

# CSCI 120 Introduction to Computation

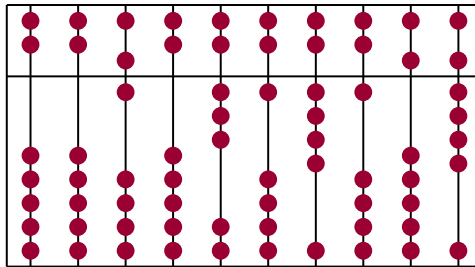
## Homework 2

### Solution

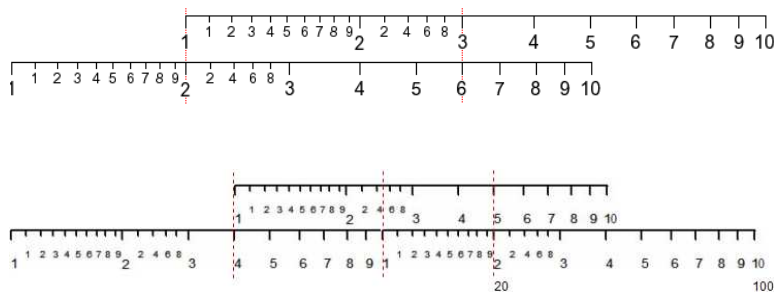
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**PART 1: Old fashion calculators...**

(a) Draw the configuration of an Abacus showing the number 60314159.



(b) Use two Gunter Lines to show the result of multiplying  $2 \times 3$ , and three Gunter Lines to show the result of multiplying  $4 \times 5$ . You can cut a Gunter Line from the lecture notes.



**PART 2: A tribute to Babbage**

Consider the following polynomial  $p(x) = 3x^3 - 2x^2 + x$ . Tabulate  $p(x)$  for  $x = 0, 1, 2, \dots, 100$  using Microsoft Excel. Show the first difference, the second difference, and the third difference as would the Difference Engine of Babbage compute.

**PART 3: Other old devices**

What is the oldest piece of technology that you own/have seen as a child at home?