# User Document: Shopping Cart

## Problem Description

The goal is to implement the kSmall algorithm, which finds the kth smallest element in an array. This is achieved by selecting a pivot and partitioning the array into three regions: elements less than or equal to the pivot, the pivot itself, and elements greater than or equal to the pivot. The algorithm then recursively searches in the appropriate partition..

## Github Link

The source code for this program can be found on GitHub at the following location:

## How to compile?

To compile the program, follow the steps:

1. Open a Terminal or Command Prompt and navigate to the directory where the source files are located using the cd command.

cd <path\_to\_source\_folder>

1. Use g++ command given below to compile:

g++ kSmall.cpp -o kSmall

1. Execute the compiled program by typing its name in the command prompt:

./kSmall

Sample execution:

> g++ .\kSmall.cpp

> .\a.exe

Enter the size of the array: 8

Enter 8 elements: 10

12

5

8

50

20

30

65

Enter the value of k: 3

The 3th smallest element is 10

Testing kth smallest in S1

Array: 3 2 1 4 5

3rd smallest: 3

Testing kth smallest is the pivot

Array: 6 3 1 10 8 4

4th smallest: 6

Testing kth smallest in S2

Array: 1 3 5 2 19 13 4

6th smallest: 13