

SAVITIBAI PHULE UNIVERSITY OF PUNE
S. Y. B.Sc. (Computer Science) Semester III
Practical Examination
SUBJECT: CS-233 Practical course based on CS231
Time: 3 hours Max. Marks: 35

Q1. Create a random array of n integers. Accept a value x from user and use linear search algorithm to check whether the number is present in the array or not and output the position if the number is present. [10]

Q2. Implement a priority queue library (PriorityQ.h) of integers using a static implementation of the queue and implement the below two operations.

- 1) Add an element with its priority into the queue.
- 2) Delete an element from queue according to its priority. [20]

Q3. Viva [5]

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Q1. Accept n values in array from user. Accept a value x from user and use sentinel linear search algorithm to check whether the number is present in the array or not and output the position if the number is present. [10]

Q2. Implement a priority queue library (PriorityQ.h) of integers using a static implementation of the queue and implementing the below two operations. Write a driver program that includes queue library and calls different queue operations.

1) Add an element with its priority into the queue.

2) Delete an element from queue according to its priority. [20]

Q3 Viva [5]

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Q1. Read the data from file 'cities.txt' containing names of cities and their STD codes. Accept a name of the city from user and use linear search algorithm to check whether the name is present in the file and output the STD code, otherwise output “city not in the list”. [10]

Q2. Implement a circular queue library (cir_queue.h) of integers using a dynamic (circular linked list) implementation of the queue and implementing init(Q), AddQueue(Q) and DeleteQueue(Q) operations. Write a menu driven program that includes queue library and calls different queue operations. [20]

Q3 Viva [5]

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Q1. Implement a linear queue library (st_queue.h) of integers using a static implementation of the queue and implementing the operations like init (Q), AddQueue(Q, x) and X=DeleteQueue(Q). Write a program that includes queue library and calls different queue operations. [10]

Q2. Read the data from file 'cities.txt' containing names of cities and their STD codes. Accept a name of the city from user and use sentinel linear search algorithm to check whether the name is present in the file and output the STD code, otherwise output “city not in the list”. [20]

Q3. Viva [5]

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Q1. Implement a priority queue library (PriorityQ.h) of integers using a static implementation of the queue and implementing the below operation [10]

Add an element with its priority into the queue

Q2. Read the data from file 'sortedcities.txt' containing sorted names of cities and their STD codes. Accept a name of the city from user and use binary search algorithm to check whether the name is present in the file and output the STD code, otherwise output "city not in the list". [20]

Q3. Viva [5]