Assignment 3

Submission date: 23/1/2024

1. Explain all the loops in Java (Explanation, syntax, example program).
2. Explain arrays in Java (1D array: syntax, initialization, example, 2D array: syntax, initialization, example, Jagged array: syntax, initialization, example).
3. WAP to compute sum and average of 5 double elements of array.
4. WAP to perform linear search in java.
5. WAP to perform binary search in java.
6. Write a Java program to insert an element (specific position) into an array.
7. Write a Java program to remove a specific element from an array.
8. Write a Java program to find the maximum and minimum value of an array.
9. Write a Java program to reverse an array of integer values.
10. Write a Java program to find duplicate values in an array of integer values.
11. Write a Java program to find duplicate values in an array of string values.
12. WAP to perform matrix addition in java.
13. WAP to perform matrix multiplication in java.
14. Explain String class and specify different ways to create String objects.

Q15. WAP to demonstrate the functionality of all the methods of String class.

1. int length()
2. char charAt(int index)
3. int indexOf(int ch)
4. int indexOf(int ch, int fromIndex)
5. int indexOf(String substring)
6. int indexOf(String substring, int fromIndex)
7. lastIndexOf( )
8. String substring(int beginIndex)
9. String substring(int beginIndex, int endIndex)
10. boolean contains(CharSequence s)
11. String concat(String s)
12. boolean equals(Object o)
13. boolean equalsIgnoreCase(String s)
14. boolean isEmpty()

15. boolean equals(Object o)
16. boolean equalsIgnoreCase(String s)
17. String toLowerCase()
18. String toUpperCase()
19. int compareTo(String anotherString)
20. int compareToIgnoreCase(String anotherString)
21. String trim()
22. String replace (char oldChar, char newChar)
23. char[] toCharArray()
24. boolean startsWith(String s)
25. boolean endswith(String s)
26. static String join(CharSequence *delim*, CharSequence . . . *strs*)

Q16. Write a program to compare two strings lexicographically, ignoring case differences.
Q17. Write a program to check whether two String objects contain the same data.
Q18. Write a program to replace each substring of a given string.
Q19. Write a Java program to check whether a given string starts with the contents of another string.
Q20. Write a Java program to create a new string repeating every character twice of a given string.
Q21. Write a Java program to return the sum of the digits present in the given string. If there is no digits the sum return is 0.
Q22. Write a Java program to Count words in Given String.
Q23. Write a Java program to Swap Two Strings.
Q24. Write a Java program to Swap Two Strings without Third String Variable.
Q25. Write a Java program to Reverse Each Word of a String.
Q26. Java String program to check whether a string is a Palindrome.
Q27. Program to Check Two Strings Are Anagram Of Each Other in Java.
Q28. Write a Java program to Count Number of Uppercase and Lowercase letters.
Q29. Write a Java program to Given string Convert Uppercase to Lowercase.
Q30. Write a Java program to check if the letter 'e' is present in the word 'Hello World'.
Q31. Differentiate between String and StringBuilder.
Q32. Explain StringBuilder class. What is the initial capacity of StringBuilder object. Explain constructors. Explain the following methods of String Builder class along with examples:

i. compareTo()
ii. delete()
iii. deleteCharAt()

iv. ensureCapacity()
v. getChars()
vi. insert()
vii. indexOf()
viii. lastIndexOf()
ix. setCharAt()
x. setLength()
xi. append()
xii. charAt()
xiii. reverse()
xiv. length()
xv. capacity()
xvi. substring()
xvii. replace()