Programming Assignment #5A

Calling Void Functions in an ATM-like Service Program

Your program for this assignment should work almost like the ATM-like service program required in Programming assignment#4A, which will repeatedly display a menu of options and then serve the user according to the option the user has selected until the user says he/she wants to quit the program. However, to practice the use of functions, we want to write three void functions in addition to the main function and use them in the main function for this task. The following is the suggested layout of your program:

```cpp
#include <iostream>
using namespace std;

//Define the displayMenu function in the following
void displayMenu()
{
    // Fill in your code for the displayMenu function
    // ...
}

//Define the checkLeapYear function in the following
void checkLeapYear()
{
    // Fill in your code for the checkLeapYear function
    // ...
}

//Define the checkPrime function in the following
void checkPrime()
{
    // Fill in your code for the checkPrime function
    // ...
}

//Define the main function in the following
int main()
{
    // Fill in your code for the main function
    // calling checkLeapYear and checkPrime ...
}
```
About the void function `displayMenu`: You should implement (define) the `displayMenu` function such that it can display the menu of options to the user when `displayMenu` is called.

About the void function `checkLeapYear`: You should implement (define) the `checkLeapYear` function such that it can ask the user for an integer and then check to report whether it is a leap year when `checkLeapYear` is called.

About the void function `checkPrime`: You should implement (define) the `checkPrime` function such that it can ask the user for an integer and then check to report whether it is a prime number when `checkPrime` is called.

About the main function: Like in Programming 4A, your main function should have a `char` type variable `option` to store the user’s choice of options. You should initialize the value of the variable to any character other than 'Q'. Your main function then should set up a `while` loop such that while the current choice character stored in the variable is not 'Q', the loop will do the following things in the body of the loop.

- Call the `displayMenu` function to display a menu of three options L (to tell whether a given year is a leap year), P (to determine whether a given number is a prime number), and Q (to quit).
- Prompt the user to choose one of the options by entering the corresponding character, and your program should then read the input character into the corresponding variable.
- Use the `switch` statement (Section 4.14 in the textbook) to check the character stored in the variable `option` and serve the user accordingly.
  - In case the character is 'L', call the `checkLeapYear` function appropriately to do the job.
  - In case the character is 'P', call the `checkPrime` function to do the job.
  - In case the character is 'Q', display a message to thank the user for using the program and say goodbye.
  - Default (in other words when it is none of the three cases above): display a message to tell the user it is an unknown option that the program can not help.