Data Structures

Condensed Notes

May 6, 2025

Contents

Chapter 1

Formula

1.1 Address calculation

Single dimension : base + size*(j-lowerBound)
for a two dimensional matrix whose row index starts at r_f and ends at r_l
and whose column index starts at c_f and ends at c_l
the matrix is M$[r_l - r_f + 1, c_l - c_f + 1]$
Address of M[i,j] is

- **Row Major** : $base + [(c_l - c_f + 1)(i - r_f) + (j - c_f)] * size$
- **Column Major** : $base + [(r_l - r_f + 1)(j - c_f) + (i - r_f)] * size$