



Department of Statistics & Computer Science
University of Kelaniya
ACADEMIC YEAR-2020/2021
COSC 21063-Data Structures and Algorithms
Practical Tutorial 08

01.

Product ID	Name	Category	Price
P1001	Toothpaste	Grocery	220.00
P1002	Notebook	Stationery	120.00
P1003	Shampoo	Grocery	450.00
P1004	Pen	Stationery	50.00
P1005	Soap	Grocery	110.00
P1006	Marker	Stationery	180.00
P1007	Chips	Snacks	250.00
P1008	Chocolate	Snacks	300.00
P1009	Rice	Grocery	1000.00
P1010	Biscuit	Snacks	200.00

Using the above information write a Java program to accomplish the following.

- Input above Student 's details and display them.
- Implement a method to sort the products by price in ascending order using Selection Sort and then display the sorted list.
- Implement a method to search for all products of a given price using:
 - Sequential Search
 - Binary Search

02.

Book ID	Title	Author	Year
B001	Data Structures	S. Tanenbaum	2018
B002	Operating Systems	A. Silberschatz	2020
B003	Computer Networks	A. S. Tanenbaum	2017
B004	Java Programming	H. Schildt	2021
B005	Python Crash Course	E. Matthes	2019
B006	Database Management	R. Elmasri	2016
B007	Discrete Mathematics	K. Rosen	2015
B008	Artificial Intelligence	S. Russell	2022
B009	Software Engineering	I. Sommerville	2018
B010	Machine Learning	T. Mitchell	2021

Using the above information write a Java program to accomplish the following.

- i. Input the above book details into a Java program and display them.
- ii. Implement a method to sort the books by year of publication (descending) using Selection Sort.
- iii. Implement a method to search for books by a specific author using:
 - a. Sequential Search
 - b. Binary Search (only after sorting by author names)