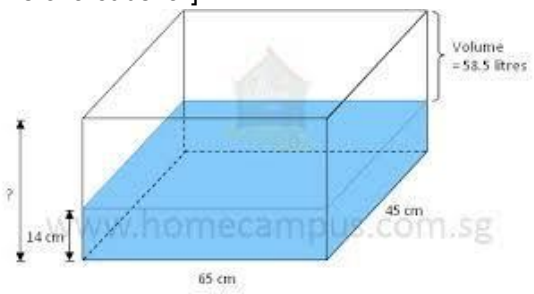
1. Suppose you have two water containers – one is sphere shaped and another is cubic shaped. Write a C program which can input two integers indicating radius of a sphere-shaped container and length of sides of the cubic shaped container; display in which type of container you can store more water. [Volume of a sphere is: $4/3 \times \pi \times r^3$; volume of a cube: $a^3$]




2. Write a C program which can input an integer number from the user and display immediate next odd number.

3. Write a C program which takes an integer as user input that indicates the annual salary of a person. The program should find and display the monthly salary of that person.

4. Tashfin's uncle Tahseen recently went abroad. On his return he brought a lot of chocolates for his nephews and nieces who are eight in number. Tahseen wants to distribute these chocolates evenly among all his nephews and nieces. However before distributing he will keep five chocolates for his brothers and sister. If the number of remaining chocolates cannot be evenly distributed among his eight nephews and nieces, then rest of those remaining chocolates will be kept for Tahseen's brothers and sister. Develop a C program which will take as input the number of chocolates Tahseen brought, and display how many chocolates will Tahseen's each nephew/nieces get. Also, find and display how many chocolates will be for Tahssen's brothers and sisters.


5. A newborn baby normally sleeps a lot. If baby's sleep time is more than double of awake time it is called "Over sleepy infant". If sleep time is in range of equal to double of awake time then it is called "Normal sleepy infant". If sleep time is less than awake time then it is called "Less sleepy infant". Write a C program which can input a newborn's sleep time and awake time (in integers) and display what type of sleep pattern he/she maintains.

6. Tashfin's cousin bought some books for him where the shopkeeper give one coupon with each book and said that if he returns those coupons then for every three coupons he can get one chocolates and for each coupons he can get one chewing gum. However Tashfin is more interested in chocolates than chewing gum. Write a C program which can input number of books Tasfin's cousin bought and display how many chocolates and chewing gum he can get by returning those coupons maintaining Tashfin's choice.


7. A car rental company charges 20 taka for every kilometer of travel. (It charges full 20 taka for any fractional km). It also charges 2 taka for every minute of waiting. Write a C program which can input a fractional number indicating distance travel and an integer number indicating waiting time in minutes. Display the total bill for that ride.

8. Nusaiba is child who just learn to crawl. However, she cannot crawl continuously a large distance. After every 3 feet of crawling, she needs to rest for a while. Write a C program which input distance of Nusaiba's crawling and display number of times she takes rest to crawl this distance.

9. You have bought a large number of cubic shape marbles and want to store them in a cube shape box. Write a C program which can input length marbles and also length of the box and display how many marbles can be stored in that box.


10. Suppose you purchased a lot of chocolates and want to distribute those with your cousins. You want to give them as many chocolates as possible but also want to give each one the same number of chocolates. Write a C program which can input the number of chocolates you bought and number of cousins you have and display how many chocolates will get by each of your cousin and whether any chocolates will remain after distribution.
11. Suppose an elevator can accommodate m number of people and there are n people in the queue. Write a C program to input integers indicating those m and n and display how many times the elevator operates to serve all of those people in queue.

12. In new COVID protocol in elevator queue every person should maintain a three feet distance from another person. If a corridor in front of the elevator is n feet long then how many people can gather for the queue. Write an appropriate C program for this.


Puzzle not Programming

Suppose you have a Rubik's cube which are Red, Green, and Blue in color. The cube falls into a white color paint. (Paint can only change the color of the surface of the cube. But cannot go through the cube) How many cubes will be intact in color and how many will be partially white.