* Implicant group
  + Prime implicant is maximizing the grouping
  + Largest while adding one new implicant each time





Example 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ab\cd | 00 | 01 | 11 | 10 |
| 00 | 1 | 1 |  | 1 |
| 01 |  |  |  | 1 |
| 11 |  |  |  |  |
| 10 | 1 | 1 |  | 1 |

B’d’ ; a’cd’ ; b’c’

F=b’d’ + b’c’ + a’cd’

Example 3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ab\cd | 00 | 01 | 11 | 10 |
| 00 | 1 | 1 |  |  |
| 01 | 1 | 1 |  |  |
| 11 |  | 1 | 1 | 1 |
| 10 |  |  |  |  |

(row,col)

G1 = (00,00),(00,01),(01,00),(01,01)

G2 = (01,01),(11,01)

G3 = (11,01),(11,11)

G4 = (11,11),(11,10)

G5 = (11,01)

F\_1 = G1+G2+G4 and F\_2 = G1+G3+G4

F\_1 and F\_2 gives the same simplification and both are acceptable.

* Minterm; denote as \Sum; look for 1s; SOP; grouping of 1s.
* Maxterm; denote as \Pi; look for 0s
* Apply de morgan and negate everything
* Grouping can only be 2 to the power
* Up to page 27

Mid term

* Essay question
* MC
* Problem solving
* Mid/max terms

More Examples

Solve via k-map using POS.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ab\cd | 00 | 01 | 11 | 10 |
| 00 | x | x | x | 1 |
| 01 | 0 | 0 | x | 0 |
| 11 | 0 | 0 | 1 | 0 |
| 10 | 1 | 0 | 0 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ab\cd | 00 | 01 | 11 | 10 |
| 00 | x | x | x | 1 |
| 01 | 0 | 0 | x | 0 |
| 11 | 0 | 0 | 1 | 0 |
| 10 | 1 | 0 | 0 | 1 |