

Day2 - Q1

```
public class SwapNumbers {
    public static void main(String[] args) {
        int a = 10, b = 20;

        System.out.println("Before Swap: a = " + a + ", b = " + b);

        a = a + b;
        b = a - b;
        a = a - b;

        System.out.println("After Swap: a = " + a + ", b = " + b);
    }
}
```

Day2 - Q2

```
public class Calculator {
    public static void main(String[] args) {
        if (args.length < 3) {
            System.out.println("Usage: java Calculator <num1> <operator> <num2>");
            return;
        }

        double num1 = Double.parseDouble(args[0]);
        String operator = args[1];
        double num2 = Double.parseDouble(args[2]);
        double result = 0;

        switch (operator) {
            case "+": result = num1 + num2; break;
            case "-": result = num1 - num2; break;
            case "*": result = num1 * num2; break;
            case "/":
                if (num2 != 0) result = num1 / num2;
                else System.out.println("Division by zero not allowed.");
                break;
            default: System.out.println("Invalid operator.");
        }

        System.out.println("Result: " + result);
    }
}
```

Day2 - Q3

```
import java.util.Scanner;

public class AgeCalculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter your birth year: ");
        int birthYear = sc.nextInt();

        int currentYear = 2024;
        int age = currentYear - birthYear;

        System.out.println("You are " + age + " years old.");
    }
}
```

Day2 - Q4

```
import java.util.Scanner;

public class BMICalculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
    }
}
```

```

        System.out.print("Enter your weight (kg): ");
        double weight = sc.nextDouble();

        System.out.print("Enter your height (m): ");
        double height = sc.nextDouble();

        double bmi = weight / (height * height);

        System.out.printf("Your BMI is %.2f\n", bmi);
    }
}

```

Day2 - Q5

```

import java.util.Scanner;

public class OddEven {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int num = sc.nextInt();

        if (num % 2 == 0)
            System.out.println(num + " is Even.");
        else
            System.out.println(num + " is Odd.");
    }
}

```

Day2 - Q6

```

import java.util.Scanner;

public class ITCityCheck {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a city name: ");
        String city = sc.nextLine();

        switch (city.toLowerCase()) {
            case "delhi":
            case "mumbai":
            case "kolkatta":
            case "bangalore":
            case "chennai":
            case "hyderabad":
                System.out.println(city + " is an IT City.");
                break;
            default:
                System.out.println(city + " is not an IT City.");
        }
    }
}

```

Day3 - Q1

```

import java.util.Scanner;

public class GradeCalculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter your score (0-100): ");
        int score = sc.nextInt();

        if (score >= 90 && score <= 100)
            System.out.println("Your grade is A.");
        else if (score >= 80)
            System.out.println("Your grade is B.");
        else if (score >= 70)
            System.out.println("Your grade is C.");
    }
}

```

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        else if (score >= 60)
            System.out.println("Your grade is D.");
        else
            System.out.println("Your grade is F.");
    }
}

```

Day3 - Q2

```

import java.util.Scanner;

public class LargestNumber {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter first number: ");
        int a = sc.nextInt();
        System.out.print("Enter second number: ");
        int b = sc.nextInt();
        System.out.print("Enter third number: ");
        int c = sc.nextInt();

        int largest = (a > b && a > c) ? a : (b > c ? b : c);

        System.out.println("The largest number is " + largest);
    }
}

```

Day3 - Q3

```

import java.util.Scanner;

public class TriangleType {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter sidel: ");
        int sidel = sc.nextInt();
        System.out.print("Enter side2: ");
        int side2 = sc.nextInt();
        System.out.print("Enter side3: ");
        int side3 = sc.nextInt();

        if (sidel == side2 && side2 == side3)
            System.out.println("The triangle is Equilateral.");
        else if (sidel == side2 || side2 == side3 || sidel == side3)
            System.out.println("The triangle is Isosceles.");
        else
            System.out.println("The triangle is Scalene.");
    }
}

```

Day3 - Q4

```

import java.util.Scanner;

public class PasswordStrength {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a password: ");
        String password = sc.nextLine();

        if (isStrong(password))
            System.out.println("Password strength: Strong.");
        else if (isMedium(password))
            System.out.println("Password strength: Medium.");
        else
            System.out.println("Password strength: Weak.");
    }

    static boolean isStrong(String pass) {

```

```

        return pass.length() >= 8 && pass.matches(".*[A-Z].*") && pass.matches(".*[a-z].*") &&
            pass.matches(".*\\d.*") && pass.matches(".*[^a-zA-Z0-9].*");
    }

    static boolean isMedium(String pass) {
        return pass.length() >= 6 && pass.matches(".*[A-Z].*") && pass.matches(".*[a-z].*") &&
            pass.matches(".*\\d.*");
    }
}

```

Day3 - Q5

```

import java.util.Scanner;

public class ReverseNumber {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter an integer: ");
        int num = sc.nextInt();

        int reversed = 0;
        while (num != 0) {
            int digit = num % 10;
            reversed = reversed * 10 + digit;
            num /= 10;
        }

        System.out.println("The reversed number is " + reversed);
    }
}

```

Day3 - Q6

```

import java.util.Scanner;

public class PrimeCheck {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int num = sc.nextInt();

        boolean isPrime = true;

        if (num <= 1)
            isPrime = false;
        else {
            for (int i = 2; i <= num / 2; i++) {
                if (num % i == 0) {
                    isPrime = false;
                    break;
                }
            }
        }

        if (isPrime)
            System.out.println(num + " is a prime number.");
        else
            System.out.println(num + " is not a prime number.");
    }
}

```

Day3 - Q7

```

import java.util.Scanner;

public class SumOfDigits {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int num = sc.nextInt();
    }
}

```

```

        int sum = 0;
        while (num != 0) {
            sum += num % 10;
            num /= 10;
        }

        System.out.println("The sum of the digits is " + sum);
    }
}

```

Day3 - Q8

```

public class Pattern {
    public static void main(String[] args) {
        // Upper part
        for (int i = 1; i <= 5; i++) {
            for (int j = 1; j <= (2 * i - 1); j++) {
                System.out.print("* ");
            }
            System.out.println();
        }

        // Lower part
        for (int i = 4; i >= 1; i--) {
            for (int j = 1; j <= (2 * i - 1); j++) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}

```

Day4 - Q1

```

class Employee {
    private double salary;
    private int hoursPerDay;

    public void getInfo(double salary, int hoursPerDay) {
        this.salary = salary;
        this.hoursPerDay = hoursPerDay;
    }

    public void addSal() {
        if (salary < 500) {
            salary += 10;
        }
    }

    public void addWork() {
        if (hoursPerDay > 6) {
            salary += 5;
        }
    }

    public void printFinalSalary() {
        System.out.println("Final Salary: $" + salary);
    }
}

public class EmployeeTest {
    public static void main(String[] args) {
        Employee emp = new Employee();
        emp.getInfo(480, 7); // Example input
        emp.addSal();
        emp.addWork();
        emp.printFinalSalary();
    }
}

```

Day4 - Q2

```
import java.util.Scanner;

class Student {
    private String name;
    private int yearOfJoining;
    private String address;

    public void setInfo(String name, int yearOfJoining, String address) {
        this.name = name;
        this.yearOfJoining = yearOfJoining;
        this.address = address;
    }

    public void printInfo() {
        System.out.printf("%-10s %-15d %-20s\n", name, yearOfJoining, address);
    }
}

public class StudentTest {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        Student s1 = new Student();
        Student s2 = new Student();
        Student s3 = new Student();

        System.out.println("Enter details of 3 students: (name, yearOfJoining, address)");

        System.out.print("Student 1: ");
        s1.setInfo(sc.next(), sc.nextInt(), sc.next());

        System.out.print("Student 2: ");
        s2.setInfo(sc.next(), sc.nextInt(), sc.next());

        System.out.print("Student 3: ");
        s3.setInfo(sc.next(), sc.nextInt(), sc.next());

        System.out.printf("%-10s %-15s %-20s\n", "Name", "Year of Joining", "Address");
        s1.printInfo();
        s2.printInfo();
        s3.printInfo();
    }
}
```

Day4 - Q3

```
class BankAccount {
    private String accountHolder;
    private double balance;

    public BankAccount(String accountHolder, double initialBalance) {
        this.accountHolder = accountHolder;
        this.balance = initialBalance;
    }

    public void deposit(double amount) {
        if (amount > 0) {
            balance += amount;
            System.out.println("Deposited: $" + amount);
        } else {
            System.out.println("Invalid deposit amount.");
        }
    }

    public void withdraw(double amount) {
        if (amount > 0 && amount <= balance) {
            balance -= amount;
            System.out.println("Withdrawn: $" + amount);
        } else {
            System.out.println("Insufficient balance or invalid amount.");
        }
    }
}
```

```
        public void displayBalance() {
            System.out.println("Account Holder: " + accountHolder + ", Balance: $" + balance);
        }
    }

    public class BankTest {
        public static void main(String[] args) {
            BankAccount acc = new BankAccount("Rohit Gupta", 1000);

            acc.displayBalance();
            acc.deposit(500);
            acc.withdraw(300);
            acc.displayBalance();
        }
    }
}
```