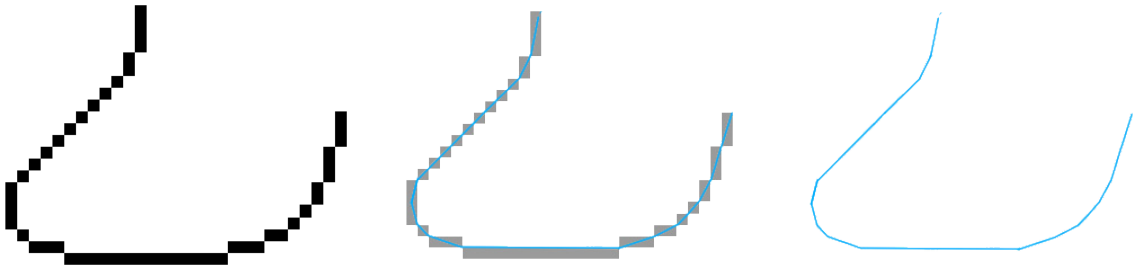
As I've described, chiseling away at your lines is much more natural than being a perfectionist.
This works for every issue, and you can see below some examples I did to emphasise that!



Another way to see jaggies is to imagine your pixelart like vector lines!



Jagged...



Fixed!

So if you're not sure, draw over it and you'll see the mistakes.

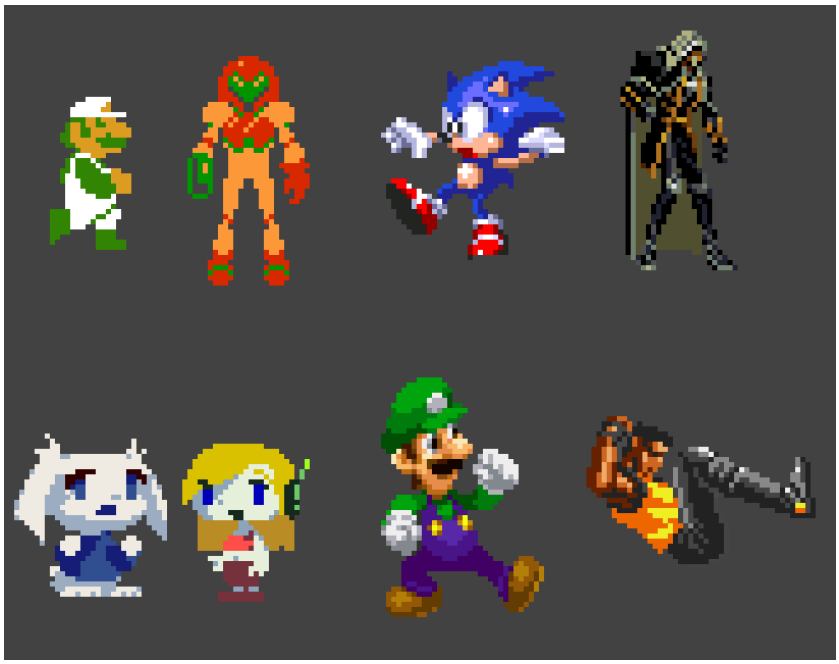
Outlines

The outline is a major attribute that defines a sprite's style.

You may have noticed that pixelart comes in many shapes and forms. Like any art!
Here are the types of outlines I identify:

No outline

Super Mario Brothers (NES), Metroid (NES), Sonic 3 and Knuckles (Genesis),
Castlevania SotN (PS1), Cave Story + (PC), Mario & Luigi: Dream Team (3DS), Streets of Rage (Genesis)



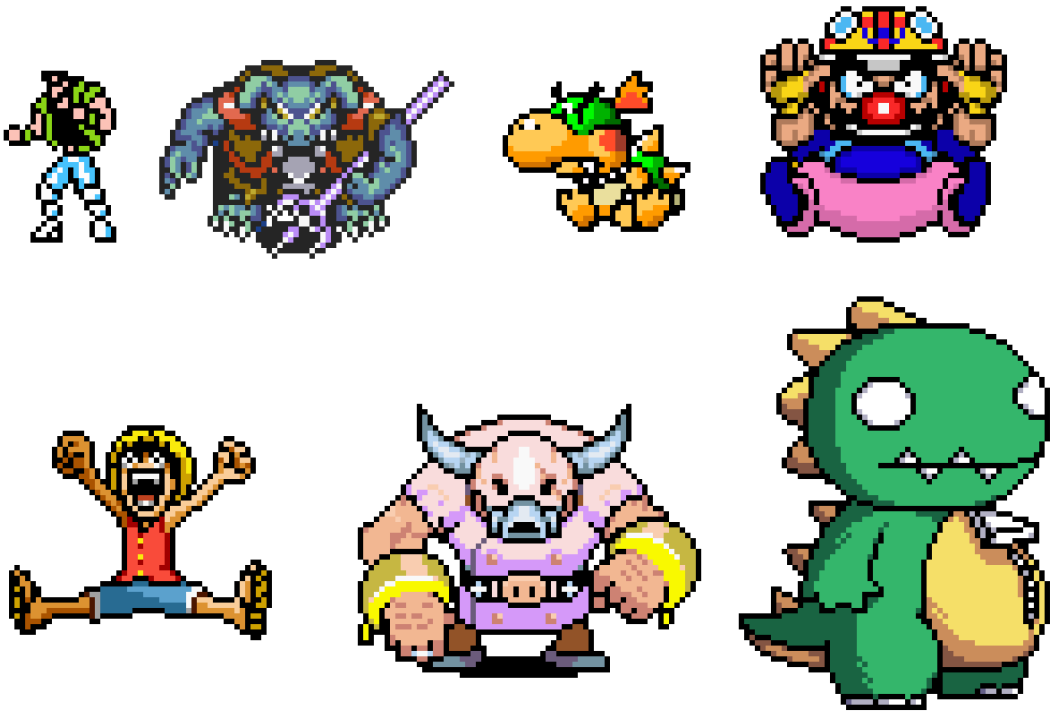
No outline sprites are pixels with vector shaped graphics.

They are usually solid colours and occasionally have shading and broken outlines.

Don't be fooled; even without lines, you still need to clean jaggies! (sorry...)

Black inline

Shatterhand (NES), LoZ: Link to the Past (SNES) , Yoshi's Island (SNES),
Warioware Twisted (GBA), Shonen Jump: Jump Ultimate Stars (DS) , Mother 3 (GBA), Scott Pilgrim (Xbox 360)



Black inline pixels are sprites with black lineart that goes **inside** the sprites too.

This was very effective in the NES era as a way to circumvent the limitations. Today, It makes sprites rather muddy.

Well, not ALL sprites...!

Shovel knight (various)

Black contour

WarioLand 4 (GBA), Kirby Superstar Ultra (DS), Mario & Luigi: Bowser's Inside Story (DS),
Magical Taruruuto-Kun (Genesis), Chrono Trigger (SNES), Kirby Squeek Squad (DS), Boktai 3 (GBA),
Riviera: The Promised Land (GBA)

Mario & Luigi: Bowsers Inside Story (DS)

With black contouring, only the contour has a black outline, but the inside is completely coloured with little to no black. It helps your sprite stand out from backgrounds and look clean!

It's the style that is used commonly today with sprites, and is very popular with modern handheld games.

Note: Your outline can be thick or thin, it is a stylistic choice! The thicker the outline, the more Anti-Aliasing it will require

Coloured

Adventures of Batman and Robin (SNES), Enchanted (GBA), Congo's Caper (SNES),
Mario All Stars (SNES), Hamelin No Violin Damaki (SNES) Metroid Fusion (GBA), DK King of Swing (GBA),
Castlevania: AoS (GBA), Monster World IV (Genesis)

The outline is coloured according to the colour it surrounds. Every part of an object has its own coloured outline.

The outline of a block will be the darkest shade of the inner block.

Above: Slime Mori Mori DQ (GBA)
Right: Sam and Max Hit the Road (PC)

Selective outline

Selective outline is lineart that is shaded with a lightsource! It"s the most common type of outline in pixel art, and works great with backgrounds.

Ristar (Genesis), Pulseman (Genesis), Alundra (PS1), Parodius Da (SNES), LoZ: Minish Cap (GBA), Super Pocket Fighter (Saturn), Shantae: Risky's Revenge (DSi)

It blends perfectly with the environment.
Light or dark background, it doesn't matter!

Case example: Pokémon sprites

Generation IV sprites (DS)

Pokémon sprites from the Gameboy Advance up to the Nintendo DS feature selective outline. They're timeless. The colourful outline makes them so great.

Pokémon sprites are a prime example of selective outline.
Go study them.

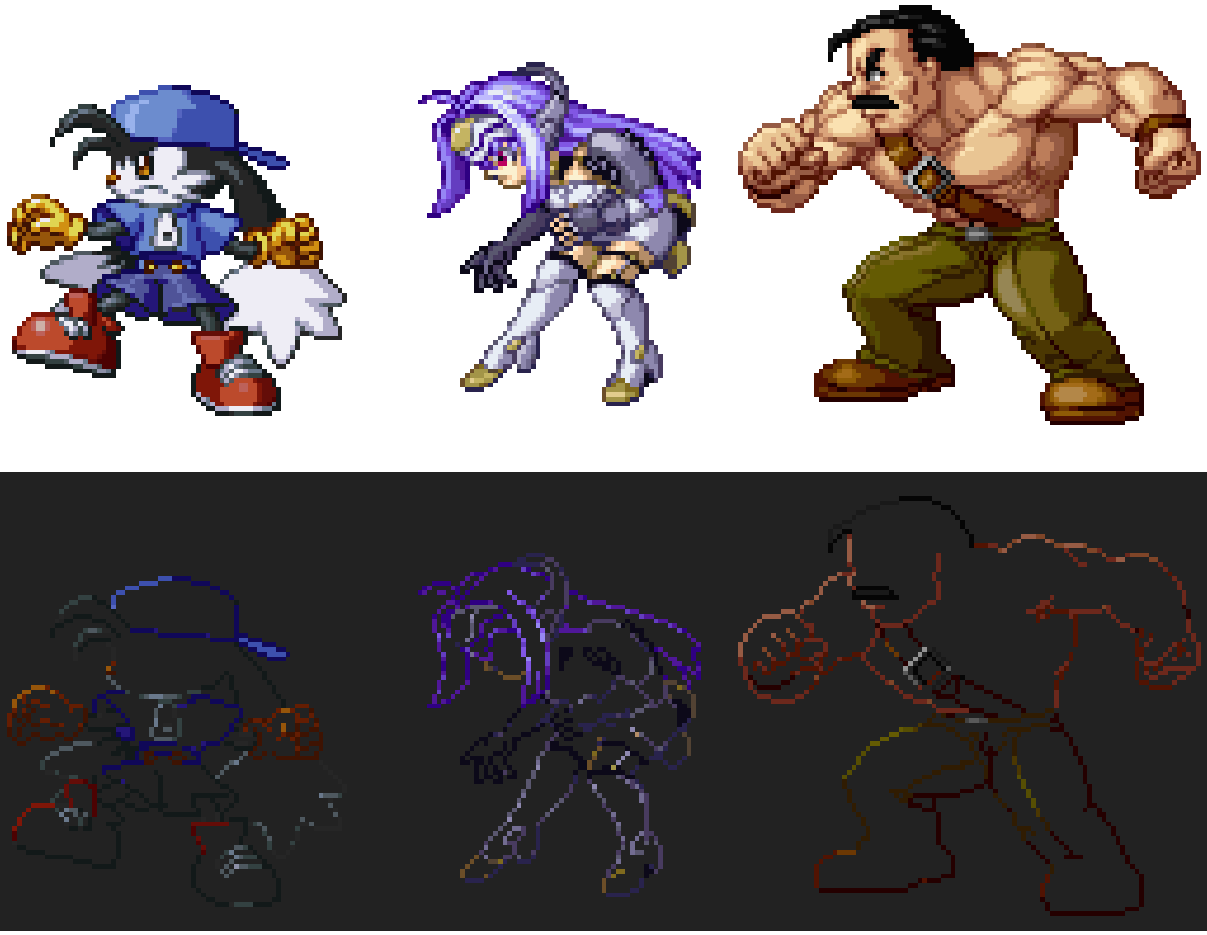
It may be hard to see the outline fully without zooming in or with inner colour. Let's remove everything ***but*** the outline.

It's super effective!

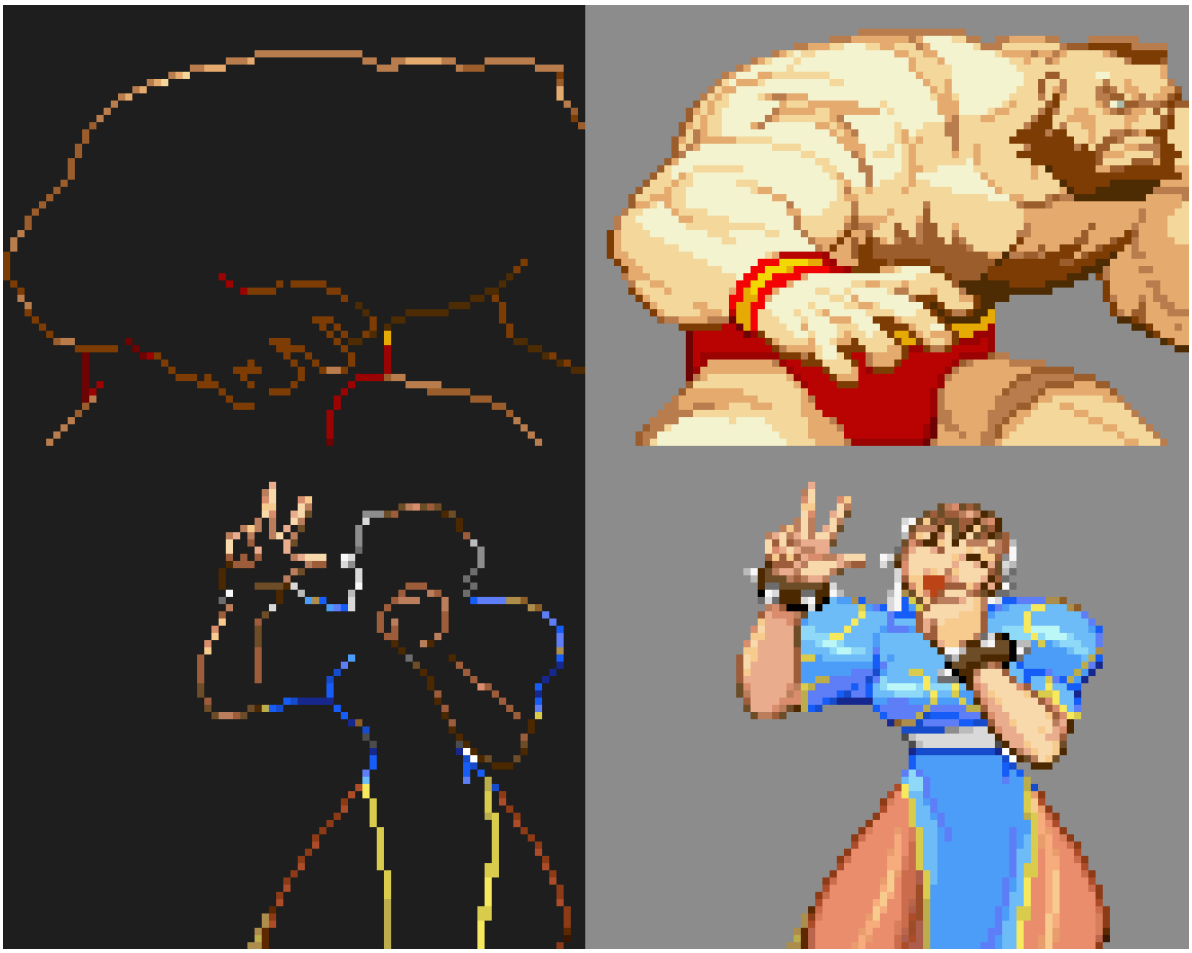
It's now obvious that:

1) The lineart is clearly shaded.

2) The light source is visible.



Namco x Capcom (PS2)

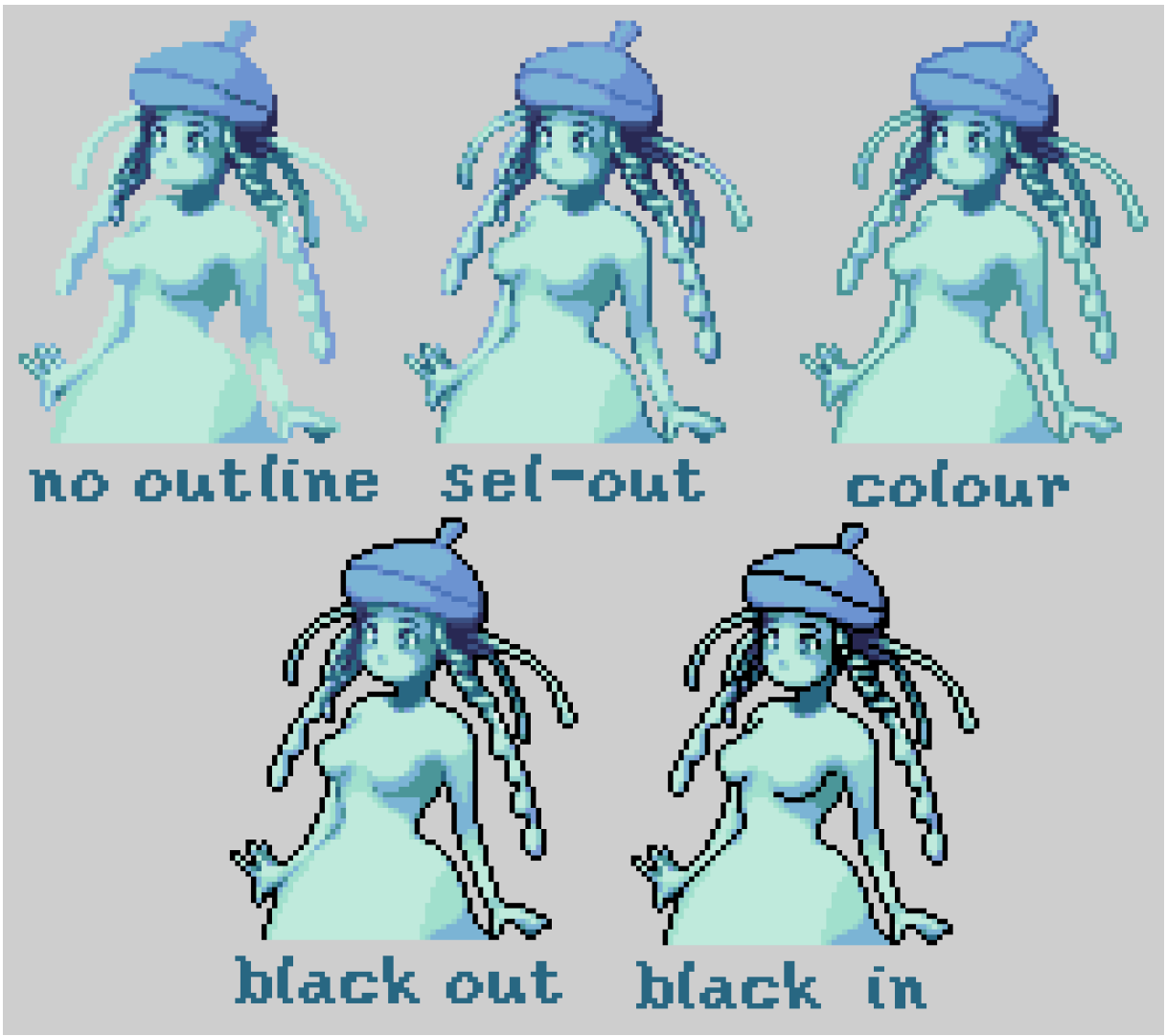


Streetfighter III: 3rd Strike (Arcade), Marvel vs Capcom II (Arcade)

Conclusion

Here's a summary of the different types of outlines. As you can see, **different outlines can completely change the style of a sprite**! It's an important step, regardless of what technique you use.

Lineart will be applied at any stage of the process, so it's vital that you experiment and practice with lines.



Outlines will be mentioned again in future chapters. Selective outlines can vary and the topic will be expanded upon in the **anti-aliasing** section.