Salary Calculation

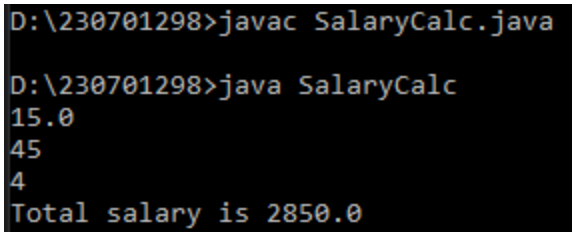
Problem Statement:

You are required to write a Java program to calculate the total salary of an employee
based on their hourly wage, hours worked in a week, and the number of weeks they
worked. The program should consider the following rules:
- If an employee works more than 40 hours in a week, they are paid 1.5 times their
hourly wage for the overtime hours.
- If an employee works less than 20 hours in a week, they are penalized with a deduction of 10% of their weekly salary.
- The program should handle invalid inputs (e.g., negative values for hours or wages).
Input Format:
- Hourly wage (a positive decimal value).
- Number of hours worked per week (a positive integer).
- Number of weeks worked (a positive integer).
Output Format:
Total salary considering the overtime pay and penalty rules.
SAMPLE INPUT
15.0
45
4

SAMPLE OUTPUT
Total salary is 2850.0

```
import java.util.Scanner;

public class SalaryCalc {

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

```
        double wage = sc.nextDouble();
        if (wage < 0) {
            System.out.println("Hourly wage cannot be
negative.");
            return;
        }

        int hPerWk = sc.nextInt();
        if (hPerWk < 0) {
            System.out.println("Hours per week cannot be
negative.");
            return;
        }

        int wks = sc.nextInt();
        if (wks < 0) {
            System.out.println("Weeks worked cannot be
negative.");
            return;
        }

        double wkSal;
        if (hPerWk > 40) {
            double regHrs = 40;
            double ovtHrs = hPerWk - 40;
            wkSal = (regHrs * wage) + (ovtHrs * wage * 1.5);
        } else {
            wkSal = hPerWk * wage;
        }

        if (hPerWk < 20) {
            wkSal *= 0.9;
        }

        double totSal = wkSal * wks;
        System.out.printf("Total salary is %.1f\n", totSal);

    }
}
```



Bill Generation

Problem Statement:

**You are required to calculate the total cost of purchasing tickets for an event based
on the ticket type and the number of tickets bought.
The program should consider the following rules:
- Regular Ticket: 50 each. If more than 10 tickets are bought, a discount of 10% is
applied.
- VIP Ticket: 100 each. If more than 5 tickets are bought, a discount of 15% is applied.
- Premium Ticket: 150 each. If more than 3 tickets are bought, a discount of 20% is
applied.
- If the total cost before any discount is less than 200, an additional service fee of 20 is
applied.
- The program should handle invalid inputs (e.g., negative values for number of tickets,
or invalid ticket types).**

**Input Format
Ticket type (Regular, VIP, or Premium). Number
of tickets bought (a positive integer).**

**Output Format
- Total cost considering the discounts and additional service fee rules
Sample Input 1**

Regular
12

Sample Output 1
540.0

```
import java.util.Scanner;

public class TicketCalc {

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

        System.out.print("Enter ticket type (Regular, VIP,
Premium): ");
        String type = sc.nextLine().trim();

        System.out.print("Enter number of tickets: ");
        int qty = sc.nextInt();

        if (qty < 0) {
            System.out.println("Number of tickets cannot be
negative.");
            return;
        }

        double pricePerTicket = 0.0;
        double discount = 0.0;

        switch (type) {
            case "Regular":
                pricePerTicket = 50.0;
                if (qty > 10) discount = 0.10;
                break;
            case "VIP":
                pricePerTicket = 100.0;
                if (qty > 5) discount = 0.15;
                break;
            case "Premium":
```

```
                pricePerTicket = 150.0;
                if (qty > 3) discount = 0.20;
                break;
            default:
                System.out.println("Invalid ticket type.");
                return;
        }

        double totalCost = qty * pricePerTicket;
        totalCost -= totalCost * discount;

        if (totalCost < 200) totalCost += 20;

        System.out.printf("%.1f\n", totalCost);

    }
}
```

```
D:\230701298>javac TicketCalc.java

D:\230701298>java TicketCalc
Enter ticket type (Regular, VIP, Premium): Regular
Enter number of tickets: 12
540.0
```

Largest and smallest digit of a number

Problem Statement:

Given a number N. The task is to find the largest and the smallest digit of the number.
Input Format:
A positive number in the range 1 <=n<=10000
Output Format:
Print the largest digit and the smallest digit
Sample Input
2346

Sample Output
2 6

Sample Input
4

Sample Output
4 4

```
import java.util.Scanner;

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

        int num = sc.nextInt();
        int min = 9, max = 0;

        while(num != 0){
            int rem = num % 10;

            if(rem < min)   min = rem;

            if(rem > max)   max = rem;

            num /= 10;
        }

        System.out.println(min + " " + max);

    }
}
```

```
D:\230701298>javac DigitExtrema.java

D:\230701298>java DigitExtrema
2346
2 6

D:\230701298>javac DigitExtrema.java

D:\230701298>java DigitExtrema
4
4 4
```