Week 1- Assignment (2 marks)

Note: All programs must use the appropriate C++ features.

Objective: Develop a C++ program that utilizes modern C++ features to perform a data processing task. The program should read numerical data from a given file (input.txt), perform statistical operations using a template function, and print the results.

Assignment Description:

1, File Reading:

Write a function that reads a file named "input.txt" containing a list of numbers (one per line) and stores them in a **std::vector**.

2, Data Processing:

Implement a **template function calculateStats** that takes a std::vector as a reference and print the minimum, maximum, and average of the data set.

3, Range-based for-loop:

Use a **range-based for-loop** to iterate over the vector read from the file.

4, **Reference Variable**:

Ensure that the vector is passed by reference to the **calculateStats** function to avoid copying.

5, Use of **auto**:

Utilize auto keyword to declare variables within the **calculateStats** function.

Input: the input.txt in this zip

Output should like:

```
max: 10
min: 1
avg: 5.5
```

Submit:

1, week1.cpp : the c++ source code

2, week1.txt: a txt file contains the c++ code.

3, output.jpg, or output.png, or output.bmp: a screenshot of the output by your program

Please refer to the submission page for the Marking Rubric.