

GROUP - B

Practical No: 05(B-14)

Title: Sorting of an array using **selection and bubble sort..**

Objectives :

- To store N number elements in array/list
- To apply specific strategy for sorting
- To perform bubble and selection sort on array

Problem Statement: - Write a Python program to store first year percentage of students in array. Write function for sorting array of floating point numbers in ascending order using

a) Selection Sort

b) Bubble sort and display top five scores

Outcome :

- Display Unsorted array/elements accepted by user
- Perform bubble & selection sort and display sorted elements and top five scores

Operating System recommended :- 64-bit Open source Linux or its derivative

Programming tools recommended :- Open Source Python, Programming tool like Jupyter Notebook, Pycharm, Spyder, G++/GCC

Hardware Requirements :

i3 or above processor , 2 GB or above RAM, 512 GB or above Hard-disk etc

Reference for theory : <https://www.javatpoint.com/sorting-algorithms>

Theory :

- What is Sorting ? Explain concepts of sorting?
- What are Types of sorting? List sorting techniques.
- Explain Bubble sort with examples, Advantages, Disadvantages, Time Complexity.
- Explain Selection sort with examples, Advantages, Disadvantages, Time Complexity.
- Difference between Bubble and Selection Sorting.

NOTE : just write heading and try to explain in details with examples. Some websites are provided as reference(don't write reference). You can use other website also.

Write algorithm/pseudo code for each function :

- a) To accept percentage from user for N number of students.
- b) To perform bubble sort and print sorted elements
- c) To perform selection sort and print sorted elements
- d) To display top five scores of Bubble sort
- e) To display top five scores of selection sort

Algorithm:

Write Algorithms for program/code which you have implemented.

Flowchart :

Draw flowchart for above algorithm

Conclusion:

Thus, We have successfully sorted array using Bubble and Selection sort.

Continuous Assessment of Student:

TS	PR	UC	VA	RN	Total Marks	Faculty Signature
(2)	(2)	(2)	(2)	(2)	(10)	

- TS – Timely Submitted, PR- Performance, UC- Understanding of Code, VA- Viva Answered,
RN- Regularity and Neatness

Practical No: 07(B-16)

Title: Write a python code to perform Quick Sort.

Objectives :

- To store N number elements in array/list
- To apply specific strategy for sorting
- To perform Quick sort on array

Problem Statement: - Write a Python program to store first year percentage of students in array. Write function for sorting array of floating point numbers in ascending order using quick sort and display top five scores.

Outcome :

- Display Unsorted array/elements accepted by user
- Perform Quick sort and display sorted elements and top five scores

Operating System recommended :- 64-bit Open source Linux or its derivative

Programming tools recommended :- Open Source Python, Programming tool like Jupyter Notebook, Pycharm, Spyder, G++/GCC

Hardware Requirements :

i3 or above processor , 2 GB or above RAM, 512 GB or above Hard-disk etc

Reference for theory :

Theory :

- Explain Quick sort with examples, Advantages, Disadvantages, Time Complexity.
- Explain algorithm to perform quick sort?
- Solve Two example of Quick Sort :

Elements are : 25, 82, 17, 23, 38, 7, 64, 86, 21

Elements are : 39, 09, 81, 45, 90, 27, 72, 18

NOTE : just write heading and try to explain in details with examples. Some websites are provided as reference(don't write reference). You can use other website also.

Write algorithm/pseudo code for each function :

- a) To accept percentage from user for N number of students.
- b) To perform Quick sort and print sorted elements
- c) To display top five scores of Quick sort

Algorithm:

Write Algorithms for program/code which you have implemented.

Flowchart :

Draw flowchart for above algorithm

Conclusion:

Thus, We have successfully sorted array using Quick sort.

Continuous Assessment of Student:

TS	PR	UC	VA	RN	Total Marks	Faculty Signature
(2)	(2)	(2)	(2)	(2)	(10)	

- TS – Timely Submitted, PR- Performance, UC- Understanding of Code, VA- Viva Answered,
RN- Regularity and Neatness

Practical No: 05(B-14)

Title: Sorting of an array using **selection and bubble sort..**

Objectives :

- To store N number elements in array/list
- To apply specific strategy for sorting
- To perform bubble and selection sort on array

Problem Statement: - Write a Python program to store first year percentage of students in array. Write function for sorting array of floating point numbers in ascending order using

a) Selection Sort

b) Bubble sort and display top five scores

Outcome :

- Display Unsorted array/elements accepted by user
- Perform bubble & selection sort and display sorted elements and top five scores

Operating System recommended :- 64-bit Open source Linux or its derivative

Programming tools recommended :- Open Source Python, Programming tool like Jupyter Notebook, Pycharm, Spyder, G++/GCC

Hardware Requirements :

i3 or above processor , 2 GB or above RAM, 512 GB or above Hard-disk etc

Reference for theory : <https://www.javatpoint.com/sorting-algorithms>

Theory :

- What is Sorting ? Explain concepts of sorting?
- What are Types of sorting? List sorting techniques.
- Explain Bubble sort with examples, Advantages, Disadvantages, Time Complexity.
- Explain Selection sort with examples, Advantages, Disadvantages, Time Complexity.
- Difference between Bubble and Selection Sorting.

NOTE : just write heading and try to explain in details with examples. Some websites are provided as reference(don't write reference). You can use other website also.

Write algorithm/pseudo code for each function :

- a) To accept percentage from user for N number of students.
- b) To perform bubble sort and print sorted elements
- c) To perform selection sort and print sorted elements
- d) To display top five scores of Bubble sort
- e) To display top five scores of Bubble sort

Algorithm:

Write Algorithms for program/code which you have implemented.

Flowchart :

Draw flowchart for above algorithm

Conclusion:

Thus, We have successfully sorted array using Bubble and Selection sort.

Continuous Assessment of Student:

TS	PR	UC	VA	RN	Total Marks	Faculty Signature
(2)	(2)	(2)	(2)	(2)	(10)	

- TS – Timely Submitted, PR- Performance, UC- Understanding of Code, VA- Viva Answered,
RN- Regularity and Neatness

Practical No: 06(B-15)

Title: Sorting of an array using insertion and shell sort.

Objectives :

- To store N number elements in array/list
- To apply specific strategy for sorting
- To perform Insertion and Shell sort on array

Problem Statement: - Write a Python program to store first year percentage of students in array. Write function for sorting array of floating point numbers in ascending order using

a) Insertion Sort

b) Shell sort and display top five scores

Outcome :

- Display Unsorted array/elements accepted by user
- Perform Insertion & Shell sort and display sorted elements and top five scores

Operating System recommended :- 64-bit Open source Linux or its derivative

Programming tools recommended :- Open Source Python, Programming tool like Jupyter Notebook, Pycharm, Spyder, G++/GCC

Hardware Requirements :

i3 or above processor , 2 GB or above RAM, 512 GB or above Hard-disk etc

Reference for theory : <https://www.javatpoint.com/sorting-algorithms>

Theory :

- Explain Insertion sort with examples, Advantages, Disadvantages, Time Complexity.
- Explain Shell sort with examples, Advantages, Disadvantages, Time Complexity.
- Difference between Insertion and Shell Sorting.

NOTE : just write heading and try to explain in details with examples. Some websites are provided as reference(don't write reference). You can use other website also.

Write algorithm/pseudo code for each function :

- a) To accept percentage from user for N number of students.
- b) To perform Insertion sort and print sorted elements
- c) To perform Shell sort and print sorted elements
- d) To display top five scores of Insertion sort
- e) To display top five scores of Shell sort

Algorithm:

Write Algorithms for program/code which you have implemented.

Flowchart :

Draw flowchart for above algorithm

Conclusion:

Thus, We have successfully sorted array using Insertion and Shell sort.

Continuous Assessment of Student:

TS	PR	UC	VA	RN	Total Marks	Faculty Signature
(2)	(2)	(2)	(2)	(2)	(10)	

- TS – Timely Submitted, PR- Performance, UC- Understanding of Code, VA- Viva Answered,
RN- Regularity and Neatness