BASIS AND PRACTICE IN C PROGRAMMING
SPRING SEMESTER 2022

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Assignment 2

This assignment consists of 3 tasks. Guidelines for submission format are given at the end of the assignment file.
Note: Texts in green color should be inserted by the keyboard. Follow the submission guide, example output formats, and task description in order to get a full score.

Task 1. Write a C program that finds the sum of numbers from 1 to N. N should be entered from the keyboard as an input. Before the addition process, multiply each number by **2**. Implement the program using the *while()* loop.

For example, N = 3 => (**1***2)+(**2***2)+(**3***2) = 12

Example input from keyboard:

Enter the value of N: 4

Example output:

The result of summation: 20

Task 2. Write a C program that asks your full name and prints it in reverse order twice for each character. **Note:** Use a *for()* loop. **Hint**: Use the C language function *strlen()* from "*string.h*" to find the length of the string. Use nested *for()* loop.

Example input from keyboard:

Enter your full name: Frank Thomas

Example output:

ssaammoohhTT kknnaarrFF

Task 3. Frank won 2 million dollars, which he places in an account that earns 3% a year. On the last day of each year, Frank withdraws $300,000. Write a program that finds out how many years it takes for Frank to have no more than $20,000 money in his account. Use a *for()* loop for calculation.

Hint: You can consider that Frank started withdrawing money before the 3% increase each year.

Example output:

It takes N years for Frank to have money less than $20,000 in his account.

Note: you should calculate N.

Submission format: Submit 3 separate C files. C files must include the implementation code of each task and comments for each line of code to explain the purpose. All the files should be submitted as a **zip** file.

Name of zip file: {student ID}_{Student name}_assignment2.zip
Example: 2020712837_Frank_Thomas_assignment2.zip

Example for source code submission format in C files:

```
/*
 * Function: square_the_biggest
 * ----------------------------
 *   Returns the square of the largest of its two input values
 *
 *   n1: one real value
 *   n2: the other real value
 *
 *   returns: the square of the larger of n1 and n2
 */

double square_the_biggest (float n1, float n2) {
    if(n1 > n2) {          // check if the first number is bigger
       return n1*n1;   // if the first number is bigger, then return square of n1
    }
    return n2*n2;       // otherwise return square of n2
}
```