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| Instructions |  |
| In 1974 Herbert Freeman developed a “chain code” for primitivising (is that a word?) line images for plotting purposes.  This code is simply a sequence of numbers between 0 and 7 indicating which direction the pen should move from its current position.  For example, the sequence “2222207654” might look like a capital letter 'P'.  Directional codes are applied like this…QA black background with a black square  Description automatically generated with medium confidence   * 0 or 4   + Draw '-' and move cursor one position to the right or left, respectively * 1 or 5   + Draw '/' and move cursor one position up and right or down and left, respectively * 2 or 6   + Draw '|' and move cursor one position up or down, respectively * 3 or 7   + Draw '\' and move cursor one position up and left or down and right, respectively   Your Program  Write a C, C++, or Python program that takes as a command line argument an input filename.  That file is a file of chain code strings (one per line).  Each line should "plotted" following the rules provided above, where characters are drawn at the current cursor position and then some cursor movement follows.  If the cursor draws in a space that already contains a character, the pre-existing character is replaced.  The final output should top-left justify each drawing with no trailing whitespace on any line other than newlines.  Example   |  |  | | --- | --- | | Input | Output | | 7 7 0 0 0 0 3 3 4 4 4 4  2 2 5 5 5 0 0 0 0 4 6 6 6 | \----   \   \    ----\     /    /|   / |  ---|-     |     | | | |