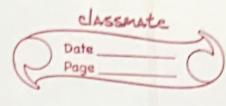
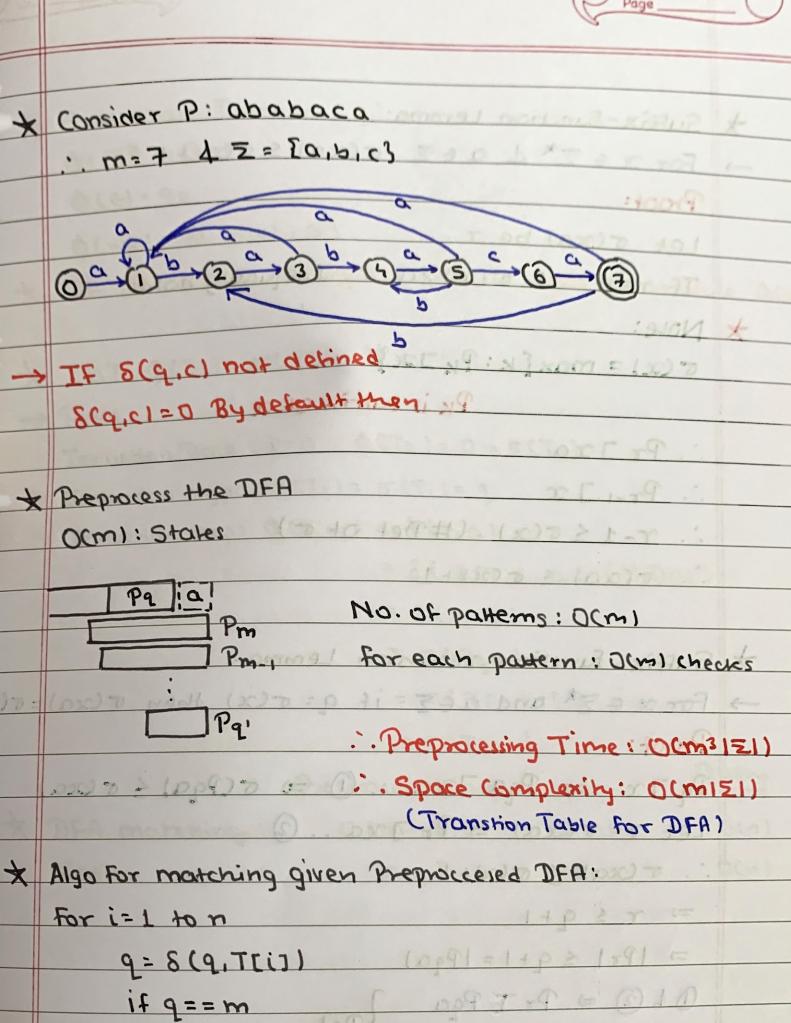


* String matching with DFA (Output all valid) Tin, Pim Ti: first i chre of T . To = Emper and Pj: Frat j Chrc of P , Po=Es of Q=[0,1,2,...m3 * Suffix Function & (t) of smother and Foll book on .. 5: 23 - Query ti wood diday . ON D 2600ND . S (Til): Length of longest prefix OFP - it barage which is a suffix of: Thos aloom . O.T. Ti: ababababa wash with DEAINEAD stooks Pi: abababac hos m+1 states. :. octil=6 i.e. Q = {0,1,...m} 1a 0 a,0 8(q,a)=q1 - For every state check all the symbol i.e. 121 1 8 (9,0) = o (Pga) Def-0+8 * DFA in state | = (Til=j

W vouid shift i-m

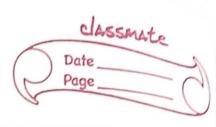
* DFA in stelle m (Ti)=m



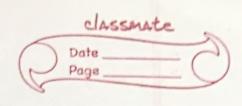


Print " Valid " i-m

1000) 0 x (000) 0 5



```
* Suffix-Function Lemma: DED GD do 19 3010
 > For x e 2* 4 a e 2 (xa) < 5(xa) +1
   Proof:
   Let a cocal pe a
   If r=0 . o(x) >0 . Inequality holds
* Note:
    5 (x) = max { k: Pk ] >c} parido + on (0.p) ? 71
   PK is suffix of the 18 0=10,00%
   ·. Pr ] xa
                 + Preprocess the DFA
   :. Pr-1]x
   .. r-1 < 5(x) (# Def of 5)
   .. 5(xa) < 5(x1+1
   The No. of paternes: Ocrass
* Suffix - Function recursion Lemma!
-> For x E 5t and a E = if q = o(x) then o(xa) = o(Pga
(13 Proof: grant Time: 700sq.
(1) Pq ] x: pqa ] xa2. (1) => 5 (Pqa) < 5 (xa)
  Let r= o(xa) = Pr ]xa. (2)
 .. The for mentioning given Prep 1+1x0 0 15 (1x0)
    => 7 < 9+1
   => 1Px1 < q+1=1Pqa1 (1)77,p) 2=p
   O12 => Pr J Pga Pet
    43 => r < c (Pga) = 1 4 + mg
          = (xa) < (Pqa) : 5(xa)= 5 (Pqa)
```



*	Final Stake Function (4)
	φ: 2× → Q
	Φ(e) = 90
	φ (wa) = 8(φ(w), a)
×	If DFA accepts string we then it ends up in state o(w)
×	T.P.T. QCTil= CCTil) + i sonoted more don't
	Proof: Bake Hing D. W. C. 200 HADE BUR LOD TO &
	Induction Baser: i= 000 p (To)=0= o(To)
	Induction Hypois A(Ti) = o (Ti)= 9
	Induction Step: $\phi(Titi) = \phi(Tia)$
	= 8 (\$ (Ti), a) (#Def)
	Creta (page) 18 for containing vertices
	= T (Pga) ni
	= or (Tia) (# Lemma)
	4 Chines to Pind (4) TO TELLED COMPONERS:
	Preprocess time space Quens
-	DFA matching: 0 (m3121) 0(m) 0(m)
- 11	KMP: O(m) Tall O(m) O(n)
	139-1 770 40 pointing p 190 pm (2)
	Mosengum to recitorium in proisono will
	The state of the s

torque brigan should b