Goal: output a colored accurate picture of a crochet pattern.

Step 1: get input pattern by row

Step 2: Read pattern by row.

Step 3: out put picture

Step 1: (A) how input pattern?
- (1) type each row
- (2) read from file
  - what type of file?

(B) Gauge?
- consider gauge?

(C) Store pattern
- as a file?
- as an array?
- as a other?

Step 2: (A) Read by line
- depends on how stored

(B) # corresponds to stitches
- how?
  - Properties of stitches
  - what about when influenced by other rows?

Step 3: (A) (1) Out put picture
- pdf?
- picture?
- format

Considerations
- hook size + Yarn relationship = later.

Important phrases:
1. # nth/rd from hook
2. SKIP next ____
3. — in next ____
4. ☆
5. C
6. [
7. ε
8.)
9.]
10. 3
11. repeat from ____
12. in last
13. Turn.
14. ch-space
15. ,
16. ;
17. :
18. .
19. Row #:

stitches:
ch, sc, hdc, dc, tc

To Do:

(1) Read Simple patterns
   a. look @ Common phrases & symbols
   b. look @ Format
(2) Study most common stitches
   A) figure out what the base stitches are For stitches
      ① which need their own special def
      ② which are composites of other stitches

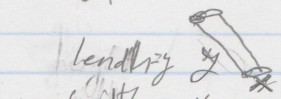
(3) Determine what pattern instructions will look like:

Row 1: ch 3, tr( )

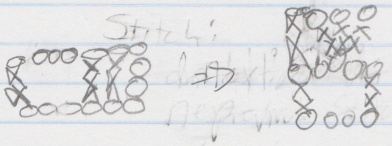
or will I do: repeat to end or do 400 times. (or both)

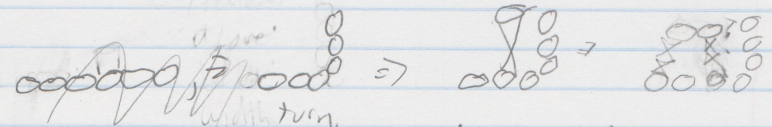
ch figure out a unit of measure measure.

Properties of a stitch?



bottom most right position ✓
top most right position (?)





(4) Measure out stitches. (do sample stitches.
   ↳ gauge swatch as well.

(2) - do a swatch of 10 by 10 stitches of each type of stitch
(3) measure difference in size & get ratio of length & width for each stitch to a base stitch
(4) figure out width & length (?) of chain.
(1) repeat 1-3 for a different size string & appropriate sized hook. until bored.
optional ~~check to~~
(5) check to see if ratio is the same for all types of string
* (6) create a stitch unit

Stitch Abstract? Interface? Superclass?

variables
- width => final int in stitch units
- length = final int
- positionBottomLeft (x,y) = Point
- PositionTopLeft (x,y) = Point.
- type = "" String
- PositionBottomRight(x,y)
- PositionTopRight(x,y)
- (7) array of Points & PositionTopRight, positionTopLeft, positionBottomRight, positionBottomLeft?

methods.

- setNewPositionBottomLeft (Point bottom)
- setNewPositionTopLeft (Point top)
- setNew Position (Point old, Point newpoint)
- Point getBottomLeft
- Point getBottomRight
- Point getTopLeft
- Point getTopRight.
- array Point getAllPositions

ex: 5dc bobble

```
Class Bobble
    final String type = "bobble" // maybe instead just a class check
Class Bobble (int inputNumStitches, String stitchType, Point topLeft,
                Point bottomLeft)

    final int numStitches = inputNumStitches;
```