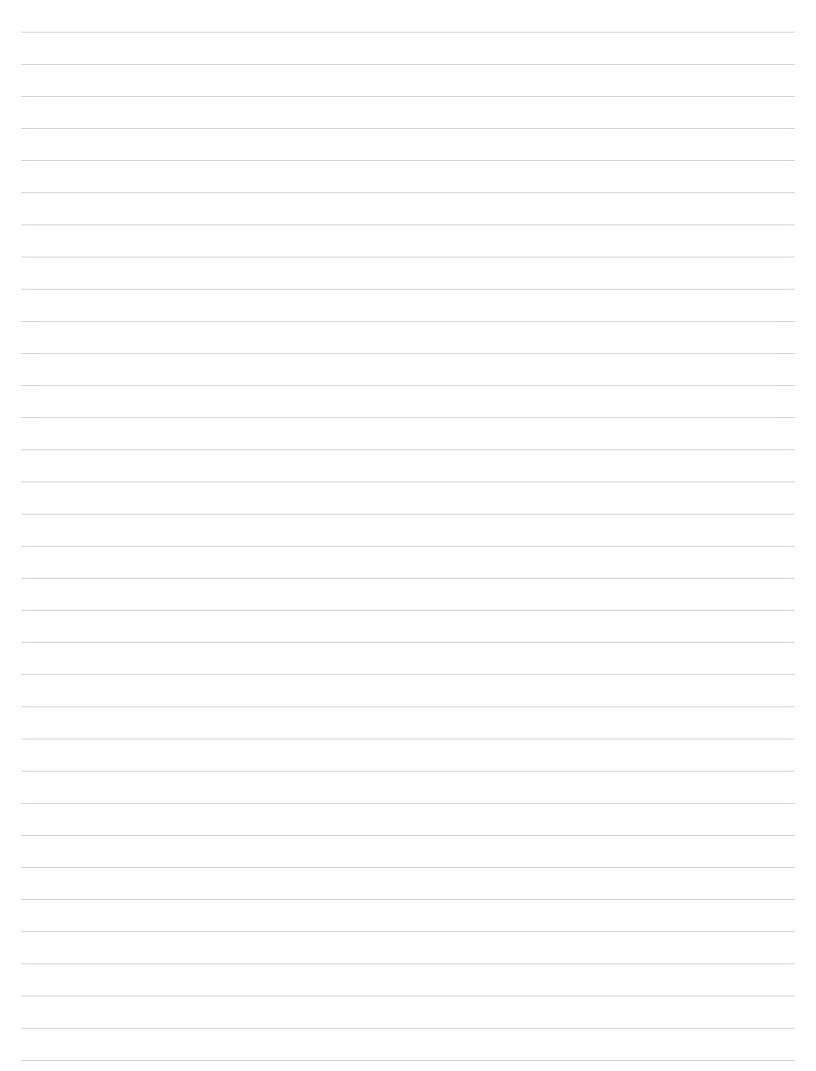
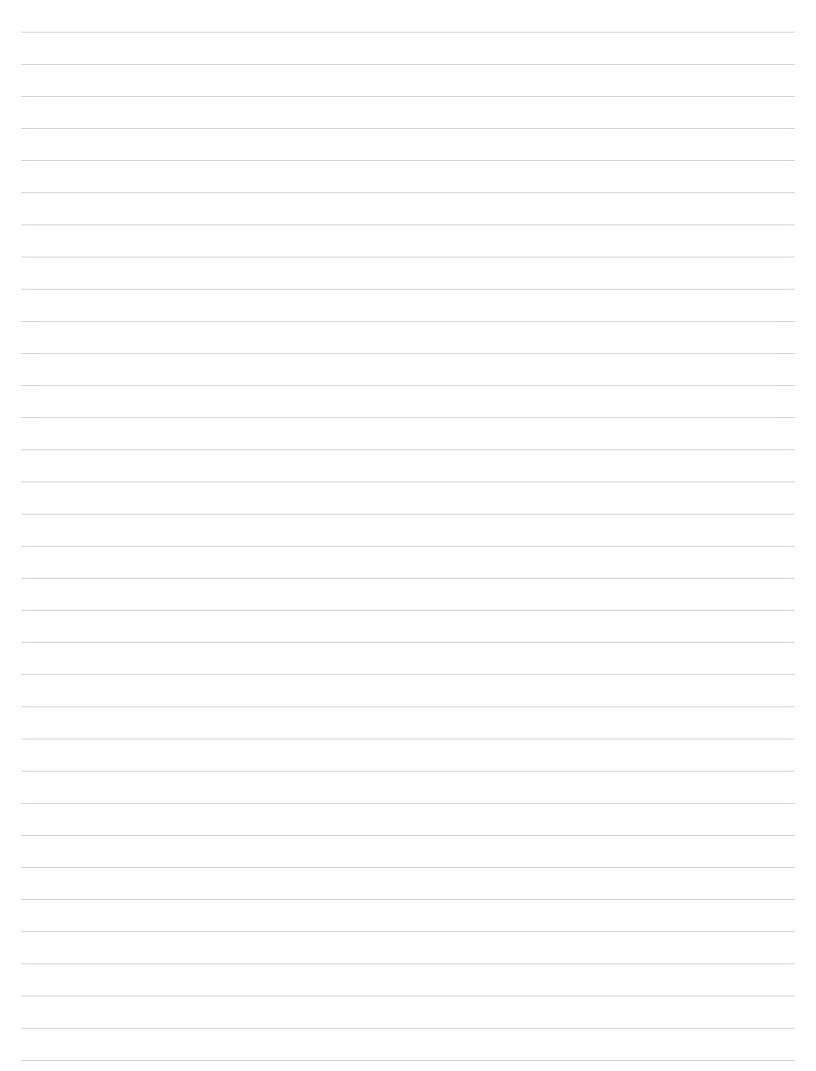
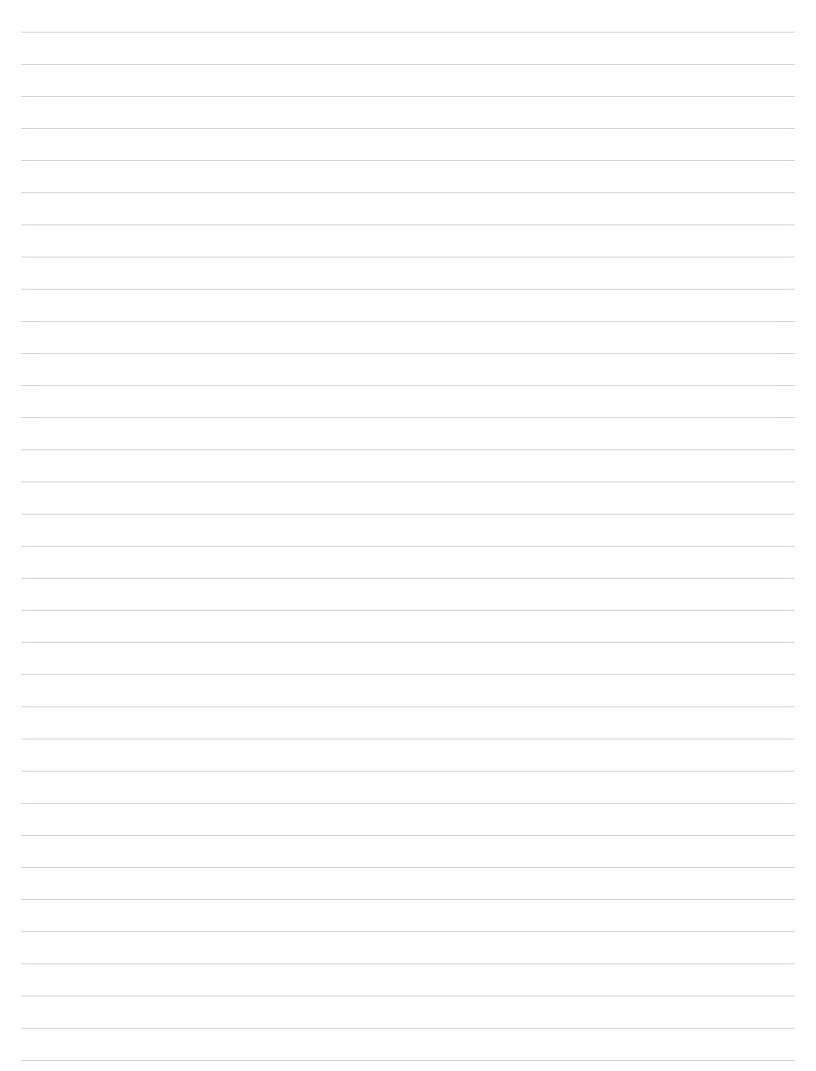
EXERCISE 3 Gusde la felousur algorithm:
SECECT (S, i) ) 15 i
M&151   selects i-th o.s.
(B) if (n=1) then return ST1]
(D) ba sendon(2)
Sit (262: 267; Soutses: 2>ph
if (15, 1= i-4) then return ?
(R+C) if (151) > i-L)
then return select (S1, i)
else return se lect (Sz, i-15x1-x)
1. Prope Root SELECT (S, i) correctly returns the i-th order-statistic
returns the i-th order-statistic
of S (i.e., 1-th smallest element)
2. Auslyse its sversge running
2. Marge 12 agrage raming
4000







REHARK · Unlike QUICKSORT, we count prove that TSELECT (M)=Q(M) W.h.P. High-probable the randomised selection is possible: IDEA: HP. SELECT (S,i) - beset on long souple

(1) 24 Selection

Selection

Sich vin 34 random elements

Sort them

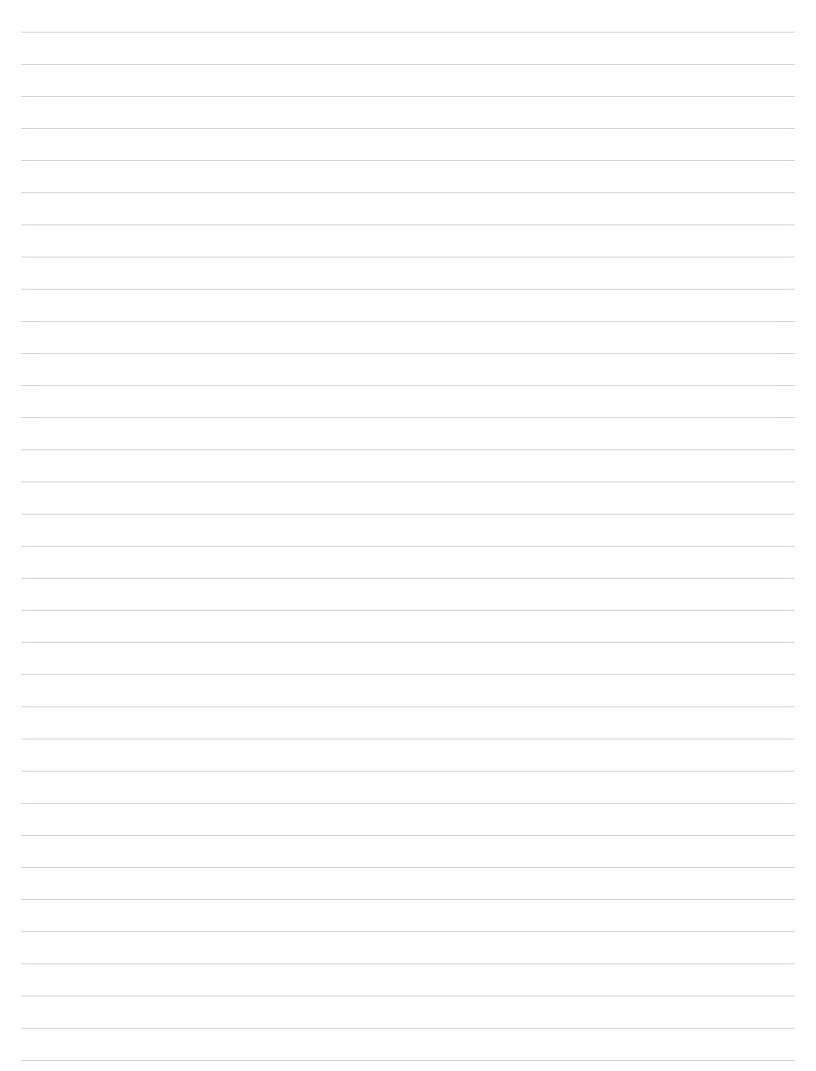
Pick 2, 5 of rank

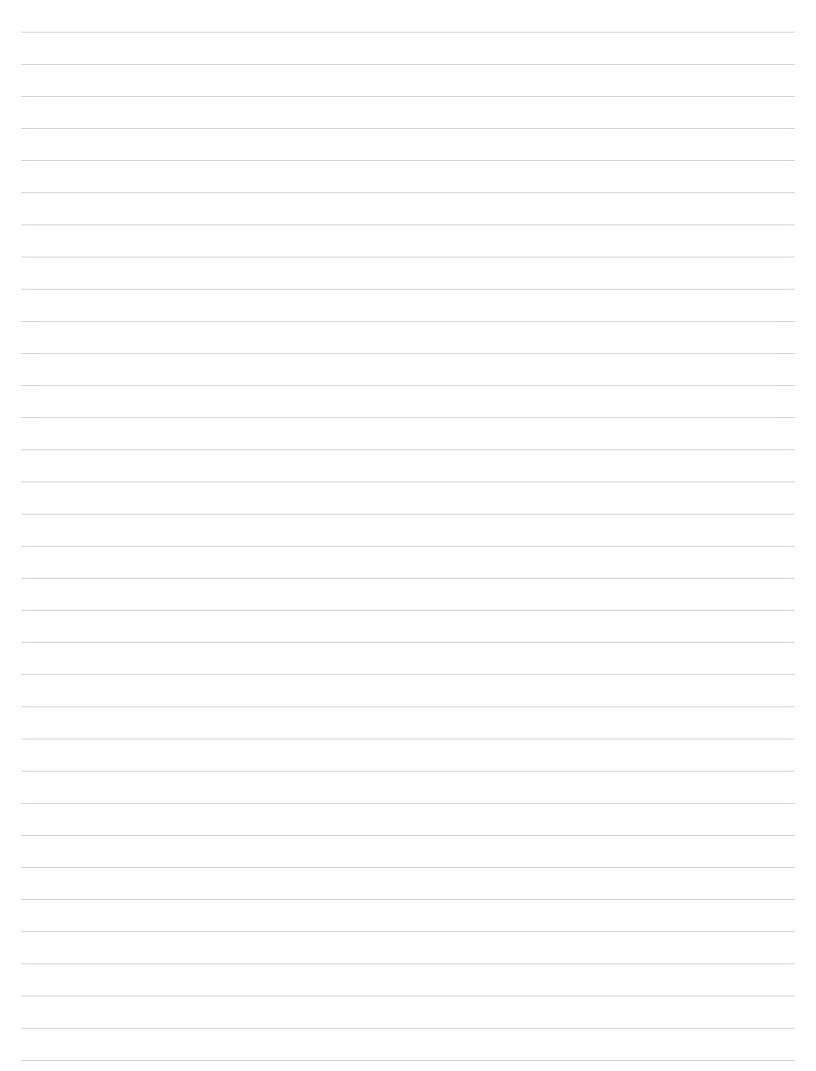
vin ± Ju a the seprence (m) Set S'= 2 seS: esse by

1) contains i-th 0.s.

2) has size O(12/4) = Sort S' to identify i-th o.s.

ExERCISE 4 Cousider Ki.i.d. geometrie rombsles: Zr,..., Zk v Glow (P) xx1 Hi: Pr(≥i=j)= p(1-p))-4, je It Recall that Elzij=1. Let X= ZZi. Then M=ECXJ=====EC2;]====. Donnes how to use Chernel's Lound to upper Lound Pr(X>tu) text (Hint: associate the event to Sermoulli trials)





Exercise: when a s	outes outsit HTT-m?
- Desume that it con	se read only we material
EXERCISE: Groven 2 8  assume that it con  A. read(i)=	ACV 7=212
_	error $p = 1/2$
(models faulty store	
(V) wite a comband of the	
Wrote & rouboniced bin SEARCM (A, L, M, K) retu executing O(lopa) res	and see the second
	arroad area 2V · MCr72 K
executing Olopu ) te	ics w.n.p.

HINT: Same structure of behang search but each value is read uneliper time	li
but each value is read multiple to	4
unble A. read (-) & error. Use the	
geoneture bound in the andlysus.	
9,7	

+ Cousder Pr(Xi=4) = ?r(Xi=-4) = 1 Let X= Zix;. formal types of war ward . got en upper Sound Pr(X>5), 5>0 Determine a volue by:

