Introduction to C++

Problem 1: Awesh's Even or Odd Dilemma

Context:

Awesh has recently learned about even and odd numbers in his math class. He is curious and wants to write a program that can determine whether a given number is even or odd. Help Awesh by writing a program that accomplishes this task.

Problem Statement:

Write a program that asks the user for a number and determines if it is even or odd. The program should output 'Even' or 'Odd' based on the input.

Input:

An integer n.

Output:

'Even' if n is even, otherwise 'Odd'.

Case	Input	Output
1	10	Even
2	7	Odd
3	0	Even
4	-5	Odd

Problem 2: Awesh's Age Calculation

Context:

Awesh wants to know how many years are left until he turns 18. He is currently age years old. Write a program that calculates and tells him the number of years left.

Problem Statement:

Write a program that takes Awesh's current age and calculates how many years are left until he turns 18. If he is already 18 or older, the program should print 'Already eligible'.

Input:

An integer age.

Output:

An integer representing the number of years left until Awesh turns 18, or 'Already eligible' if he is 18 or older.

Case	Input	Output
1	15	3
2	17	1
3	18	Already eligible
4	20	Already eligible

Problem 3: Awesh's Shopping Budget

Context:

Awesh is planning to buy a new video game. The game costs cost dollars, and he has saved up savings dollars. Write a program to help Awesh calculate how much more money he needs or if he can buy the game.

Problem Statement:

Write a program that takes the cost of the game and the amount of savings Awesh has. The program should output how much more money he needs or if he has enough money to buy the game, it should print 'You can buy the game!' followed by the remaining balance after the purchase.

Input:

An integer cost, an integer savings.

Output:

If savings is greater than or equal to cost, print 'You can buy the game!' followed by the remaining balance after the purchase. Otherwise, print the amount of money Awesh still needs.

Case	Input	Output
1	50, 40	10
2	30, 50	You can buy the game! Balance: 20
3	100, 100	You can buy the game! Balance: 0
4	70, 60	10

Problem 4: Awesh's Marathon Preparation

Context:

Awesh is preparing for a marathon. He needs to run a total of 42 kilometers to complete the marathon. Each day he runs a certain distance. Write a program to help Awesh track how many more kilometers he needs to run after each day.

Problem Statement:

Write a program that takes the total distance of the marathon and the distance Awesh runs each day. After each input, the program should output the remaining distance Awesh needs to run.

Input:

An integer total_distance, an integer daily_run.

Output:

After each day's run, print the remaining distance Awesh needs to run. If the remaining distance is 0 or less, print 'Marathon completed!'.

Case	Input	Output
1	42, 10	32
2	42, 20	22
3	42, 42	Marathon completed!
4	42, 50	Marathon completed!