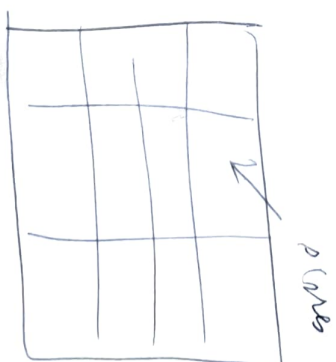
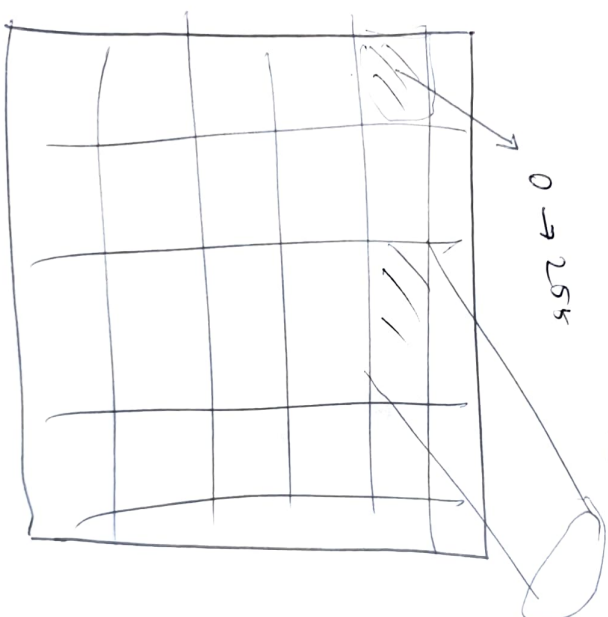


$0 \rightarrow 255$



1

products → bat ball

shoppers ↓

|   |     |     |   |  |
|---|-----|-----|---|--|
| 1 | 100 | 100 |   |  |
| 2 |     |     |   |  |
| 3 |     |     | 1 |  |
| 4 |     | 100 | 1 |  |
|   | 100 |     |   |  |

customer 1

customer 2

BS 692

user ↓

|  |   |   |    |   |    |    |
|--|---|---|----|---|----|----|
|  | 1 | 0 | NA | 1 | NA | NA |
|  |   |   |    |   |    |    |
|  |   |   |    |   |    |    |
|  |   |   |    |   |    |    |
|  |   |   |    |   |    |    |

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Clustering shopping data  
 shoppers (rows) and products (columns)  
 products can be crisps, cereals etc. (high volume)  
 AND sports equipment (low volume)