**Experiment No: 2**

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Semester /Section: CS-V-CSA

Date: 11th Aug 2020

Faculty Signature:

Remarks:

**Objective**:

To do an Selection Sort using any Programming Language.

**Theory:**

The selection sort algorithm sorts an array by repeatedly finding the minimum element (considering ascending order) from unsorted part and putting it at the beginning.

**Algorithm(Array):**  
The algorithm maintains two subarrays in a given array.

1) The subarray which is already sorted.  
2) Remaining subarray which is unsorted.

In every iteration of selection sort, the minimum element (considering ascending order) from the unsorted subarray is picked and moved to the sorted subarray.

**Code(Using Lists in Python):**

def selection\_sort(list\_a):

indexing\_length = range(0, len(list\_a)-1)

for i in indexing\_length:

min\_value = i

for j in range(i+1, len(list\_a)):

if list\_a[j] < list\_a[min\_value]:

min\_value = j

if min\_value != i:

list\_a[min\_value], list\_a[i] = list\_a[i], list\_a[min\_value]

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return list\_a

print(selection\_sort([9,0,2,5,3,7,1,7,10,8]))

**A screenshot of a cell phone

Description automatically generatedOutput:**