



Learn Programming

World's First Visual Learning Platform

Available Courses :

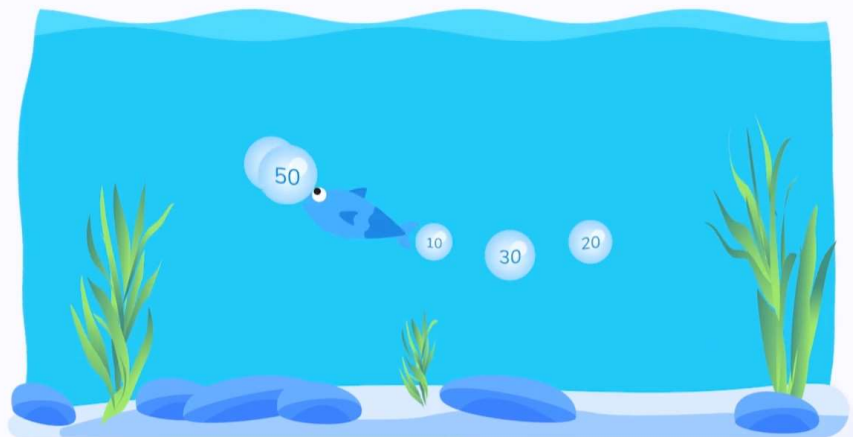
Data Structure Algorithms C Programming

Python Advanced Pointers

Problem Solving for Beginners

Problem Solving with DSA

Introduction to Programming



(https://log2base2.com?utm_src=textcourse&utm_target=ltext)
Dynamic Programming

Selection sort

Selection Greedy Approach

In selection sort, we will select the optimal element for every index by comparing all other elements.

Example

In school prayer, all the student in a row should stand based on their height. i.e. the shortest person will stand in the beginning and the tallest one will stand in the end.

Assume that there are 5 student standing in the row.

student 1 height = 180cm

student 2 height = 165cm

student 3 height = 150cm

student 4 height = 170cm

student 5 height = 145cm

Let's sort the array by selecting correct person for each place.



Courses

Algorithms



Given Details

Searching

Total students = 5

Sorting

Student heights = {180cm,165cm,150cm,170cm,145cm}

Selection Sort

(/algorithms/sorting/selection-sort.html)

Bubble Sort

(/algorithms/sorting/bubble-sort-algorithm-in-c.html)

Quicksort

Goal

(/algorithms/sorting/quick-sort.html)

Make the row sorted.

Dynamic Programming

Like below,

Greedy Approach

145cm, 150cm, 165cm, 170cm, 180cm

Selection sort procedure

Take the first student height and compare the first student height with all other student who stands behind the first person.

if anyone has smaller height, interchange their position.

Take second student height and compare the second student height with all other student who stands behind the second person.

if anyone has smaller height, interchange their position.

Do the above step for all the positions.



Courses

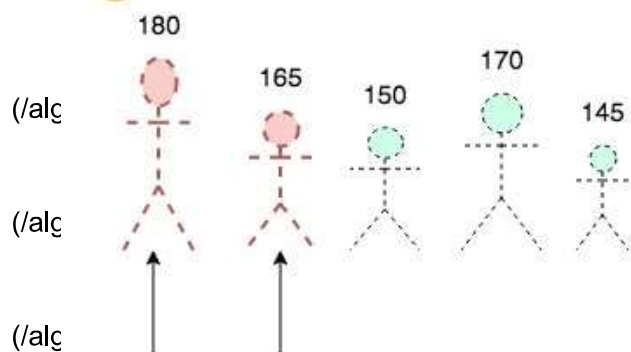
Algorithms

Selection sort step by step

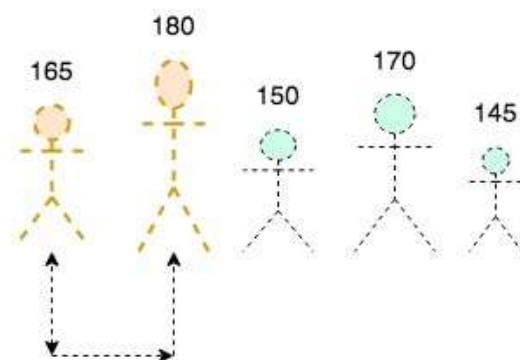
Step 1 Searching

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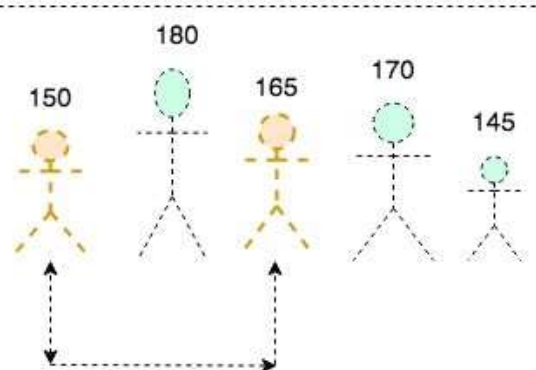
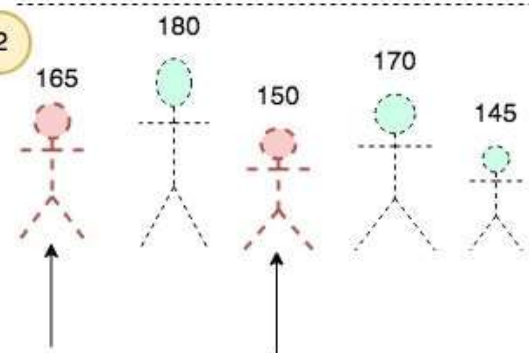
After Swap



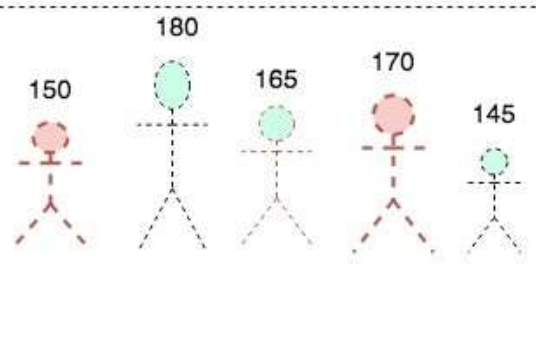
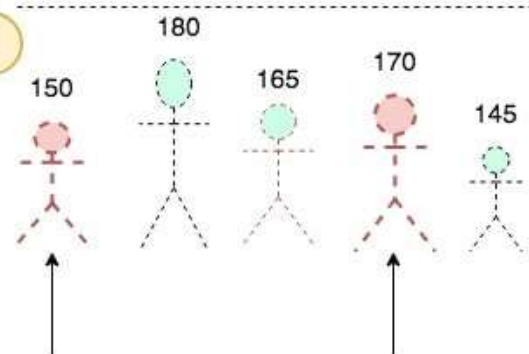
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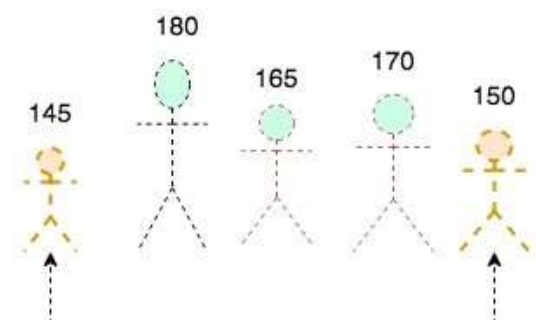
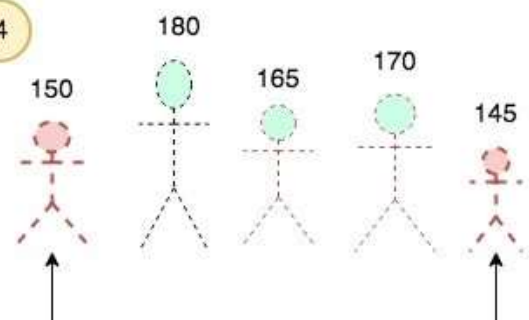
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Courses

Algorithms



1. $165 < 180$. Interchange their position.
2. $150 < 165$. Interchange their position.
3. $170 > 150$. Leave it as it is.
4. $145 < 150$. Interchange their position.

Sorting

Selection Sort

Step 2

[\(/algorithms/sorting/selection-sort.html\)](https://www.log2base2.com/algorithms/sorting/selection-sort.html)

Bubble Sort

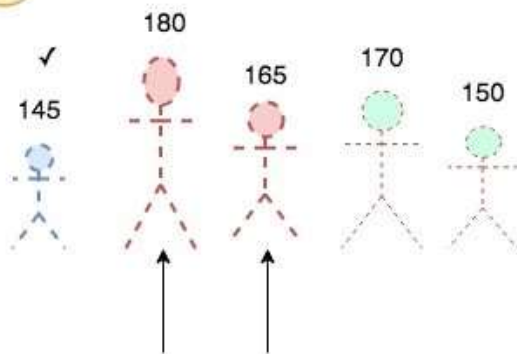
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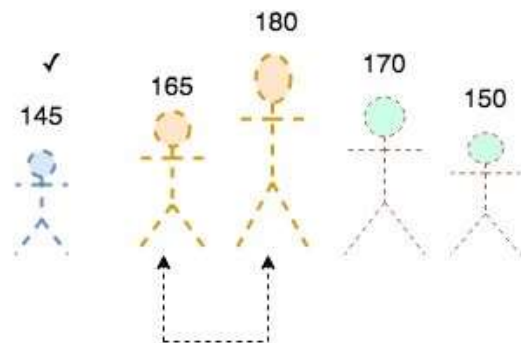
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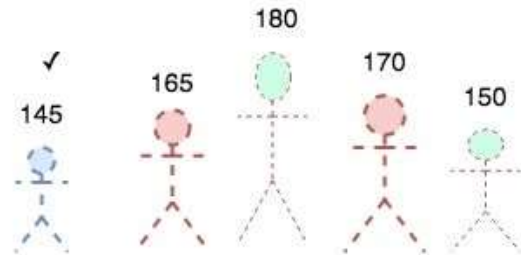
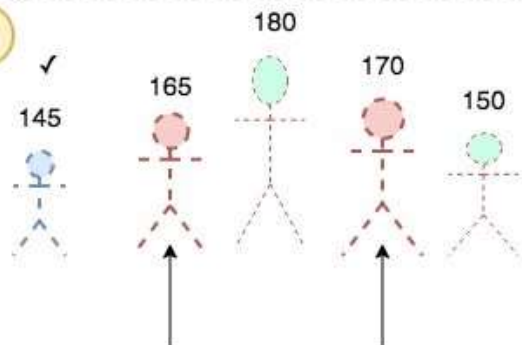
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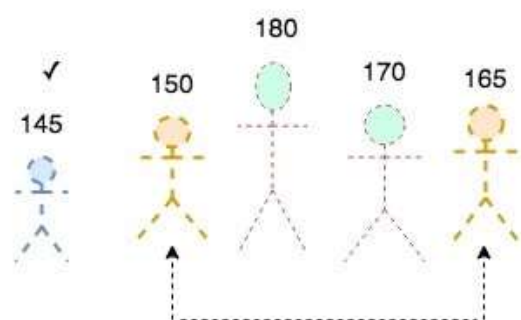
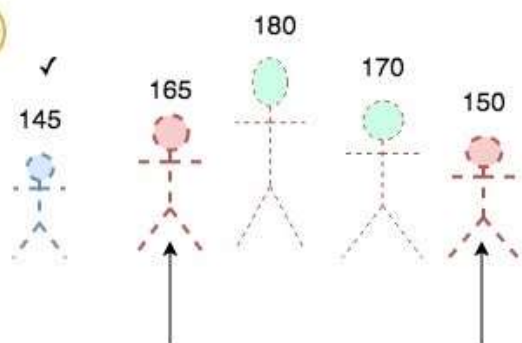
After Swap



2



3



1. $165 < 180$. Interchange their position.

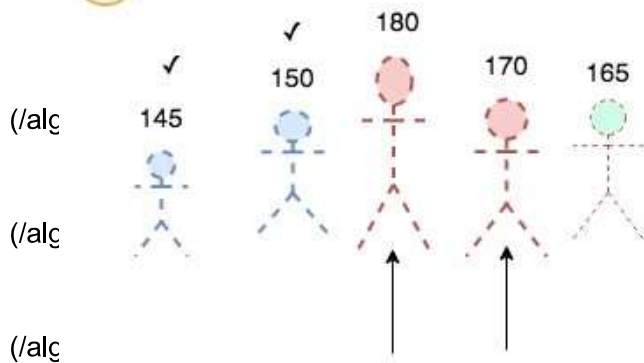
2. $170 > 165$. Leave it as it is.

Algorithms

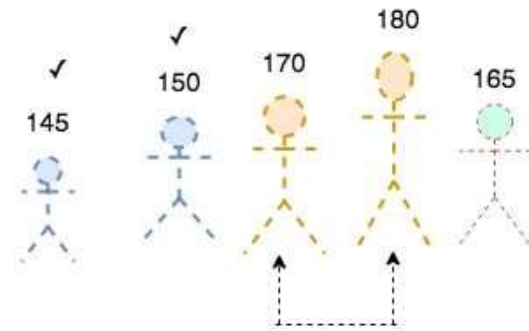
3. $150 < 165$. Interchange their position.

Step 3 Searching

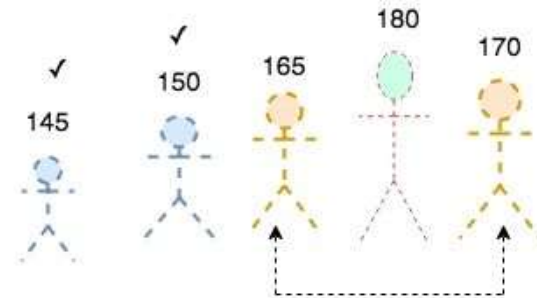
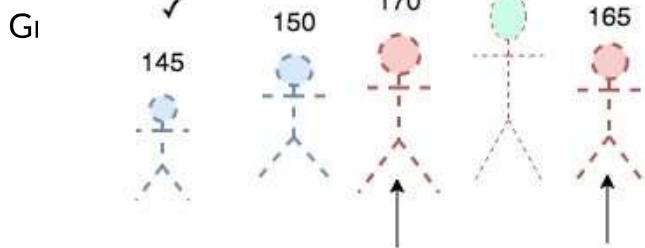
Sc 1



After Swap



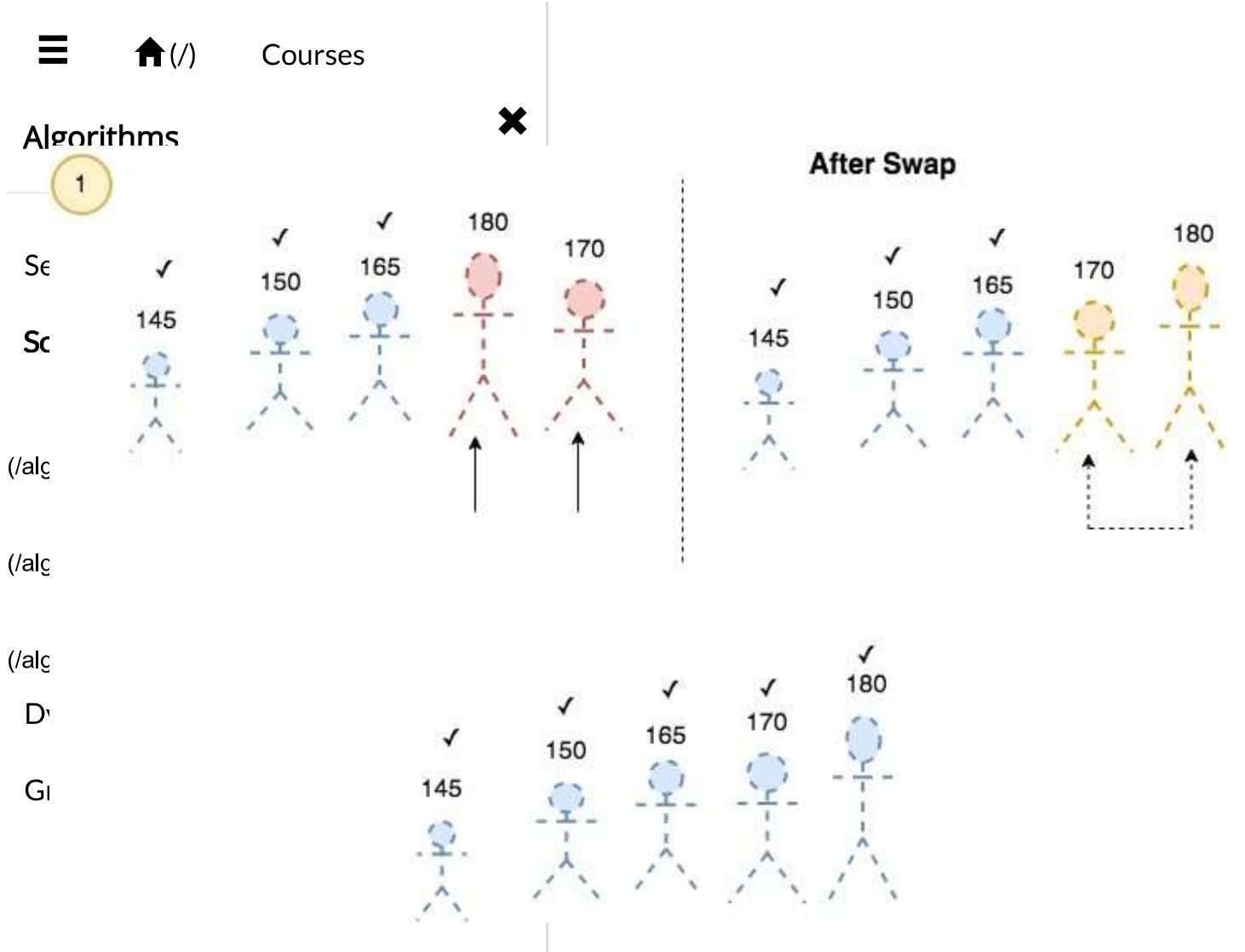
D 2



1. $170 < 180$. Interchange their position.

2. $165 < 170$. Interchange their position.

Step 4



1. $170 < 180$. Interchange their position.

Selection sort program in c

Example



Courses

Algorithms

/*

* Program : Selection sort

* Language : C

Searching

Sorting

#include<stdio.h>

#define SIZE 5

Selection Sort

void swap(int *x, int *y)

(/algorithms/sorting/selection-sort.html)

{

Eubble Sort int temp = *x;

*x = *y;

(/algorithms/sorting/bubble-sort-algorithm-in-c.html)

*y = temp;

Quick sort

(/algorithms/sorting/quick-sort.html)

void selectionSort(int arr[],int size)

Dynamic Programming

int i,j;

Greedy Approach

for(i = 0; i < size-1; i++)

{

for(j = i+1; j < size; j++)

{

if(arr[i] > arr[j])

swap(&arr[i],&arr[j]);

}

}

}

int main()

{

int arr[SIZE] = {180,165,150,170,145},i;

selectionSort(arr,SIZE);

printf("After selection sort\n");

for(i = 0; i < SIZE; i++)

printf("%d ",arr[i]);

return 0;

}

Run it (/try-it/selection-sort.html)

Run it (try-it-selection-sort.html)



Courses

Algorithms

PAGE -- (<https://www.log2base2.com/algorithms/searching/open-hashing.html>)

Search

PAGE ++ (<https://www.log2base2.com/algorithms/sorting/bubble-sort-algorithm-in-c.html>)

Sorting

Selection Sort

[\(/algorithms/sorting/selection-sort.html\)](/algorithms/sorting/selection-sort.html)

Bubble Sort

[\(/algorithms/sorting/bubble-sort-algorithm-in-c.html\)](/algorithms/sorting/bubble-sort-algorithm-in-c.html)YouTube (<https://www.youtube.com/c/log2base2>) / Facebook<https://www.facebook.com/log2base2>) / Twitter (<https://twitter.com/log2base2>) / Instagram[\(/algorithms/sorting/quick-sort.html\)](/algorithms/sorting/quick-sort.html) (<https://www.instagram.com/log2base2/>)

Dynamic Programming

Greedy Approach

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