Name Muhammad Laraib Akhtar	
Section BCS-4B	
Course Design and Analysis of Algorithms. Roll no. 211-5294	
Roll no. 211-5294	
a) Find min	
Minimum (A)	A STATE OF THE STA
1 min = A[1]	an assertable through, clark high, a
2 for i = 2 to A-length	TO SAN WHICH AND ADDRESS OF THE ADDR
3 if min>A[i]	
$4 \qquad \min = A[i]$	
5 return min	
	encontraction (the later of the
1000 Invariant: At the start of each iteration	The state of the s
Loop Invariant: At the start of each iteration 'min' holds the value of smallest element	grouper course of central course and course of central course of c
A[1A-length]	
	e paredisententinys francis (a turc u kosti latva e lacinisti
Initialization: Before first iteration 'min'	CONTRACTOR AND
is initialized to A[1] so loop invariant holds	
hist iteration	
HIST HEATON.	en en Salte en
Mul and I cook iteration if	Medical College of the College of th
Maintenance: At the end of each iteration, if	
A[i] < min then min is updated with the	
value of A[i]. A Min then holds the smallest	Thirt was new actions of their
element in A[1i].	Andrews and the second section of the second section of the second section of the second section of the second
	a metales representates anno securitorio dessa
Fermination: Loop terminates when i is equal	
to A length so min holds the smallest element in A[1 A length].	
in A[1 A-length].	
<u> </u>	
	THE PROPERTY OF THE PROPERTY OF MINISTERS
	The second secon

	b) Bubble Sort (A)	
1	1 for i=1 to A.length-1	
		A COLUMN TO THE OWNER OF THE OWNER OWNER OWNER OWNER OWNER
Francisco de escolarente de partir estra constituira de la constituira della constit	2 forj= A.tength doznato i+1 3 if A[j] < A[j-1]	Commence of the control of the contr
International Control (No. 1944)	4 exchange A[j] with A[j-1]	and control of the state of the
an call a more constructive and constructive and		
cheekilden is in represente standen in the control of the control	loop invariant: At start of each it exation	
comment of the galacted Constitution of the Co	of outer loop elements in A[1i.] are	
The Affiliation and Commission Commission and Commi	sorted.	A STATE OF THE STA
	Initialization: Before the first iteration	- Section - Sect
Northwest (America) and the profession of the contraction of the contr	I==1 so A [2o] is empty. Therefore	
to replace the second second second second second	loop invariant holds.	
The state of the s		
And the second s	Maintenance: At the end of each order loop	
NATIONAL STATE OF THE CONTRACT	Heration largest element in Ali A. length	
Michigan common aprilia compliante serbado aprilia	buttles up to the end and A[1;]	
UMU (A) deler in en general sit bestern dependant	us still sorted.	
	Towni notion: low low is low or	The Control of Control accordance (Appendix Appendix Appendix Appendix Appendix Appendix Appendix Appendix App
Edwinsternum uman abovejo rejani aki akom	Termination: loop terminates when i== A length: hence A[1 A length-1] is sorted since	
INC ON ANTHON MAKING WATER I SARAKA HIT SARAKA KAN	inner lean insuran la	
	inner loop insures the largest element is at the end of each subarray.	
	ena of each subarray.	The state of the s
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Constant		The same and the same of the s
		and the second
Winds TRANSCOTO MARCO		
		-
	The state of the s	The state of the s

and the same of th	
	C) Selection Sort (A)
sector for the conference of t	1 for j=1 to A. length-1
porte and an extra control of the co	2 smallest_index = j
2000	3 for i=j+1 to A. length
	4 if A[i] < A[smallest_index]
	smallest_index=i
por contract of the contract o	6 exchange A(j) with A(smallest index
	loopinvartent: At the start of each iteration
	of outerloop elements in A[1 Aj-1] are
and content of the co	Sorted.
	Initialization: Before firstituation j==1
transport and proper and support and suppo	so A[1o] is emptly. therefor first
	iteration holds.
MIDS Non-game CA - Historia health (unit vac no via - dinaterna anges)	
the second se	Maintenance: At the end of each iteration of
trans violani sovernovene edetanto astendo monete	outerloop min smallest_index stores the index
	of smallest element in A[i A length].
	## Then the Asmallest index is swapped
	with A[j]. Hence away is sorted
HTM:	A[ [ 1 ···· j -1] .
	To it on: labour outer loop terminates
ACCUPATION OF THE PARTY OF THE	Termination: When outer loop terminates
	j == A.length-1 and A[jA.length-1] is sorted, Since Smallest-index gets
Total Control of the	the element of the smallest index in A[i A length] and supproverth A[i].
Biographic and the second seco	A [ 1 A length? and supproverth A [i].
	Hence A is sorted
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