

Review of Closure, Non-Closure Properties; Let L1, L2 be Non-Regular CFLs; R1, R2 be Regular; Answer is about S

Definition of S / Characterization of S	Always Regular	At worst a CFL	Might not be CFL
$S = R1UR2$	X		
$S = R1 \cap R2$	X		
$S = \text{Complement of } R1$	X		
$S = \text{Reversal of } R1$	X		
$S = L1UL2$		X	
$S = L1 \cap L2$			X
$S = \text{Complement of } L1$			X
$S = \text{Reversal of } L1$		X	
$S = R1/R2$	X		
$S = L1/R1$		X	
$S = L1 - R1$		X	
$S = R1 - L1$			X
$S = \max(R1)$	X		
$S = \min(R1)$	X		
$S \subsetneq R1$			X

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Definition of S / Characterization of S	Might be Regular	Might be non-reg, CFL	Might not be CFL
$S = L1UR1$	X	X	
$S = L1UL2$	X	X	
$S = L1 \cap R1$	X	X	
$S = L1 \cap L2$	X	X	X
$S = \text{Complement of } L1$		X	X
$S = \text{Reversal of } L1$		X	
$S = L1/R1$	X	X	
$S = L1 - R1$	X	X	
$S = R1 - L1$	X	X	X
$S = \max(L1)$	X	X	X
$S = \min(L1)$	X	X	X
$S \subsetneq L1$	X	X	X