Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam - 603 110
(An Autonomous Institution, Affiliated to Anna University, Chennai)

UCS2403: DESIGN & ANALYSIS OF ALGORITHMS

Assignment 1

- Develop a Python code that takes as input a value n, and generates a list of n unique random values. [CO1,K3]

- Develop a Python code to implement insertion sort, shell sort and radix exchange sort, and analyze their performances for arrays of the following size:

  - 10
  - 1000
  - 2000
  - 5000
  - 100000

  [CO1,K4]

- Develop a Python code to implement insertion sort, and analyze its performance for an array of size 100000 when the input array is:

  - Sorted in ascending order
  - Sorted in descending order
  - Not sorted

  [CO1,K4]

- Compare the performances of recursive and non-recursive algorithms for binary search using an array of size 100000. [CO1,K2]