Homework 03

Re-submit Assignment

Due Feb 16 by 11:59pm **Points** 10 **Submitting** a file upload

Part1

Write a program that will read in a weight in kilograms and grams and will output the equivalent weight in pounds and ounces.

- Use at least **three functions**: one for input, one or more for calculating, and one for output.
  - State 'precondition' and 'postcondition' for each function in comment lines.
- Include a loop that lets the user repeat this computation for new input values until the user says he or she wants to end the program.
- There are 2.2046 pounds in a kilogram, 1,000 grams in a kilogram, and 16 ounces in a pound.

Hint: How to repeat?

```
do{
    // subtask 1
    // subtask 2
    // subtask 3
    std::cout << "Repeat? [Y/N] :";
}while(askYesOrNo());
```

Since the program asks user to input Y or N, "askYesOrNo" function will be

```
bool askYesOrNo(void ){
    char ans;
    std::cin >> ans;
    if (ans == 'Y') return true;
    return false;
}
```

Note that this function doesn't take any value as formal parameters so 'void' type is used.
But in case user inputing 'y' instead of 'Y',

```
bool askYesOrNo(void ){
    char ans;
    std::cin >> ans;
    if ((ans == 'Y') || (ans == 'y')) return true;
    return false;
}
```

Some user may type in “Yes” so to prepare for it,

```
bool askYesOrNo(void ){
    char ans[256];
```

```
    std::cin >> ans;
    if ((ans[0] == 'Y') || (ans[0] == 'y')) return true;
    return false;
}
```

With above, 'Y', 'y', “Yes” and “yes” work. Also “Yah”, “year”, “yahoo” work.

char ans[256]; is a 'char' array, namely a string (this is so called C-string). We will look into it later.

Part2

Download a file from **here** **(http://academic.udayton.edu/kissock/http/Weather/gsod95-current/LANEWORL.txt)** .

That is daily averaged temperature data at New Orleans from 1995~present.

- There are four columns: month, day, year, and temperature in Fahrenheit (F).
- The temperature data is -99 if no data was available on that day.

Write a C++ code to extract the minimum temperature and the day it happened from the file.

- Develop a function that **takes a file stream object connected to the file** and **returns the minimum temperature, its year, month, and day**.
  - State 'precondition' and 'postcondition' for each function in comment lines.
  - The program should not assume the number of data in the file.
- Break down into some subtasks and state what each subtask does in comment lines.