

Department of Computer Science & Engineering

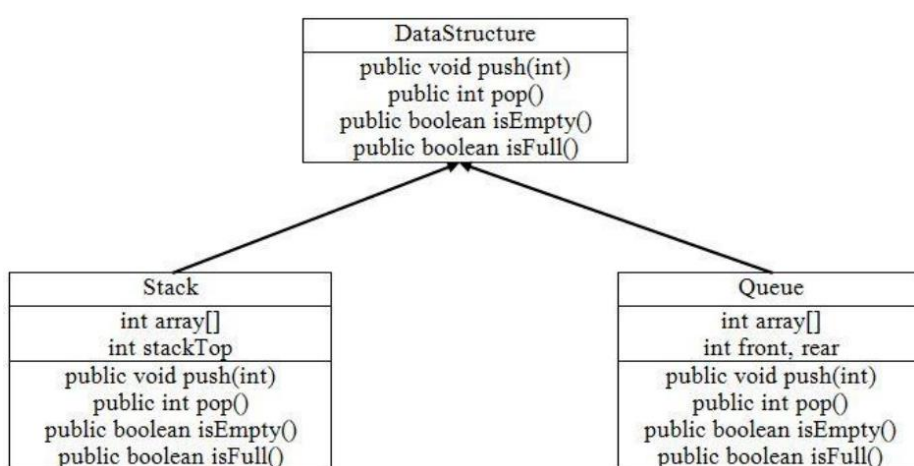
QUESTION BANK FOR V SEM (CSE) (Autonomous Syllabus)

Subject Code: CSL57 (O)
Subject Name: Java Laboratory
Credits: 0:0:1

TERM: AUG-DEC 2020

I.A. Marks: 50
Exam Hours: 03
Exam Marks: 50

Design, develop, and implement the following programs in Java

1.	<p>Write a Java program to implement the Stack and Queue operations. Create an interface called as DataStructure. Write Stack & Queue classes which will implement the DataStructure interface.</p> <div style="text-align: center;">  <pre> classDiagram class DataStructure { +push(int) void +pop() int +isEmpty() boolean +isFull() boolean } class Stack { +array[] int +stackTop int +push(int) void +pop() int +isEmpty() boolean +isFull() boolean } class Queue { +array[] int +front int +rear int +push(int) void +pop() int +isEmpty() boolean +isFull() boolean } DataStructure < -- Stack DataStructure < -- Queue </pre> </div>
2.	<p>Write a java program to maintain the student details like USN, Dept_Names, 3 Subject grades and SGPA in student package and keep the staff details such as Staff_ID, Staff_Name, Designation and subjects handled in a staff package. In main class use these two packages details for Staff and Student classes to display the student and staff information as requested by the user.</p>
3.	<p>Write a multithreaded program to display prime numbers between 1-100 using thread1 and 101-200 using thread2 using a synchronized displayPrime(int n) function. Demonstrate the usage of synchronized function and synchronized blocks.</p>
4.	<p>Write a java program to prompt the user to enter his/her age and the CGPA. The user application for a job will be rejected either if his age is greater than 25 years or his CGPA is less than 8. Declare two nested try-throw-catch blocks; one to handle the AgeOutOfRangeException and the other to handle the LowCGpaException. If the user enters acceptable age and CGPA, display the message “Your application is accepted and is under study”.</p>

5.	Write java program to create a package called AdvMath , which has two classes. In main class use this package to display the result as requested by the user. i. To calculate $y = \sin(x) + \cos(x) + \tan(x)$ ii. To print pythagorean triplets
6.	Write java program to create an applet with text box. User must type a string in text box first. If “P” key is pressed, check whether the given string is palindrome or not and the result must be displayed on the status bar.
7.	Write a java program to create the table named Department with the attributes Dept_ID, Name, Year_Established, Head_Name, No_of_Employees. (i) Find the number employees in a CSE department. (ii) List Name, Dept_ID of all the departments which are established in the year 2010.
8.	Write a JAVA-JDBC program that connects to the database College with Student table. Assume appropriate attributes for the Student table. Write a program to display the details of those Students who have CGPA less than 9. Also update the Student table to change the CGPA of student named “John” from 8.50 to 9.4 using updatable result set. Finally display the results and disconnect from the database.
9.	Write a java servlet program with a method called initials () that takes input representing a full name and returns the initials of the name in all capital letters. Example: If Input is Robert B. Qwerty then Output should be RBQ.
10.	Write a servlet program that uses JDBC to display the subjects allotted for the faculty. Subjects Table should have Sub_ID, Sub_Name, Faculty_ID as the fields. Update subject details for a faculty using PreparedStatement and display how many rows are updated.
11.	Write a JSP that takes the user’s name and age from a form. Echo back the name and age along with a message stating the price of movie tickets. <ul style="list-style-type: none"> The price is determined by the age passed to the JSP. If the age is greater than 62, the movie ticket price is Rs. 50. If the user is less than 10 years old, the price is Rs. 30. For everyone else, the price is Rs. 80.
12.	Write a JSP program to create a form with Book_No, Title, Author, Publication, Price and a Submit button. Using JSP-Database connectivity, get the data from the form and insert the records into the database. Retrieve the book details for the particular title and display the details.

Marks Distribution:

Conduction and Result	Write-up	Viva	Change of Program	Total
35 Marks	8 Marks	7 Marks	-10 marks	50 Marks