

B.Sc(I.T) 1st Semester

Problem Sheet-1

1	<p>The marks obtained by a student in 5 different subject are input through keyboard. The student gets a division as per the following rules:</p> <p style="padding-left: 40px;">Percentage above or equal to 60 → First Division Percentage between 50 and 59 → Second Division Percentage between 40 and 49 → Third Division Percentage less than 40 → Fail</p> <p>Write a C program to take input of marks and display the division obtained by the students.</p>
2	<p>A company decides to pay bonus to its employee as per the following rules:</p> <p style="padding-left: 40px;">Years of service more than 7 → Rs. 5000 Years of service between 4 & 6 → Rs. 3000 Years of service between 1 & 3 → Rs. 1000 Years of service less than 1 → Not eligible for bonus</p> <p>If current year & year of joining are input through the keyboard, write a C program to calculate the bonus received by an employee.</p>
3	<p>The workers in a factory are paid according to the following rules: Their regular working hours are 40, for which they are paid at the rate of Rs. 2.50 per hour.</p> <p style="padding-left: 40px;">If overtime hours are between 1 & 5 → Rs. 7.00 per hour If overtime hours are between 6 & 10 → Rs. 8.50 per hour If overtime hours are above 10 → Rs. 12.00 per hour</p> <p>If number of hours worked are input by user, write a C program to find out the payment made to the employee.</p>
4	Write a program to find largest among three variables.
5	If Principal, number of years and rate of interest is taken as input from the user, write a C program for calculating the simple interest. ($si = p * r * n / 100$)
6	The basic salary of an employee is entered by user. If the dearness allowance is 40% of basic salary and house rent allowance is 20% of basic, Medical allowance is 5% of basic, write a C Program to calculate gross salary.
7	The distance between two cities (in Km) is entered by user. Write a C Program to convert & print this distance in meters, feet, inches and centimetres.
8	<p>The population of a city in India at the beginning of 2013 is entered by user. The population changes as per the following pattern:</p> <ul style="list-style-type: none"> - at the end of 2014 - 10% increase - at the end of 2015 – 10% decrease - at the end of 2016 – 11.23 % increase - at the end of 2017 – remains constant - at the end of 2018 – decreases by 4.2% <p>Write a C Program to calculate the population at the end of 2018</p>

9	The temperature of the city is entered by user in Fahrenheit. Write a C Program to convert this temperature into centigrade degrees.
10	<p>A mathematics student has three equations as follows:</p> $z+c=a^2+2ab$ $2ac=b^2-x-2z$ $y= z+5x-2yb+k$ <p>Values of a,b,c,& y are entered by user. Write a C Program to evaluate k.</p>
11	The year of joining of an employee and the current year are entered by user. If the years of service are greater than 3 then the employee is given a bonus of Rs. 5000. Write a C Program to print the bonus only if the years of service are greater than 3.
12	<p>The workers in the factory are paid according to the following rules. Their regular working hours are 48 in a week, for which they are paid at the rate of 50 per hour. For working overtime (above 48 hours), the payment will be made as under:</p> <ul style="list-style-type: none"> -If overtime hours are between 1 & 5 → Rs. 70 per hour - If overtime hours are between 6 & 10 → Rs. 85 per hour - If overtime hours are above 10→ Rs. 120 per hour. <p>If the number of hours worked are entered by user, write a C Program to find out the payment made to the employee.</p>
13	<p>A bank pays interest in the following manner:</p> <p>If the amount is more than 100000, then interest rate = 12%</p> <p>If the amount is ≥ 60000 & < 100000, then interest rate = 10%</p> <p>If the amount is ≥ 30000 & < 60000, then interest rate=8%</p> <p>If the amount is < 30000, then interest rate= 7.2%</p> <p>If the amount is entered by user, write a C Program to calculate the interest the customer would get.</p>
14	<p>If temperature of a city is entered by user in Fahrenheit degrees, determine how the atmosphere of the city is according to the following rules:</p> <ul style="list-style-type: none"> - If temperature is above 40 degrees → very hot - If temperature is < 40 & ≥ 37 → Hot - If temperature is ≥ 34 & < 37 → Warm - If temperature is < 34 → cool
15	Write a C Program to check whether year entered by user is leap year or not.
16	Write a C Program to display a month corresponding to a number entered by user. For example, 1→January 2→February etc..