Stride: when sliding the kernel over the image, you skip over some (i.e. a stride of n means start at the corner, move n pixels, convolve, move n pixels, etc). It has the same effect as max pooling.
AdaptiveMaxPool just means instead of stating the pooling dimensions (i.e. taking the max out of an n by n square for each n by n square), state how big you want the resulting image to be. Thus, doing a adaptive max pool on a 10 x 10 image with the parameter 2 will result in a 2 x 2 image).
A fully convolutional network is a network where all layers are convolutional layers except the last one.