Correctness of selection sort Algorithm JAKTIBUT let us find the smallest element in the unsated part of army and swap it with the first element in the part of: the array vellano ore porradus sout in travels to any element in the unsofuter othiosishopmay minimum = i } - M at a = i = muminim forj=i+1 ton ()= muminim if (arr[j] < arr [min] { Minimum = = - smandale M Before the execution of suner? loop, all the elements. before i are sorted. The miner Loop identifies the whiteness in the forzig find swaps the Swap (ith element, minimum element) 3 (NO) 1+1=1) rd of [[mui3:min] ear (miniEnum]) f Correctness: 1= munanian The correctness of the selection sort algorithm can be proven by using a loop invariant and demonstrating that it holds the true during the collition of algorithms The algorithm sorts the element at index P which belong at the Endex vibrinum The codes toop runs from a toxi-1, iterating through

Intialization 13 more 100 100 100 200 1000 At the start of each steration of outlet of loop the Invariant subarray before the current lindex if is sorted and all element in this subarray are smaller than or in equal to any element in the unsolved portion of array for i=0 to n-1 = munimin minimum = ? } rot 1+1 - j rot A Carrilla care [min] Maintenance - j - municipi Before the execution of inner loop, all the element of before i are sorted. The inner loop identifies the minimum element in the array and swaps the values accordingly swalls "i) grow? for (j=i+1 ton) { if Carrey J Carr [minimum]] { minimum = j : 23 m 1 mgs The correctness of the selection sole algorithm can be movin by using a loop invariant and demonstrating that Swap [arr [i], arr [minimum]] The algorithm sorts the element at index P which belongs at the index minimum. The outer loop runs from o to n-1, iterating through array.

Termination: Once the outer coop completes the algorithm termina the entire array is sorted, and here are no sufficient loops of conditions that would present the completion.	
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