**📌 Basic Traversal**

**1. Print all elements using for loop**

public class Q1\_ForLoop {

public static void main(String[] args) {

int[] arr = {10, 20, 30, 40, 50};

for (int i = 0; i < arr.length; i++) {

System.out.println(arr[i]);

}

}

}

**2. Print all elements using for-each loop**

public class Q2\_ForEachLoop {

public static void main(String[] args) {

int[] arr = {5, 15, 25, 35, 45};

for (int num : arr) {

System.out.println(num);

}

}

}

**3. Reverse order using for loop**

public class Q3\_ReverseOrder {

public static void main(String[] args) {

int[] arr = {7, 14, 21, 28};

for (int i = arr.length - 1; i >= 0; i--) {

System.out.println(arr[i]);

}

}

}

**4. Print even numbers**

public class Q4\_EvenNumbers {

public static void main(String[] args) {

int[] arr = {12, 19, 20, 25, 30};

for (int num : arr) {

if (num % 2 == 0) {

System.out.println(num);

}

}

}

}

**5. Print odd numbers**

public class Q5\_OddNumbers {

public static void main(String[] args) {

int[] arr = {3, 6, 9, 12, 15, 18};

for (int num : arr) {

if (num % 2 != 0) {

System.out.println(num);

}

}

}

}

**📌 Summation & Counting**

**6. Sum of elements**

public class Q6\_SumArray {

public static void main(String[] args) {

int[] arr = {1, 2, 3, 4, 5};

int sum = 0;

for (int num : arr) {

sum += num;

}

System.out.println("Sum = " + sum);

}

}

**7. Average of elements**

public class Q7\_AverageArray {

public static void main(String[] args) {

int[] arr = {10, 20, 30, 40, 50};

int sum = 0;

for (int num : arr) {

sum += num;

}

double avg = (double) sum / arr.length;

System.out.println("Average = " + avg);

}

}

**8. Count positive numbers**

public class Q8\_CountPositive {

public static void main(String[] args) {

int[] arr = {10, -5, 7, -3, 8, -2};

int count = 0;

for (int num : arr) {

if (num > 0) {

count++;

}

}

System.out.println("Positive count = " + count);

}

}

**9. Count negative numbers**

public class Q9\_CountNegative {

public static void main(String[] args) {

int[] arr = {4, -1, -7, 5, 0, -3};

int count = 0;

for (int num : arr) {

if (num < 0) {

count++;

}

}

System.out.println("Negative count = " + count);

}

}

**10. Count numbers divisible by 5**

public class Q10\_CountDivisibleBy5 {

public static void main(String[] args) {

int[] arr = {5, 12, 25, 40, 7, 50};

int count = 0;

for (int num : arr) {

if (num % 5 == 0) {

count++;

}

}

System.out.println("Divisible by 5 count = " + count);

}

}

**📌 Searching & Finding**

**11. Largest element**

public class Q11\_LargestElement {

public static void main(String[] args) {

int[] arr = {9, 4, 17, 3, 20};

int max = arr[0];

for (int num : arr) {

if (num > max) {

max = num;

}

}

System.out.println("Largest = " + max);

}

}

**12. Smallest element**

public class Q12\_SmallestElement {

public static void main(String[] args) {

int[] arr = {15, 7, 22, 3, 10};

int min = arr[0];

for (int num : arr) {

if (num < min) {

min = num;

}

}

System.out.println("Smallest = " + min);

}

}

**13. Search for a number**

public class Q13\_SearchNumber {

public static void main(String[] args) {

int[] arr = {2, 4, 6, 8, 10};

int search = 8;

boolean found = false;

for (int num : arr) {

if (num == search) {

found = true;

break;

}

}

System.out.println(found ? "Found" : "Not Found");

}

}

**14. Find index of element**

public class Q14\_FindIndex {

public static void main(String[] args) {

int[] arr = {100, 200, 300, 400, 500};

int search = 300;

int index = -1;

for (int i = 0; i < arr.length; i++) {

if (arr[i] == search) {

index = i;

break;

}

}

System.out.println(index != -1 ? "Index: " + index : "Not Found");

}

}

**📌 Modifying Arrays**

**15. Increase each element by 5**

public class Q15\_IncreaseBy5 {

public static void main(String[] args) {

int[] arr = {2, 4, 6, 8};

for (int i = 0; i < arr.length; i++) {

arr[i] += 5;

}

for (int num : arr) {

System.out.print(num + " ");

}

}

}

**16. Multiply each element by 2**

public class Q16\_MultiplyBy2 {

public static void main(String[] args) {

int[] arr = {3, 6, 9, 12};

for (int i = 0; i < arr.length; i++) {

arr[i] \*= 2;

}

for (int num : arr) {

System.out.print(num + " ");

}

}

}

**📌 Pattern & Logic**

**17. Elements at even indexes**

public class Q17\_EvenIndexes {

public static void main(String[] args) {

int[] arr = {11, 22, 33, 44, 55};

for (int i = 0; i < arr.length; i++) {

if (i % 2 == 0) {

System.out.println(arr[i]);

}

}

}

}

**18. Elements at odd indexes**

public class Q18\_OddIndexes {

public static void main(String[] args) {

int[] arr = {9, 18, 27, 36, 45};

for (int i = 0; i < arr.length; i++) {

if (i % 2 != 0) {

System.out.println(arr[i]);

}

}

}

}

**19. First half of array**

public class Q19\_FirstHalf {

public static void main(String[] args) {

int[] arr = {1, 2, 3, 4, 5, 6};

for (int i = 0; i < arr.length / 2; i++) {

System.out.println(arr[i]);

}

}

}

**20. Second half of array**

public class Q20\_SecondHalf {

public static void main(String[] args) {

int[] arr = {1, 2, 3, 4, 5, 6};

for (int i = arr.length / 2; i < arr.length; i++) {

System.out.println(arr[i]);

}

}

}