BASIS AND PRACTICE IN C PROGRAMMING
SPRING SEMESTER 2022

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Assignment 1

This assignment consists of 3 tasks. Guidelines for submission format are given at the end of the assignment file.
Note: Follow the submission, example output formats, and task description in order to get a full score.

Task 1. Imagine that you are getting your regular medical checkup. You are being asked basic questions about yourself. Write a program that asks you questions about yourself and prints the output on the screen:
The program should ask the following questions:

1. How old are you?
2. What is your gender (M / F) ?
3. What is your height (in meters)?
4. What is your weight (in kilograms)?
5. What is your blood type (allowable blood types: A, B and O)?
6. What is your body temperature?

Output format:

```
You are 24 years old and your gender is "M".
Your height and weight are 1.74 m, 74.00 kg.
Your blood type is 'A'.
Your body temperature is 36.50 degrees Celsius.
```

Note: Use only **one** printf to **print the output** for this task. Use **non-printable characters** to format output. (to ask questions for inputs, you can use printf multiple times)

Task 2. Finish the following code to change the necessary characters by accessing corresponding indices and print the string as required in the output.

Base code to use for this task:

```
#include <stdio.h>

int main()
{
   char sentence[] = "hisjniro, right24s8ress, qydnfiety, 5s8flh.";

   // write your code here

   printf("%s\n", sentence);

   return 0;
}
```

Required output:

```
Humanity, Righteousness, Propriety, Wisdom!
```

Task 3. Write a C program that calculates the surface area of the right rectangular prism. Make a macro function using the "**#define**" keyword to calculate the surface area and print the output. (For example, see lecture 3, slide 10).

Hint: surface area of the right rectangular prism = 2*(w*l + h*l + h*w)

Values requested by the keyboard are as follows:

```
Length (l): 4
Width (w): 6
Height (h): 8
```

Example output:

```
The surface area of the right rectangular prism: 208
```

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

Name of zip file: {student ID}_{Student name}_assignment1.zip
Example: 2020712837_Frank_Thomas_assignment1.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
}
```