

Question 01

Sooriya Holdings (Pvt) Ltd. is a national distribution company. The gross salary of each month of the sales persons of the company, comprises a monthly basic salary, commission on sales, service, and, staff title. In the month of December, in addition to the commission it pays them a year-end bonus too. The gross salary is calculated as follows:

$\text{gross salary} = \text{basic salary} + \text{commissions}$

where $\text{commissions} = \text{commission on sales} + \text{commission on service} + \text{commission on staff title}$

For the month of December:

$\text{gross salary} = \text{basic salary} + \text{commissions} + \text{year-end bonus}$

The details of each component of calculation of the gross salary is as follows:

- (i) Salary:
Each sales person gets a fixed monthly basic salary.
- (ii) Commission on sales:
Each sales person must sell a given quota per month. He/She makes a commission on all sales beyond the monthly quota as follows:

Amount sold beyond monthly quota	Commission as a percentage on sales beyond the monthly quota
Amounts up to Rs.25,000	3%
Amounts over Rs.25,000 and up to Rs.50,000	5%
Amounts over Rs.50,000 and up to Rs.100,000	7%
Amounts over Rs.100,000 and up to Rs.150,000	9%
Amounts over Rs.150,000	10%

There is also an additional 4% bonus on top of the normal commission rate for any sales beyond Rs.125,000.

- (iii) Commission on service:
The service of a sales person is the number of years he/she has worked for the company. If a sales person's service is between 1 and 9 years, the sales person also gets a commission of 1/10 of 1.5% of sales for each year worked for the company. If the sales person's service is 10 or more years, he/she gets 1.5% of sales.
- (iv) Commission on staff title:
There are three staff titles for sales persons in the company. They are senior sales representative, junior sales representative, and, sales trainee. The sales trainees do not get a commission on staff title. Junior sales representatives get a commission of 0.3% of sales and senior sales representative gets a 0.5% of sales as commission on staff title.

(v) Year-end bonus:

The company gives a year-end bonus to all its sales persons in December. A 5% bonus on salary is given to the male sales persons and 10% bonus on salary to the female sales persons. If the salary of the sales person is less than Rs.10,000 then the sales person gets an extra 2% bonus on salary.

Each sales person has an employee number. Employee number is a 4-digit integer, which is between 1001 and 9999. Further the following details of a sales person are also available: gender, monthly basic salary, monthly quota, total monthly sales, years of service with the company, and staff title. The staff title should be stored as a character as follows:

Staff title	Character code
Senior sales representative	S or s
Junior sales representative	J or j
Sales trainee	T or t

The gender should also be stored as a character as follows:

Gender	Character code
Female	F or f
Male	M or m

Write a program to compute the monthly gross salary for all sales persons and print the pay slips as given in Figure 1 and Figure 2. You do not know the number of sales persons in advance. Process one sales person's data at a time. Use a sentinel -9999 as sales person's employee number to end the input.

Your program should read the year and the month in which the program is running as inputs. Read the year as an integer and month as three characters. In the pay slip the month should be printed as a word as given below.

Three characters of month	Month in word
JAN	January
FEB	February
MAR	March
APR	April
MAY	May
JUN	June
JUL	July
AUG	August
SEP	September
OCT	October
NOV	November
DEC	December

Your program should validate input data, wherever appropriate. If they are invalid, print a suitable error message and let the user to input again.

Test the program and write your test data in your answer sheet.

Sooriya Holdings (Pvt) Ltd.
Pay Slip for *month* – *year*
Employee No. *dddd*
Staff title: *xxxxxxxxxx*

Basic salary	Rs. <i>ddddddddd.dd</i>
Commissions	Rs. <i>ddddddddd.dd</i>
Gross salary	Rs. <i>ddddddddd.dd</i>

Figure 1: Pay slip for all the months except for December

Sooriya Holdings (Pvt) Ltd.
Pay Slip for *month* – *year*
Employee No. *dddd*
Staff title: *xxxxxxxxxx*

Basic salary	Rs. <i>ddddddddd.dd</i>
Commissions	Rs. <i>ddddddddd.dd</i>
Bonus	Rs. <i>ddddddddd.dd</i>
Gross salary	Rs. <i>ddddddddd.dd</i>

Figure 2: Pay slip for the month of December

Note: In your pay slip in places where you have *month*, *year*, *x*'s, and, *d*'s, you must display the appropriate values. The staff title should be displayed in words, (for example as Staff Trainee).