COSC 1560 – Computer Programming II

Assignment 9
Deadline April 2, 2020

A program is required to enable students to learn how to translate from American to English. The required data types are as follows:

```
struct Translation
{
        string american;        // A word in American
        string english;         // The equivalent (proper) word in English
};
struct Date
{
        int day;
        int month;
        int year;
};
struct Person
{
        char name[20];
        double score;
        Date testTaken;
};
```

The following two files are currently stored in the course webpage:

1) Translation.txt *(includes the number of translations, then American, English)*

```
30
chips,crisps
french fries,chips
sidewalk,pavement
…
```

2) Testers.txt *(includes the number of people, then Name, Score, Date)*

```
10
Steve Smith
55.6,10/11/2019
Sue Jones
80.8,09/11/2019
…
```

Over

Required functions are as follows:

Translation* readTranslation(const string& filename, int& num);

The 'Translation.txt' filename is passed as an argument, and is opened in the function. The first line of the file is read and a dynamically allocated array is created. The information in the file is read, and stored in the array. The array is then returned from the function. The number of translations is passed back as the second argument.

Person* readTesters(const string& filename, int& num);

The 'Testers.txt' filename is passed as an argument, and is opened in the function. The first line of the file is read and a dynamically allocated array is created. The information in the file is read, and stored in the array. The array is then returned from the function. The number of testers is passed back as the second argument.

void takeTest(const Translation t[], int numT, Person& p);

The Translation array, the number of translations, and a specific person, are passed as arguments. The person should be asked 5, randomly selected translation questions, chosen from the Translation array. The same question could be asked more than once. The average score achieved by the person will then be updated in 'p'.

void testingOptions(const Translation t[], int numT, Person people[], int numP);

The two arrays, created in the previous two functions, are passed as arguments, along with the numbers in each array. Prompt the user to enter the current Date, so that it can be used for any updates. Generate three random numbers, in the range 0 to 'numP-1'. For each of these numbers, the 'takeTest' function should be called for that person. Their score will then be updated in the 'takeTest' function. Then their 'testTaken' date can be updated.

void displayTesters(const Person p[], int numP);

The current information in the Person array should be displayed in a well-designed format.

void writeTesters(const string& filename, const Person p[], int numP);

The 'Testers.txt' filename is passed as the first argument, and is opened for writing within the function. The updated Person array is then written to the file.

THE DEPARTMENT STANDARDS FOR "STYLE GUIDELINES" SHOULD BE FOLLOWED IN ALL CODE.