```
E = { 0 1 1 1 7 3 3
  Given: PEN
  Choose & SEE Site ISLZP
        5 = 03P P
Gran: 5 = xyz |y|70 |xy| \le P

xyz = 0^{2P} |P| x = 0^{a} y = 0^{b} z = 0^{c} |P|
           a+b+c = 2p a+b 0
 Choose : ; EN s.t. xyiz & E
         Xyiz = 0000001P
          atbite > P
          2p+(i-1)b>P
           (i-1)b >-P -> i-1 > +1b -> i>-P/b +1
           - (i-1)b < P
                                        P$ 0 670
           b-b; < p
        S = OP+1 1P
                  10 xy xy z = 0 p+1 1 x=0 y=0 2=0 C1 p
                       athtc=p+1
           xyiZA => a +b; +c > p
           (1=0) => a+c >p = b =0 a+c=p p/p
       PLUS = { 0 1 0 1 0 1 0 n, m & N }
                 "n + m = n+m"
 Guen : P
 Choose 1 5 = 0°1010°p+1 "p+1=p+1"
        x=0° y=0° 7=0°1010p+1 a+b+c=p
        xyiz = Oatbitc 1010pt1 EPLUS ift
            a + bi + c+ = p+1
            atbite =p =atbte
              b) = b
             i = 1
```

```
10-1/ Acceptors (DFAs) - Language Penot (REX)
    (sh = + or f) (rex => Set(str))
                                            CFL like REG
 Context - Free Languages (CFL)
  denotation: context- Free Gramman (CFG)
                                           CFG like REX
  acceptor: Push-Dun Automata (PDA)
                                           POA like DEA
Example (FG:
  A > E & a substitution rule
                                          one vanable
                                           is the stant
                                           variable (4)
 The ches (Vars v E)* > terminals on non-terminals
                                           variable on the lhs
                                           of the first rule
A "derivation." of a string of Gramman G:
  A -> OA1 -> OOA11 -> OOOA111 -> OOOIII
                           A > AB. A>1 B>0
 · 000111" 77 1112
                          AQ AB Q IB
A parse tree is the sequence of roles
            What derivation produces 1+1 x 1?
I. E > E + E
LE > E * E
             2F21333 13233
·· E >>
                                          ambiguous grammar
```

ACFG G = < V, E, R, S> 10-2/ V is a finite set - variable / non-terminals E is a finite set - terminals Vn E = Ø - start variable SEV R is an inhexed set of Vx (Vu E)* every element has a naiting) latter] This rhs de string of indices L(G) = { w | we { } and S = } w } u=>* v (u derives v with ¿) u,v ∈ (VuE)* y = x and x = x V u = v (u yields v with r) u,v = (VuE)* rEN UEEX AEV WIVE (VUE) & rEN uAv => uwv ; ff R(r) = (A, w) S-7 a S b SS E V= {53 } = {a, b} S = S $R = 0 \mapsto (s, asb)$ (S, SS)2 H) (S, E) S => 2 a ab and b b ? d=0102002 S = asb = assb = aasbsb = aabsb = aabasbb = aabaasbbb = aabaabbb

16-3/ Equal numbers of 0 and 1

$$S \rightarrow \Sigma \mid OSI \mid ISO \mid SS$$

(FGs are closed under union:

 $G_1 = (V_1, \Sigma, R_1, S_1) \quad G_2 = (V_2, \Sigma, R_2, S_2)$
 $G_3 = (V_3, \Sigma, R_3, S_3)$
 $S_3 \rightarrow S_1 \mid S_2 \quad V_3 = (I_XV_1) \cup (V_2 \times I) \cup \Sigma S_3$

(FGs are closed under star:

 $S^* \rightarrow \Sigma \mid SS^*$

DFA = CGF

DFA = CGF

DFA = CGF

DFA = CGF
 $G_1 \rightarrow GGF$
 $G_2 \rightarrow GGF$
 $G_3 \rightarrow GGF$
 $G_4 \rightarrow GGF$
 $G_5 \rightarrow GGF$
 $G_6 \rightarrow GGF$
 $G_7 \rightarrow GGF$
 $G_$

Noam Chomsky

 $(R_X \Rightarrow (V \cup \Sigma)^*)$

EXRX => EX Ry

0-4/	Chomsky Normal Form;
	Every rule on R is either:
	A-BC AEV, BEV-S, CEV-S
en folget gregop figures en mans et de vergre- _{des} figures de mans proprieta en active e à Chillian	or A -> a a e E
agentas, prias grand primer in the transverse vive in laurence paper primer in the control and in the firm of the transverse in the control and in the firm of the transverse in the control and in the con	or S >> E
akuus aalgan taluugah ereiniinin na samaa suudu aa ata giinii ideliisiidii ilii iliiniinin nin nin nin nin nin Hallista samaa	
	Algorithm: In Add anew start state
sagankur pakkapina sisaga ordivira mendiken wapang yan sapanyak diniri eken secerek iniri eken secerek iniri e	Z. Collapse A= 2 nles up
est de constitución de session de la constitución de constituc	3. Remove unit rules (A->B)
en de understagstildigestil filledde enfens in de skillen under under indicate digt en steff in staket trost op ein hendustens	Mi Add indermediate variables
aaquelijigasii oo kaalaysii ka kaalaa ka	
	Example: S -> OSI [E
enductrical and the second stability and control stable research control environment of the second stability of the second stability and the second stability of the second st	(D) Snew >> S
as shrowings and allegations on superior of the against the energy being staged and the second of the contract	5 7 051 [2
koneme digi gi giyada da gortan qizillirgi o vin assanda adiri ondi verili dili one di riqiti direne di silikola da	2 Snew -> S 2 S -> 051 01
ggertagenen på det en sperjor, i penpasidenticist kinn en star i stallere frends attorner ver vinstellere til	3 Snew > 051 01 2
kuullagityskallustatetti (kje olikija kii vii tukoidovaten kottakoit ottakoit overtikin viitakoit olikilistati	S > 051 101
generalen enggeligten flemente, van de eerstels voor ze vervormet de technische ze vervormet de eerstelskelijk	9 Snew > # AC AB E
and discount grows and all security is a second or second or service or second discount of the second second discount of the second sec	S -> AC (AB
etteritäisettä kaita sen sen tiin täänään emminen toroonila mallet oli läyteen soon vanna valin aavasta väli vä	A > 0 C -> SB
agenesis frances en	B -> 1
	$S \rightarrow E$ If input string has n -chars
	AB TOB the derivation is The derivation is The derivation is The derivation is
Der plankeligt (gegegegegegegegegegen) in der Stein der Stein der der Stein der St	AB = CDB tree is almost n+1 high
	when (s) = 2"+1

and the second s
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