OBJECT ORIENTED PROGRAMMING WITH JAVA(21CS35)
UNIT 4: PRACTICE QUESTIONS

1. What are type wrappers? Discuss Character and Boolean type wrapper classes with necessary syntax and examples
2. Illustrate numeric type wrappers through examples
3. What are the Advantages of autoboxing and auto-unboxing? Give examples
4. Demonstrate through examples the Autoboxing/Unboxing in methods and Expressions.
5. Discuss Autoboxing/Unboxing Boolean and Character Values with examples
6. Demonstrates the use of the auto-unboxing process in a switch statement. The day of the week entered is of the wrapper type Integer. In the switch statement, use this day of the week as a control expression. When comparing in case statements, automatic unboxing from type Integer to type int must occur. For the day entered display the day as day of the week(ex: For 1 display Monday)
7. Demonstrate the use of an Boolean wrapper type object as control expression in the for, while and do-while loop statements for the following task.
   (i)for loop--to find sum of numbers from 1 to 100.
   (ii) while loop -- to find sum of even numbers from 1 to 100.
   (iii) do while loop--the sum of numbers entered from the keyboard until a 0 is entered
8. Demonstrate the processes of auto-boxing and auto-unboxing of char and Character types for the switch statement in a simple calculator problem.
9. What is Collections Framework? What are its advantages?
10. Give description of any 6 methods of Collection Interface.
11. Give description of any 5 methods of List Interface.
12. Give description of any 6 methods of Set Interface.
13. Give description of any 3 methods of Iterator interface and of any 3 methods of the ListIterator interface
14. Compare LinkedList and ArrayList
15. Compare ArrayList and Vector
16. Compare ArrayList vs HashSet.
17. Write a Java program to demonstrate ArrayList by creating an array list for objects of type String, and then several strings are added to it. The list is then displayed. Some of the elements are removed and the list is displayed again.
18. Write a Java program to create an Arraylist of 5 fruits, display, update fruit in position 1 to "Dates", sort the list and display.
19. Write a Java program to create an Arraylist of programming languages, traverse the list to display the elements using :
    (i)Iterator *
    (ii)List Iterator in reverse order
    (iii) for
    (iv) for each
20. Write a Java program to create an arraylist of student class objects, traverse using an iterator and display.
21. Create an arraylist of students and search for a student with given rollno. Student object has the fields :rollno, name and age.
22. Write a Java program to create an Arraylist from an array.
23. Create an ArrayList of 3 books and perform the following operations. Books contain the field: id, title, author , publisher and quantity
    (i) Display books
    (ii)sort books by id
    (iii) search for a book by id
    (iv)Remove a book with given title

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24. Write a Java program to demonstrate LinkedList by creating a linked list for objects of type String, and then several strings are added to it. Add and remove elements at both end of the linked list, change any one element of the list and display the list again.
25. Write a Java program to demonstrate LinkedList as Queue.
26. Write a Java program to demonstrate LinkedList as Deque.
27. Write a Java program to to merge two Linked lists.
28. Write a Java program to demonstrate a HashSet
29. Write a Java program to to merge two HashSets
30. Write a Java program to create a HashSet from an ArrayList.
31. Create a HashSet of 3 books and perform the following operations. Books contain the field: * id, title, author , publisher and quantity
    (i) Display books
    (ii) search for a book by id
    (iii)Remove a book with given title