

Chapter 120

CHARTING ON THE COMPUTER

Using a computer makes charting extremely easy. Let's look at the basics and some of the options we have available.

My Preferred Method

For reasons that will be explained to the *n*th degree in chapter 310, I construct most knitting charts using multi-column, multi-row tables in my word processor.

The Number of Table Columns

The tables have a minimum of three columns: the left column holds the private-side row numbers, the right column holds the public-side row numbers, and the middle column holds the stitch symbols.

The Number of Table Rows

I put each pattern row into its own table row, so the table has the same number of rows as the pattern.

I Do Small and/or Easy Charts Differently

In some cases, primarily for small charts like the ones in the previous chapter, I just type the charts on ordinary lines like this one, except that I use the knitting font. There is a small drawback to this technique, which is also explained in chapter 310.

Working with Your Word Processor

As I describe how to type up charts, I'll use the language that includes both the keys I type (or places where I click the mouse) as well as how my word processor responds. If you want to follow along, then if your word processor doesn't react the way mine does, you'll need to figure out the steps to take to get the result I describe.

The HollyKnits Knitting Font

The knitting font allows us to directly type the most commonly used symbols. There is no hunting around for the symbols that indicate knit, purl, yarnover, slip, increase, decrease, and the most common cables and twists.

If you can touch-type, the knitting font will have you making charts faster and more easily than you ever thought possible. Even if you can't touch-type, using the keyboard is still very quick.

Up to this point, we've only used two symbols in the charts:

k	□	Knit
p	◼	Purl

Those are both lowercase letters (the uppercase letters have different symbols and therefore different meanings). A space character in the knitting font is the exact same width as the knit and purl stitches. The digits 0 through 9 are also the same width as these basic stitches.

Typing Up a Chart Quickly

Once you become accustomed to using charts, you will find yourself able to type them up more and more quickly.

Perhaps some suggestions based on what I've learned may be helpful. Since the basic fabrics are too simple to be very instructive, let's create a half reverse-stockinette, half stockinette swatch.

Reverse and Stockinette Triangles

CO 8.

Row 1 (RS): P8.

Row 2 (WS): K7, P1.

Row 3: K2, P6.

Row 4: K5, P3.

Row 5: K4, P4.

Row 6: K3, P5.

Row 7: K6, P2.

Row 8: K1, P7.

BO.



Let's see how quickly we can type up this pattern's chart.

Step 1: Create the Table and Change the Font

We create a table with one row and three columns.¹ Then we select the entire table and change it to the knitting font.

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¹ The table can be just one row tall right now, because most word processors will add a new row if you press Tab while in the last cell of the bottom row. If you prefer, you can create the table with as many rows as needed to accommodate all the pattern rows.

Step 2: Start with the LAST Instruction Line

The last instruction line will almost always be a private-side row. But keep your wits about you in case it isn't! If the last pattern row is a public-side row, pop down to step 3 first to see how to type a public-side row, then come back here to learn how to do a private-side row.

Why do we start with the last line of the written-out instructions? Because the **top** row of the table will represent the **last** row of the pattern, since charts show row one at the bottom and the last row at the top.

Since most word processors will go tripping easily through table cells from left to right and top to bottom by just pressing the Tab key, that's the way I type up the charts. If I start at the bottom of the table with the first instruction row, then I have to click into each cell individually, moving my hand from the keyboard to the mouse and back (yes, I am that lazy!).²

The Row Number

Click in the left column, where the private-side row numbers will be placed. In this case, the last instruction line is for row eight, a private-side row. Type

8

and press Tab to move the cursor to the middle column.

Private-Side Row Instructions

There are a couple of things we have to remember about written-out instructions for private-side rows.

- ☉ When we type, characters get added from left to right. That means that we can read the written-out private-side row instructions from left to right in the normal way, **but**
- ☉ We must invert knits to purls and purls to knit, according to the standard rule of charts that we must show how the stitches look from the public side.

So when we are entering any private-side row into a chart, we simply read the written-out instructions from left to right. But as we are typing, we have to type a lowercase

k

for purl stitches and a lowercase

p

² Yes, Shift-Tab will move backwards through table cells and rows in my word processor, but I always seem to press some other key beside the Shift key, and I hate having to look at my hands to Shift-Tab correctly. Again, lazy.

for knit stitches.

Since row eight wants us to work “K1, P7,” we must enter the stitches as though the directions said “P1, K7.” With the cursor in the middle column, type

pkkkkkkk

because “K1, P7” on the private side looks like “P1, K7” on the public side.

That sequence comes from reading the instructions in the normal way from left to right while simultaneously inverting knits and purls for the private-side row.

Since you’ve already changed the table to use the knitting font, what you’ll see at this point is

8	• □ □ □ □ □ □ □	
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Press Tab to move the cursor to the right column. Since the last column holds the public-side row numbers, it remains empty on private-side rows.

Press Tab again, which will probably both add a row to the table and put the cursor in the first column on the new row.³

A Caution

You might be thinking that it would be better to put each symbol in its own column, instead of putting all the symbols in a single column.

We’ll see in chapter 140 why that’s not a good idea.

Step 3: Type In the Next-to-Last Pattern Row

The next-to-last pattern row will almost always be the last public-side row. But again, keep your wits about you. If your pattern ended with a public-side row, do this step first, then go back to step two to see how to do the private-side row.

We’re now ready to add the symbols for row seven, the next-to-last line of our instructions, to the chart. Since row seven is a public-side row, the left column, which holds private-side row numbers, will be empty on this table row.

Press Tab to move the cursor to the center column.

On public-side rows, we show the stitches as they are, so knits will have the knit symbol and purls will have the purl symbol.

The snag on public-side rows is that when we type, the stitch symbols will be added

³ If a blank row is not added to the table when you press Tab from the last column, add a row below the existing row in whatever manner your word processor requires, then click in the left column of the new row.

from left to right. That means the *first* stitch in the column must be the *last* stitch of the public-side row's written-out instructions. And of course, the *last* stitch in the column must be the *first* stitch of the public-side written-out row instructions.⁴

There are two ways to enter the stitches of public-side rows in the proper order.

Option A: Read the Instructions from the END of the Line

What we need to do is type the row's *last* stitch group *first*, then the next-to-last stitch group, then the third-to-last group, and so on, until the final group we type in the column is actually the first group in the written-out instructions.⁵

That means we have to read the instruction line *backwards*, starting at the end and working back group by group to the beginning. We type in each stitch as it is (knits as knits and purls as purls) as we read the written-out instructions from right to left.

Since the instructions for row seven are “K6, P2,” we read from the end of the instructions and see that the last group of stitches will be purls. So the first thing we type is

pp

to put the two purl stitches at the left end of the row in the chart. Reading backwards we next come to a group of six knits, so we type

kkkkkk

So the entirety of what we type for pattern row seven is

ppkkkkkk

In the knitting font, the table now shows

8	• □ □ □ □ □ □ □ □	
	• • □ □ □ □ □ □ □ □	

If we look at these stitches as we would work them, which for a public-side row means we start at the rightmost stitch, we have “K6, P2” across the row, just as instructed.

It does take some practice to do this reverse reading, and if it's too confusing, there is

⁴ I suppose the knitting-font symbols could have been put on either Hebrew or Arabic characters, since those languages are automatically treated as right-to-left languages. If you have a hankering to do that, let me know how it goes!

⁵ A stitch group is usually between commas in written-out instructions. So if a row's instructions are “K2, P3, K4,” it has three stitch groups: one with two knit stitches, one with three purl stitches, and one with four knit stitches.

another way to put the symbols in the chart in the order that they're worked on public-side rows.

Option B: Add a Group of Stitches, Then Move the Cursor

In this technique, we read the instruction line in the normal direction. Since the written-out instructions have a group of six knit stitches followed by a group of two purl stitches, we get started by typing

kkkkkk

in the center column, which gives us this partial row.

8	• □ □ □ □ □ □ □ □	
	□ □ □ □ □ □ □ □	

To get the purl stitches in the proper place relative to this group of six knit stitches, **we have to put the cursor to the left of the existing stitches**. We have several options for moving the cursor:

- ☞ click to the left of the stitches with the mouse
- ☞ press the Left Arrow key until the cursor is to the left of all of the stitches
- ☞ press the Home key

Then the next group we type will be to the left of all the stitches we already entered, exactly as it would be when we work row seven with needles and yarn.

So having moved the cursor to the left of the six knit stitches, we type

pp

to add the group of two purl stitches of row seven, which gives us

8	• □ □ □ □ □ □ □ □	
	• • □ □ □ □ □ □ □ □	

Finishing the Public-Side Row

Now we press Tab to move the cursor to the last column, and type

7

to add the public-side row number.

Here's the chart for the last two written-out instruction rows.

8	• □ □ □ □ □ □ □ □	
	• • □ □ □ □ □ □ □ □	7

Step 4: Continue to Add the Instruction Rows in Reverse Order

The *top* table row contains the symbols for the *last* instruction row, and eventually the *bottom* table row will show the symbols for the *first* instruction row.

Private-Side Rows

On private-side rows, we

- ☞ read each written-out instruction line in the normal left-to-right direction *and*
- ☞ switch knits to purls and purls to knits.

Option A for Public-Side Rows

On public-side rows, we

- ☞ read each written-out instruction line *backwards*, from right to left, from the end of the line to the beginning of the line, and
- ☞ type the groups of stitches as they are, knits as knits and purls as purls.

Option B for Public-Side Rows

The alternative on public-side rows is to read the written-out instruction line in the normal direction, from left to right, but we have to

- ☞ type the group, then
- ☞ move the cursor to the left of all of the stitches we've already typed.

We continue to add groups and move the cursor to the left of the already-entered symbols as we read through the written-out instructions in the normal direction.

The Downside of Option B for Public-Side Rows

Suppose we need to chart something like 1x1 ribbing or seed stitch. Since those two patterns alternate knits and purls, then when we need to enter them in a public-side chart row, we have to

1. type a single knit stitch,
2. move the cursor to the left,

3. type a single purl stitch,
4. move the cursor to the left,

and keep doing those four steps all the way across the row. If we have a really wide project, it gets aggravating to type a stitch, move the cursor, type a stitch, move the cursor...

But we can easily switch to option A at any time as well, once we see exactly what the stitch sequence is.

The Full Chart

If we follow the four steps for each row of the pattern, then the complete chart for the half-and-half triangles is

8	• □ □ □ □ □ □ □ □	
	• • □ □ □ □ □ □ □	7
6	• • • □ □ □ □ □ □ □	
	• • • • □ □ □ □ □ □ □	5
4	• • • • • □ □ □ □ □ □	
	• • • • • • □ □ □ □ □ □	3
2	• • • • • • • □ □ □ □ □	
	• • • • • • • • □ □ □ □	1

Duplicating Rows If Needed


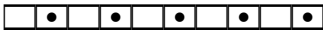


Remember that in moss stitch, we start with two rows of 1x1 ribbing. Then we work two more rows of 1x1 ribbing, but we move the stitches over one stitch to break the ribbing and form moss stitch. If we follow steps one through four, the chart looks like this:

4	□ • □ • □ • □ • □ • □ •	
	□ • □ • □ • □ • □ • □ •	3
2	• □ • □ • □ • □ • □ • □ •	
	• □ • □ • □ • □ • □ • □ •	1

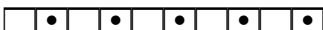
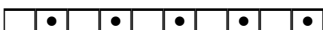


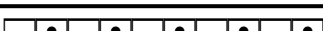
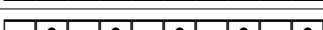
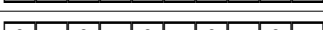
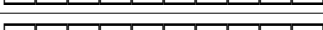
If we wanted to show, say, twelve rows of moss stitch, then we can just copy these four rows, paste them twice, and fix the row numbers.

We can add the copied rows at the top of the table or at the bottom, since each four-row group is identical. Adding them to the bottom is much easier, as it will be impossible to overwrite the existing symbols when we paste in the copied rows.

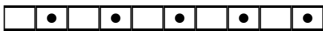
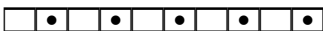


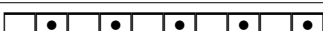
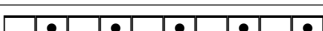
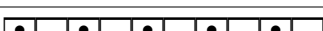
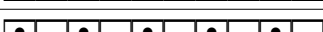
First, we add a blank row below row one, by whatever method we like.

4		
		3
2		
		1

Now we select and copy the top four rows (in the next chart they have a dark border to show what was selected), click in the left-most cell of the new row, and paste.⁶





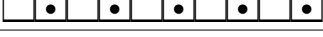
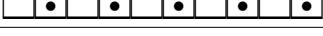

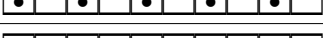
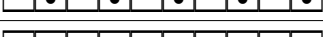
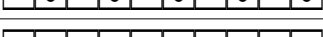
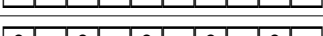
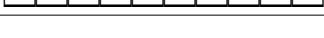
4		
		3
2		
		1
4		
		3
2		
		1

Since we need a third copy of rows one through four, we again add a blank table row at the bottom of the table

4		
		3
2		
		1
4		
		3
2		
		1

⁶ My word processor will add enough rows to paste the entire group of copied rows without my having to add all the needed blank table rows myself. If your word processor only pastes row four, then you'll have to add enough blank table rows before you can paste in however many rows you're copying.

click in the left column of the new row, and paste the four rows in again.

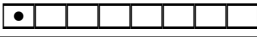
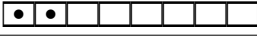
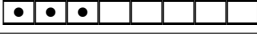



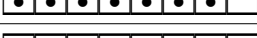
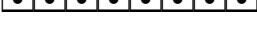
4		
		3
2		
		1
4		
		3
2		
		1
4		
		3
2		
		1

We would then fix the row numbers.

Personalize the Chart

We can change the table formatting in all kinds of ways. We can change or eliminate the borders around each cell, make the cells' interior margins smaller or bigger, or do anything else we want.

Let's center the chart in the page and turn off all cell borders except the ones between the rows.

8		
		7
6		
		5
4		
		3
2		
		1

If the chart were very large, we could shrink the cells' internal margins and reduce the

On public-side rows, we can enter the stitches as they are, knit for knits and purl for purls, but we have to adjust either

- ☉ the direction we read the stitch groups in the written-out instructions *or*
- ☉ the order we type the groups

Remember that groups are usually separated by commas in the written-out instructions, and that a “group” may consist of only a single stitch.

Option A: Read the Instruction Line Backwards

The stitch group at the beginning of a written-out public-side row instruction line needs to be at the far right of the table cell, and the stitch group at the end of the written-out instructions needs to be at the far left of the table cell. That means that we can add the stitch groups by typing in the ordinary way if we read the written-out instruction line from the *last* group to the *first* group.

Option B: Type a Group, Then Move the Cursor to the Left of the Group

It can be confusing to read the instructions from right to left, so if we want to enter the stitch symbols in the order that we read them, we can’t simply type them, because they’ll be put into the chart in the wrong order.

What we must do instead is type the first group in the instructions, then *move the cursor to the left of that group*. Then we type the second group in the instruction line and move the cursor to the left of the second group.

We continue to add a group and move the cursor to that group’s left as we read through the written-out instructions in the normal direction.

One-Stitch Groups Are a Hassle in Option B

If a group contains several stitches, whether knits or purls, we can type the whole group at once.

For example, if the instructions say “K5,” we can just type

kkkkk

then move the cursor to the left of the whole group. If the instructions say “P3,” we can type

ppp

then move the cursor to the left of the group.

But if, instead of groups of the same stitch, we have “groups” of individual stitches, as we would in 1x1 ribbing or seed stitch, it gets really annoying really fast to “type one stitch and move the cursor” repeatedly. Instead, once we’ve got the pattern in once, then we just type the pattern repeatedly in the normal way.

For example, suppose we need to chart twenty stitches of seed stitch. Instead of

* type k, put the cursor to its left, type p, put the cursor to its left,

and repeating from the *, we could do just one repeat in that way, which would give us this partial row:

2	<table border="1" style="margin: auto;"> <tr> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> </tr> </table>	•		
•				

Then, once we see that we have established the pattern correctly, we put the cursor at one end or the other, and simply type

pkpkpkpkpkpkpkpkpkpk

to get the full chart row.

2	<table border="1" style="margin: auto;"> <tr> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> </tr> <tr> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> </tr> </table>	•		•		•		•		•		•	•		•		•		•		•		•	
•		•		•		•		•		•														
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If we now size the left and middle columns to fit the contents, we get the proper, and expected, result:

2	<table border="1" style="margin: auto;"> <tr> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px; text-align: center;">•</td> </tr> </table>	•		•		•		•		•		•		•		•		•		•		•	
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Step 4: Continue to Add the Instruction Rows in Reverse Numerical Order

The *top* table row will contain the symbols for the *last* instruction row, and eventually the *bottom* table row will show the symbols for the *first* instruction row.

So as we work our way *upwards* through the written-out instructions, we work our way *downwards* through the chart. That’s because the chart has row one at the bottom and the last row at the top.

An Alternative: Type Up Each Row in Order

We could, of course, work our way upwards through each table row, typing in chart-row one in the bottom table row, then moving upward for each succeeding row. But since most word

processors will automatically add a new blank row when we press Tab while in the last column of the bottom row, it's easy to type from top to bottom in the table.

If it would be less confusing to fill in the chart from bottom to top, that's great! Do it that way.