



**Saveetha School of Engineering**  
**Saveetha Institute of Medical and Technical Sciences, Chennai**  
**Computer Science and Engineering Programme**



**Subject Code / Name: CSA09 / Programming in Java**

**Course Faculty Name:**

**SESSION PLAN No.1 – Java Fundamentals and Analytical questions**

Date	Session No	Topic	Programs	Timings
21-02-2024	1	Java datatypes	1. Write a program to demonstrate primitive datatypes in java. Below are the datatypes Integer data types: byte, short, int, and long. Floating-point data types: float and double. Character data type: char. Boolean data type: Boolean.	8.00 AM to 9.00 AM
			2. Example program demonstrating data type conversion in Java for all primitive data types:  a) Implicit conversion (widening) from smaller data types to larger ones.  b) Explicit conversion (narrowing) from larger data types to smaller ones.  c) Overflow and underflow scenarios where the value exceeds the range of the target data type.	

			3. Java program for String methods and String constructors	
			4. String builder and String buffer program differences with example  Demonstrate simple examples of StringBuilder and StringBuffer appending strings. Then compare the performance of StringBuilder and StringBuffer by appending a large number of strings in a loop (iterations times) and measuring the time taken.	
	2	Arrays	5. Java Array for printing first loop from 1 to 9 and second loop from 9 to 1 and store them in matrix A and matrix B	9.00 AM to 10.00 AM
			6. Java program to create confusion matrix and calculate TP (True Positive), TN (True Negative), FP (False Positive), FN (False Negative), and F1-score:	
			7. Write a program using Arrays class in java for creating 2D matrix	
			8. Java program to find if 2 arrays have equal length, if not make it equal according to the smallest array among the both, use Arrays class and copyOf() function.	

	3	Conditional statements	9. Find greatest of 3 numbers in java, without using If statement  Hint: Ternary operators	10.00 AM to 11.00 AM
			10. Use nested if to find which if statement contains the greatest value	
			11. If a person is age 28 when his younger brother is 24, what will be his age when the older brother is 56. If age difference is more than 3 then find the age of younger brother when older brother was 5.	
			12. Find a person's birth year based on their eligibility to vote, given that the current year is 2073 and the eligibility age is 21 years, we first need to calculate the birth year. If the birth year is more than 2060, we then find the years between the person's vote-eligible year and 2023 else find median of birth year and 2023	
	4	Looping statements	13. Use nested if to find which loop contains the greatest value	12.00 PM to 01.00 PM
			14. Find missing numbers in the series 1,5,11,19 using java	

			15. write java program to iterate through array elements using enhanced for loop. And find no. of prime numbers	
			16. Iterate to two for loops, both contains 10 array elements, one is normal order, another in reverse order, find the median where they will meet	
	5	Switch case and Operators	17. Write java program using switch case to find luck guess	01.00 PM to 02.00 PM
			18. Java switch case to find which for loop is shortest path first	
			19. Write a java program to implement OR gate and AND gate	
			20. Write a program to shift values from left to right if A>B else shift right to left using logical shift operators. Where A and B are arrays	
	7	<b>CLASS TEST 1 (1 RANDOM QUESTION FROM EACH SECTION)</b>		02.00 PM to 03.00 PM

**Course Coordinator**

**HOD**