1. A computer salesman gets commission on the following basis:  
               Sales                        Commission Rate  
               Rs. 0 - 20,000                      3%  
               Rs. 20,000 - 50,000           12%  
               Rs. 50,001 and more         31%  
   After accepting the sales as input, calculate and print his commission amount and rate of commission.
2. Write a program to enter the three sides of a triangle. Decide whether it is a scalene, isosceles or equilateral triangle.
3. The telephone department wishes to compute monthly telephone bills for its customers using the following rules. Minimum Rs. 250 for first 80 message units, plus 60 paise per unit for next 60 units, plus 50 paise per unit for next 60 units, plus 40 paise per unit for any units above 200. Write a program that calculates the monthly bill, with input MESSAGE (the number of message units) and CUSTNO (the registration number of a customer). Then Display the bill in following format.  
               CUSTOMER NO :  
               MESSAGE UNITS :  
               AMOUNT (Rs.) :
4. A security man paid at the hourly rate (R) for the first 40 hours of work in a week. Thereafter, he is paid at 1.25 times of the hourly rate (R) for the next 16 hours and at 1.5 times of the hourly rate (R) for the further hours of work in the week. Taking the numbers of hours (H) and the rate per hour (R) as input, the weekly wages (W) is to be calculated.
5. Write a program to compute BI-monthly telephone charges for subscriber. Use the following information:  
           Fixed BI-monthly rent: Rs.380  
           Free calls during two months: 120  
           Charge/call beyond free limits upto 100 calls: Rs.1  
           Charge per call in excess of 100 calls: Rs. 1.25
6. Write a program to input the code of a particular item, quantity purchased and rate. Then calculate the purchased price and print it along with gift to be presented. The gifts to the customers are given in the following manner:  
           Amount of Purchase (Rs.)              Gift  
           Between 100 to 500                 A key ring  
           Between 500 to 1000                A leather purse  
           Above 1000                         A pocket calculator
7. Write a program to take the monthly salary from the user, find and display income tax with the help of the following slab:  
      Monthly Salary                 Income Tax  
      8000 or less                           Nil  
      8000-9000                      20% of Monthly salary  
      9000-10000                    30% of Monthly salary  
      10000 or above              40% of Monthly salary
8. A salesman earns a commission on the value of his sales as per the following table.  
      Value of sales(Rs.)            Commission(%)  
         1 - 999                               1  
      1000 - 9999                          5  
     10000 - 99999                      10  
   Write a program to calculate and print the commission using sale value as input. The program is to keep on calculating the commission for various salesmen until a sales value zero is input.
9. A company wants to set target for each of the four regions (EAST, WEST , NORTH and SOUTH). The company allots the following percentage target for each region.  
                 East      15%  
                 West      25%  
                 North     30%  
                 South     30%  
   Write a program to pass through command line parameters, the total target amount proposed by the company and print out the breakup of the target for each region.
10. Write a program to find the car bill for a particular tourist.  
    Type of car         Distance        Charge              Driver.  
    Maruti              < =  100          Rs.800              Rs.100.  
                        >100 & < = 200    Rs.800+Rs10/km      Rs 300.  
                                               above 100  
                        >200            Rs.15per km         Rs 500  
    Sumo                < = 100           Rs.600              Rs 100.  
                        >100 & < =  200   Rs.600+Rs.8/km      Rs 300  
                                              above 100       
                        > 200           Rs.12 per km        Rs.500
11. Write a program using method to calculate the salary increment of employees based on their basic pay. Calculate the final salary after increment.  
                 Basic Pay      Rise  
                 10700/-        550/-  
                 12500/-        750/-  
                 15000/-        1050/-
12. Write a program to calculate the prize amount for a cricketer depending upon his text average. Use the following date.  
      Test Average             Graduate                 Prize Amount  
        > = 80                    A                      Rs. 1,00,000.00  
        80> & > = 65              B                      Rs. 50,000.00  
        50> & > = 40              C                      Rs. 25,000.00  
        <40                     D                      Rs. 10,000.00
13. There are 55 employees in an organization. You have to display the number of employees getting Net-Salary above 20000 by taking only Basic\_Salary as input and following the table given below.  
      Basic Salary          DA (% Basic\_salary)      IT (% Gross\_Salary)  
      Below 5000                     8%                     6%  
      5000 to < 10000                15%                    9%  
      10000and above                 18%                    12%  
    Where DA and IT are Dearness Allowance and income Tax respectively.  
      Gross\_Salary  =  Basic\_Salary + DA  
      Net\_Salary  =  Gross\_Salary – IT
14. Write a program to assign values the variable basic salary and calculate the DA and the gross salary and print them. The DA is calculated as per the rules given below:  
        if basic< 2000             then DA is 5% of basic  
        if basic> = 2000 & <7000     then DA is 8% of basic  
        if basic> = 7000& <10000     then DA is 10% of basic  
        if basic> = 10000            then DA is 12% of basic  
        Gross Salary  =  Basic + DA.
15. Calculate and display the traveling allowance for 50 employees of an organization by taking distance traveled as input. The organization gives traveling allowance according to the following table.  
        Distance               Amount.  
        < = 20                   Rs 200  
        >20 and < = 50           Rs 200 + Rs 5 per extra km above 20  
        >50 and < =  100         Rs 500 + Rs 5 per extra km above 50.  
        >100                   Rs 15 per km.
16. Commission according to the following tables:

            Sale (in Rs.)               Commission(% of sale)  
                8000 or less                   Nil  
                8000 - 9000                    12%  
                9000 - 10000                   15%  
                10000 or above                 18%  
apart from this each salesman gets a fixed allowance of Rs 550 and also a bonus of Rs 500 if a salesman achieves the target of 10000. Display the total income of each salesman along with the sales. Also display the number of salesman having income of 5000 or above.

1. A company has 120 employees who are divided into four grades as follows:  
    Grade   Basic( Rs. per month)   D.A.(% of Basic)   H.R.A.(% of Basic)  
      1        10,000 or more              40%                30%  
      2        5,000 - 10,000              40%                25%  
      3        < 5,000 but > 2,000         30%                20%  
      4        2,000 or less               30%                15%  
   If the salary which is the total of Basic, D.A., and H.R.A., is above Rs.50,000 per month then Income Tax at the rate of 30% of the annual salary exceeding 50,000 is deducted on monthly basis at source. Taking name of the employees and the Basic(monthly) pay as inputs, a pay slip, which contains Name, Basic monthly pay, DA, HRA, Monthly Income Tax and Net Monthly Salary, for each employee is to be printed. Write a java program to perform this job.

**Switch statement:**

1. Write a program to read a weekday number and print weekday name using switch statement
2. Write a java program that takes a grade letter from the user (A, B, C, D, or F) and prints the corresponding GPA value

### **Write a java program that uses a switch statement to print the name of the month corresponding to a given integer value.**

### **Write a java program that calculates the total cost of an order based on the number of items and a per-item cost that varies depending on the type of item**

### Using the switch statement, write a menu-driven program to:

### (i) To find and display all the factors of a number input by the user (including 1 and excluding the number itself)

### (ii) To find and display the factorial of a number input by the user. The factorial of a non-negative integer n, denoted by n!, is the product of all integers less than or equal to n.

### Using the switch statement, write a menu-driven program to calculate the maturity amount of a bank deposit. The user is given the following options: (i) Term Deposit (ii) Recurring Deposit

### For option (i) accept Principal (p), rate of interest (r) and time period in years (n). Calculate and output the maturity amount (a) receivable using the formula a = p[1 + r / 100]n.

### For option (ii) accept monthly installment (p), rate of interest (r) and time period in months (n). Calculate and output the maturity amount (a) receivable using the formula a = p \* n + p \* n(n + 1) / 2 \* r / 100 \* 1 / 12.

### For an incorrect option, an appropriate error message should be displayed.

### Using the switch statement, write a menu-driven program:

### To check and display whether a number input by the user is a composite number or not. (A number is said to be composite if it has one or more than one factor excluding 1 and the number itself.). Example: 4, 6, 8, 9, …

### To find the smallest digit of an integer that is input: Sample Input: 6524 Output: Smallest digit is 2.

### Using the switch statement, write a menu-driven program to:

### Generate and display the first 10 terms of the Fibonacci series 0, 1, 1, 2, 3, 5, … The first two Fibonacci numbers are 0 and 1, and each subsequent number is the sum of the previous two.

### (ii) Find the sum of the digits of an integer that is input. Sample Input: 15390 Sample Output: Sum of the digits = 18. For an incorrect choice, an appropriate error message should be displayed.

1. Write a menu-driven program to accept a number and check and display whether it is a prime number or not, or an automorphic number or not. Use switch-case statement.

(a) Prime number: A number is said to be a prime number if it is divisible only by 1 and itself and not by any other number. Example: 3, 5, 7, 11, 13, etc.

(b) Automorphic number: An automorphic number is the number which is contained in the last digit(s) of its square. Example: 25 is an automorphic number as its square is 625 and 25 is present as the last two digits.