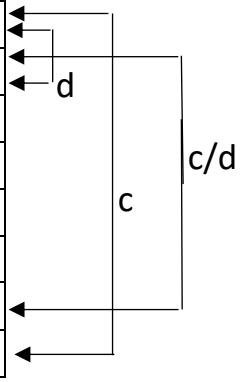
5321 Homework 2.4a

a)

a + b'c'

a	b	c	a + b'c'
F	F	F	T
F	F	T	F
F	T	F	F
F	T	T	F
T	F	F	T
T	F	T	T
T	T	F	T
T	T	T	T

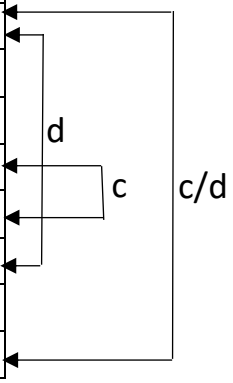


1. Condition/Decision coverage: (FFT,TTF)
   Condition coverage: (FFF,TTT)
   Decision coverage: (FFF,FFT)
2. TOF: b'c', a
   TNF: a'+b'c', a+b+c

b)

a(c + d) = ac + ad

a	c	d	ac + ad
F	F	F	F
F	F	T	F
F	T	F	F
F	T	T	F
T	F	F	F
T	F	T	T
T	T	F	T
T	T	T	T



1. Condition/Decision coverage: (FFF,TTT)
   Condition coverage: (FTT,TFF)

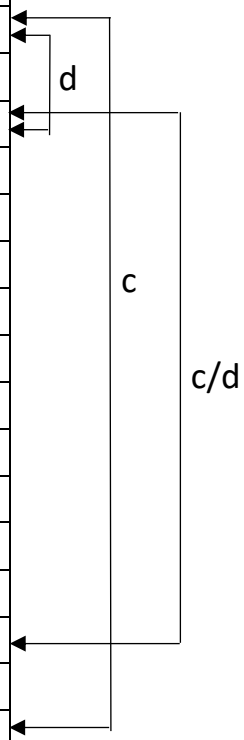
Decision coverage: (FFF,TFT)

2. TOF: ac, ad
   TNF: a'+ c'+ ad, ac + a' + d'

c)

ab + c' + d

a	b	c	d	ab + c' + d
F	F	F	F	T
F	F	F	T	T
F	F	T	F	F
F	F	T	T	T
F	T	F	F	T
F	T	F	T	T
F	T	T	F	F
F	T	T	T	T
T	F	F	F	T
T	F	F	T	T
T	F	T	F	F
T	F	T	T	T
T	T	F	F	T
T	T	F	T	T
T	T	T	F	T
T	T	T	T	T

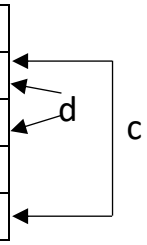


1. Condition/Decision coverage: (FFTF, TTFT)
   Condition coverage: (FFFF,TTTT)
   Decision coverage: (FFFF,FFTF)
2. TOF: c' +d, ab + c', ab +d
   TNF: a' +b' +c' + d, ab+ c+ d, ab + c' + d'

d) ab XOR (a + b)

= ab (a + b)' + (ab)' (a + b)
= ab (a'b') + (a' + b') (a + b)
= a'b + b'a

a	b	a’b + b’a
F	F	F
F	T	T
T	F	T
T	T	F



1. Condition/Decision coverage: null
   Condition coverage: (FF, TT)
   Decision coverage: (FF, FT)

2. TOF: a’b, b’a
   TNF: a +b’ + b’a, a’b+ b + a’