

What is a Chart?

A chart is a symbolic representation of your knitting, as seen from the right side of the work. Each symbol, or group of symbols, has a definition that tells you how to knit that stitch. Here's a very simple chart, for a k2p2 ribbing stitch:

	4	3	2	1	
	●	●			1

Legend:

□	knit
●	purl

Created in Knit Visualizer (www.knitfoundry.com)

All charts for this document were created using The Knit Visualizer, available soon from The Knit Foundry. Email any questions, suggestions, corrections, etc to

Reading the Chart

By looking at the Legend, we know that the empty squares represent knit stitches, and the squares with a dot in them are purl stitches. You'll notice that the column headings in the chart go from *right* to *left*. That's because you read the chart from right to left, just as you knit the rightmost stitches first. In an uncharted pattern, you might see a k2p2 ribbing written as:

R1: *k2 p2 repeat from * to end of row

You start each row with a knit stitch in these instructions, or in reading from the chart. However, the repeat indicators ("*" and "repeat from *") are implied in the chart. You could show the repeat in the chart, but it would be a waste of space. Here is (k2 p2) 5 times:

	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
	●	●			●	●			●	●			●	●			●	●			1

This would be like writing:

R1: k2, p2, k2, p2, k2, p2, k2, p2, k2, p2

It's much harder to see where the actual repeat is when it's written this way. Imagine if the middle p2 were a p3! I'd probably miss it the first time through, and then wonder why my stitch count was off later on. In a chart, that kind of difference would be very obvious:

	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
	●	●			●	●			●	●	●			●	●			●	●			1

While this example seems a bit overdone, it is meant to demonstrate how the visual aspect of charts can really help you see what you need to knit.

Charts for Flat Knitting vs. Circular Knitting

So far we know to look at the chart's Legend to see what each symbol means, read the chart starting from the right, and moving to the left, just like our stitches do on our needles. This works when we are looking at the right side of the knitting. What happens when we reach the end of the row, and turn it over? We're now facing the back of the work! We can't simply start over at the right side of the chart, our knitting would end up looking wrong. In that case, we need to know what those symbols mean when we are looking at the wrong side. Our legend can tell us that information.

	4	3	2	1	
	●	●			1

Legend:

knit

□ RS: knit stitch
WS: purl stitch

purl

● RS: purl stitch
WS: knit stitch

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This is the same exact chart as shown above, but with additional information included in the legend. The legend tells us to knit empty squares on the right side (RS), but purl them when on the wrong side (WS). The last thing we need to know about reading a chart when working on a wrong side row is to read the chart from the left now. The chart represents the view of the work from the right side, so we need to imagine that we've flipped the chart around and we're looking at it from the backside. If the chart had more than one row in it, the row number location would give us a hint on which way to read each line. Here is the chart for Mistake Stitch Rib, knit flat:

	4	3	2	1	
2		●	●		
	●	●			1

This pattern has two lines. The first line is a right side row & we start reading where the #1 is, on the right side. The second row is a wrong side row, and we see the number 2 on the left. This gives us a hint to read that line from that direction.

What if we are knitting our item in the round, such as in a sock? The same Mistake Stitch Rib chart, but row numbers now indicate we're doing circular knitting:

	4	3	2	1	
		●	●		2
	●	●			1

Whatever pattern you're reading should explicitly state you are knitting in the round, but here again the chart can give us a visual clue. All the row numbers are on the right side of the chart. For every single row, we'll read the chart from right to left now.

Starting with a Wrong Side Row

What if the first row of your pattern isn't a right side row, but a wrong side row? The pattern should also say which type of row to start with, but the chart can give us more clues by putting the first row on the left side, which means to start on the wrong side of the work.

	4	3	2	1	
		●	●		2
1	●	●			

In this chart we begin on a wrong side row with row #1, and row #2 is our first right side row.

Reading Charts Summary

- Each symbol has a meaning
- For Right Side Rows, begin reading row on the Right
- For Wrong Side Rows, begin reading row on the Left and use the instructions for working that symbol from the Wrong side (WS in Legend)
- In Circular patterns every row is read in the same direction, usually from the right
- Charts typically only show one complete repeat which is used according to pattern directions

Other Examples

Obviously there is more to knitting than just knit and purl stitches. Let's look at some other commonly known patterns, and the charts.

Seed Stitch

	2	1	
2		●	
	●		1

Moss Stitch

	2	1	
4		●	
		●	3
2	●		
	●		1

Ripple Stitch
*Barbara Walker, A
 Treasury of Knitting
 Patterns, p13*

	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
10			●	●							●	●			
		●	●	●	●					●	●	●	●		9
8	●	●			●	●			●	●			●	●	
	●					●	●	●	●					●	7
6							●	●							
			●	●							●	●			5
4		●	●	●	●					●	●	●	●		
	●	●			●	●			●	●			●	●	3
2	●					●	●	●	●					●	
							●	●							1

Double Cables

	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
	●	●					●	●					●	●	5
	●	●					●	●					●	●	4
	●	●					●	●					●	●	3
	●	●					●	●					●	●	2
	●	●	●	●	●	●	●	●	●	●	●	●	●	●	1

Legend:

	purl purl stitch
	c2 over 2 left P sl 2 to CN, hold in front. p2, k2 from CN
	c2 over 2 right P sl2 to CN, hold in back. k2, p2 from CN
	knit knit stitch

Rows That Are Not the Same Length

Sometimes you'll run across a chart where increases will happen on one row, and decreases will happen on another row (common with lace or very dense cables). This leaves you with a different number of stitches per row. To represent this in a chart, we introduce the concept of "No Stitch". It's a symbol that specifically means "Do nothing, do not consume a stitch, just ignore this, it's a place holder".

Fan Shell

Barbara Walker, A Treasury of Knitting Patterns, page 206

	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
					○		○		○		○		○		○					6
5	■	■	■		↘									↘			■	■	■	4
3	■			↘																2
1				●	●	●	●	●	●	●	●	●	●	●	●	●				

Legend:

- knit

- purl

- No Stitch

- ssk

- k2tog

- yo

Created in Knit Visualizer (www.knitfoundry.com)

In the chart above, "Fan Shell", a variation on "Feather and Fan", the decreases happen on different rows than the increases. Row three is the first row of decreases, where two decreases happen, removing 2 stitches. As you can see, as you progress from row 3 to 4 to 5 stitches slowly disappear from the edges of the chart. "No Stitch" is represented with a grey box. On the row with the yarn overs, all the stitches are back – so we're back up to 19 stitches. When knitting a pattern like this, you would always start at the farthest left or right edge, ignoring the "No Stitch" cells.

Some patterns have a "No Stitch" cell in the center, this allow you to see how the pattern lines up in the chart; making it easier to recognize which row you are currently on.

Leaving Wrong Side Rows off the Chart

In some lace patterns, the wrong side row is always the same (either all knit or all purl stitches). Rather than waste a lot of space in the chart, the pattern will tell you : "All even rows, knit all stitches" and not include those rows in the chart. Here is one that creates a mock cable using lace:

	8	7	6	5	4	3	2	1	
									9
									7
		↘				○			5
			↘				○		3
				↘				○	1

Notice the row numbers start at 1, 3, 5, etc.

Looking at Multiple Repeats of the Same Pattern (also known as "playing around")

Sometimes it's hard to see how the pattern will knit based on only a single repeat of the stitch pattern. If you're playing around with your own charts, you might want to see what multiple repeats look like together, and mark the single repeat. Here's Mistake Stitch Rib with two repeats wide by three repeats tall:

	8	7	6	5	4	3	2	1	
		●	●			●	●		6
	●	●			●	●			5
		●	●			●	●		4
	●	●			●	●			3
		●	●			●	●		2
	●	●			●	●			1

The black border shows where the single repeat is. If you have ever seen Mistake Stitch Rib in yarn, you know that you get a very strong vertical line with a row of knits (columns 5 and 1) and a recessed area with a row of purls (Columns 3 and 7).

Resources

All of the charts in this tutorial were created with Knit Visualizer, charting software available from The Knit Foundry.

You can visit <http://www.knitfoundry.com/software.html> to download a free demo and purchase Knit Visualizer.

