Distribution Map

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Distribution Map

- It is a visual technique composed of large rectangles containing small squares
  - Each square has a color
- Large rectangles are called ***parts***
- Small squares are called ***elements***
- Colors represent the ***properties*** we want to analyze

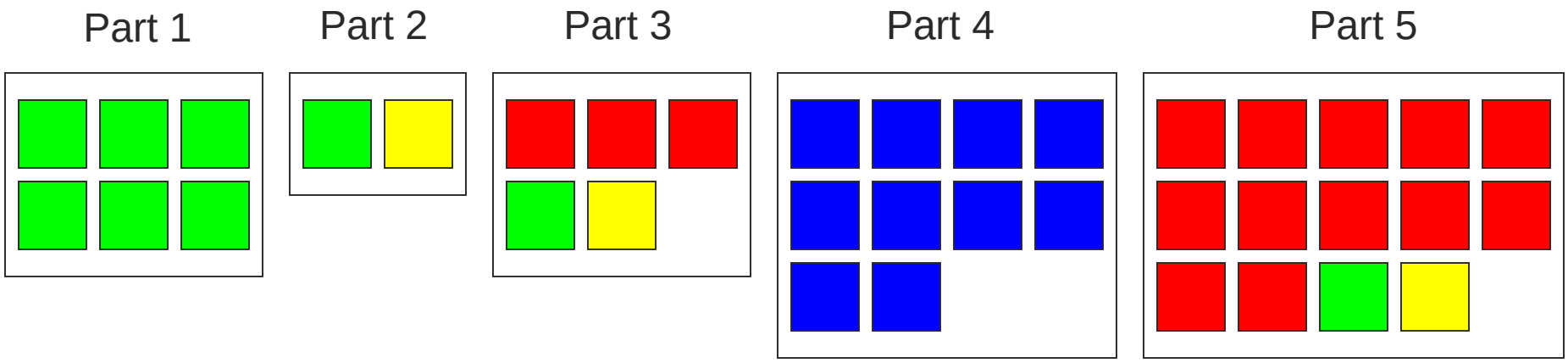
Partitions

- Distribution Map relates the reference partition (rectangles and squares) to a comparison partition (colors)
  - Reference partition is the intrinsic structure of the system (e.g., classes and methods)
  - Comparison partition is given by a grouping or property (e.g., class owners)

Analyzing Distribution Map

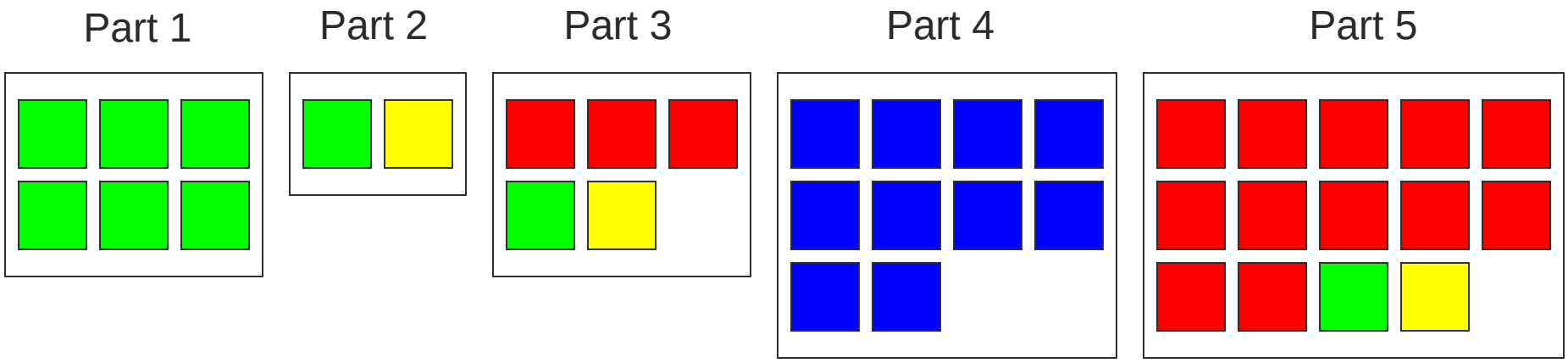
- With Distribution Map, we can characterize
  - The parts with respect to the contained properties
  - The properties with respect to their distribution over the parts

Example of Distribution Map



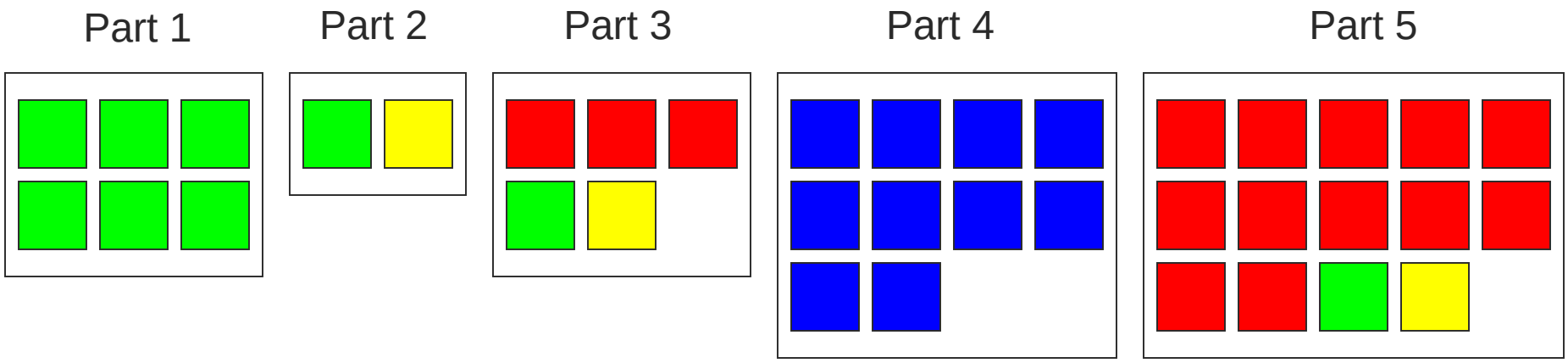
- Five parts with 6, 2, 5, 10, and 14 elements, respectively
- Four properties: Red, Blue, Green, and Yellow

Example of Statement (1)



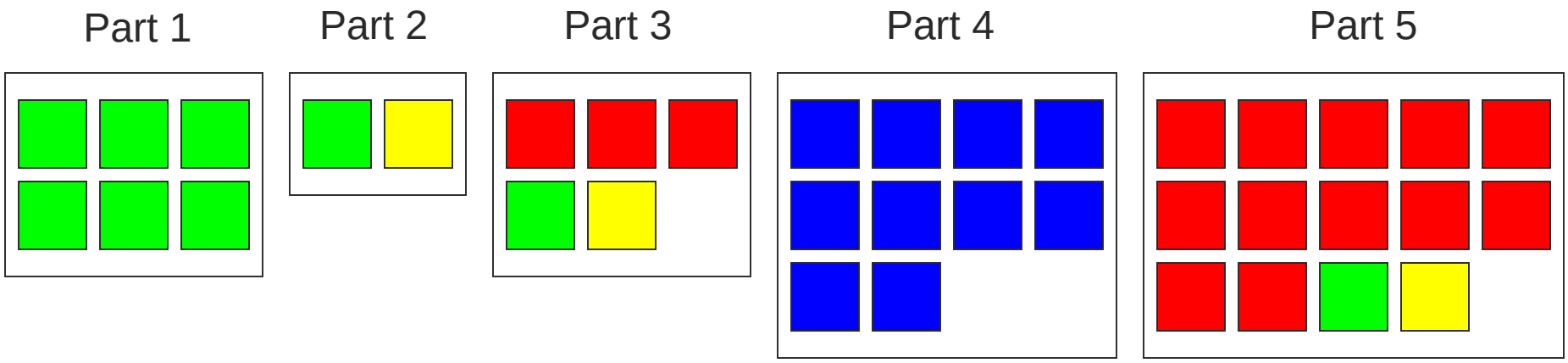
- Blue is well-encapsulated
  - This property is located in only one part

Example of Statement (2)



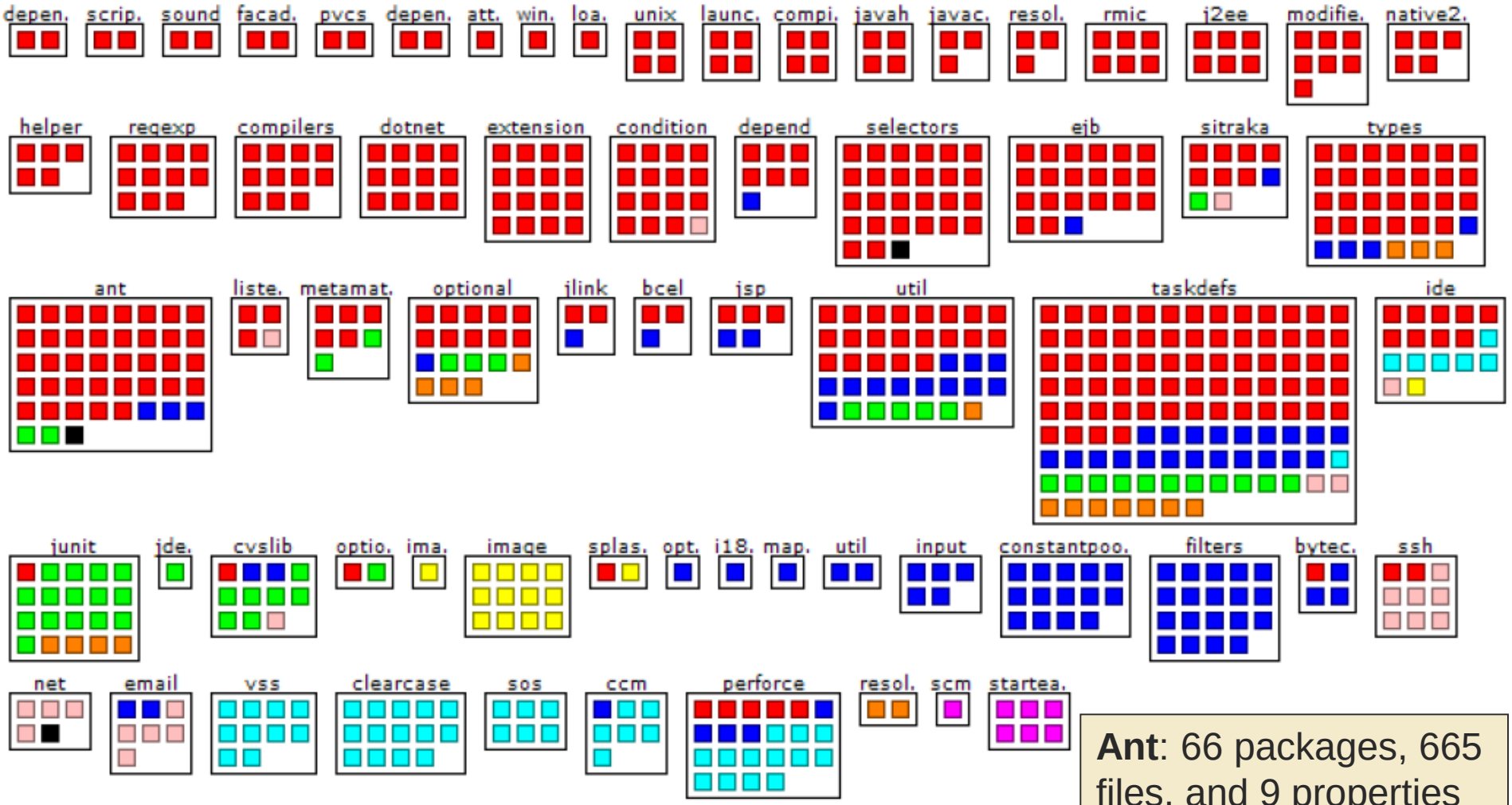
- Yellow is crosscutting
  - This property spread over three parts

Example of Statement (3)



- Part 1 and Part 4 are self-contained
  - This parts have only one property each

Scalability of Distribution Map



Ant: 66 packages, 665 files, and 9 properties

Bibliography

- S. Ducasse, T. Girba, A. Kuhn. **Distribution Map**. International Conference on Software Maintenance (ICSM), pp. 203-212, 2006.