# Java Assignments – Day 5 (Integrated Topics)

Topics Covered:  
- Iteration Statements:  
 • for loop  
 • while loop  
 • do-while loop  
 • for-each loop  
- Arrays and Multi-dimensional Arrays  
- Integrated Concepts:  
 • Type Casting  
 • Conditional Statements (if-else, ternary)  
 • Operators (Arithmetic, Relational, Logical, Bitwise)  
 • Functions (basic use cases)

## Assignment 1: Sum of Even Elements in Array (for loop + condition)

Question:  
Take an array from the user and print the sum of only even elements using a for loop.

Input Format:  
[2, 5, 8, 11, 4]

Output Format:  
Sum of even elements: 14

## Assignment 2: Count and Print Odd Numbers (while loop + if condition)

Question:  
Using a while loop, count how many odd numbers are present in the array and print them.

Input Format:  
[3, 6, 9, 12, 15]

Output Format:  
Odd numbers: 3 9 15  
Count: 3

## Assignment 3: Find Largest Element and Check if it’s Odd or Even

Question:  
Find the largest element in the array and determine if it's odd or even.

Input Format:  
[10, 23, 45, 89, 76]

Output Format:  
Maximum element: 89  
It is an Odd number.

## Assignment 4: Print Only Elements Greater Than a Given Number

Question:  
Take a number 'x' and print all array elements greater than x using a for-each loop.

Input Format:  
x = 25  
Array = [10, 30, 20, 40, 50]

Output Format:  
Elements greater than 25: 30 40 50

## Assignment 5: Average of Only Positive Numbers (using loop + condition)

Question:  
From a given array, calculate the average of only positive numbers.

Input Format:  
[-2, 5, 7, -3, 9]

Output Format:  
Average of positive numbers: 7.0

## Assignment 6: 2D Matrix – Print Only Diagonal Elements

Question:  
Take a 3x3 matrix and print only the diagonal elements (i == j).

Input Format:  
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]

Output Format:  
Diagonal elements: 1 5 9

## Assignment 7: Use do-while loop to Print Sum Until User Enters Zero

Question:  
Keep taking integers from user and sum them until 0 is entered. Use do-while loop.

Input Format:  
5 10 15 0

Output Format:  
Sum = 30

## Assignment 8: Function + Array – Count How Many Are Divisible by 3

Question:  
Create a function that takes an array and returns how many numbers are divisible by 3.

Input Format:  
[3, 4, 9, 10, 12]

Output Format:  
Count of numbers divisible by 3: 3