Question 1:
Library Late Fee Calculator

The purpose of this assignment is to complete a C program that calculates the late fee for books returned past their due date. The **main** function has been provided and **must not be altered**. Your task is to implement the **substractDays** and **calculateLateFee** functions according to the specifications given.

Program Structure:

1. **Provided Main Function:**
   - The **main** function is already written for you and **must remain unchanged**. It handles the input and output, as well as the invocation of the functions you are tasked to implement.

2. **Date Subtraction:**
   - Implement the **substractDays** function that accepts six parameters corresponding to the day, month, and year of the due date and return date. Your function should calculate the number of days between these two dates, assuming a month is 30 days and a year is 360 days. Remember to return 0 if the return date is the same as or before the due date, indicating no late fee.

3. **Late Fee Calculation:**
   - Implement the **calculateLateFee** function that accepts the number of days late as a parameter and calculates the fee based on the library's late fee policy:
      - 10 liras per day for up to 5 days late.
      - For 6 to 15 days late, 10 liras per day for the first 5 days, followed by 15 liras for each additional day.
      - For 16 to 30 days late, a standard fee for the first 15 days, then 20 liras for each additional day.
      - Beyond 30 days, a flat rate of 20 liras per day.

Instructions for Students:
- You will find the starter code in a file called ass1.c.
- Do not modify the main function and function signatures. It is off-limits and provided to ensure consistency in testing your functions.
- You are required to write the logic for the **substractDays** and **calculateLateFee** functions based on the assignment criteria.
- Ensure your functions handle cases where the return date is before or the same as the due date by returning a zero late fee.
- Make sure to test your functions thoroughly with various date ranges and scenarios to ensure accuracy.
- Handle the day diffrence calculation without considering the variations in month lengths or leap years.

Question 2:
Discounted Subscription Plan Price

Complete a C program to calculate the final price a customer needs to pay for a subscription plan after applying several discounts. The **main** function has been provided to you and must not be altered in any way.

Program Structure:

1. **Provided Main Function:**
   - The **main** function is already written for you and **must remain unchanged**. It handles the input and output, as well as the invocation of the functions you are tasked to implement.

2. **Calculating Discounted Price:**
   - An online service offers subscription plans with the possibility of discounts based on age, subscription duration, and referral codes. Your task is to implement a function that calculates the final subscription price considering these factors.

Function Requirements:

Your function, named **calculateDiscountedPrice**, will accept the following parameters:

- **basePrice:** The price of the subscription **(double).**
- **userAge:** The age of the subscriber **(int).**
- **subscriptionDuration:** The number of months the subscription is for (int).

The function should apply the following discounts in the order listed**:**

1. An age-based discount of 20% for users under 18 or over 60.
2. A duration-based discount of 10% for subscriptions of 6-12 months and 15% for subscriptions longer than 12 months.

Notes

- The discounts are cumulative and should be applied in the specified order.
- Assume that all inputs are valid.

Note to Students Regarding Question 1 and 2:

The main function is provided to ensure you can focus on the key learning aspects of function *implementation* and *conditional logic*. By adhering to the given structure, you will learn to work within project constraints, a common requirement in software development.

Submission
Implement your logic within the functions and do not alter the main function or the function signatures. Rename the files to YOURSTUDENTID_q1.c and YOURSTUDENTID_q2.c like 21010101_q1.c and 21010101_q2. Compress these files into a RAR or ZIP archive and submit it via ubs.yalova.edu.tr. I will create a homework assignment on the UBS platform.

Evaluation:

Your submission will be evaluated based on**:**

Correctness of the Code: We will utilize a script that automatically tests your code with various inputs. Your code for both question 1 and question 2 will be subjected to 10 different test cases. Your grade will be determined by the proportion of correct outputs, constituting 60% of your assignment grade.

Code Readability and Comments: These aspects are crucial. You will be assessed out of 40% for your comments and the readability of your code. Strive for clarity to enhance comprehension. Include insightful comments to elucidate your code — REMEMBER, COMMENTS ARE CRUCIAL.

Due: 20.11.2023 23:59 through ubs.yalova.edu.tr