

Problem Description:

Create a class called Document which stores a vector of String objects. Define the following functionalities:

- Default constructor: Creates an empty vector.
- Copy constructor: Copies a Document object including all the strings contained inside it.
- Method addString: Accepts and adds a string to the end of the document and **returns a reference to the current Document object, enabling method chaining.**
- Overload the << operator so that the document can be output with a space between each string object.
- Method getLength: Returns the total length of the document. (Hint: use the method string.length() to get the length of each individual string.)

TA will provide driver program(main.cpp), you should create Document.h & Document.cpp and write a Makefile to generate the executable binary (name of executable: HW7).

[Remember to use the header guard in your header file]

```
@coherent17 → OOP_HW7 ls
Document.cpp Document.h Makefile main.cpp
@coherent17 → OOP_HW7 make
g++ -c Document.cpp
g++ main.cpp Document.o -o HW7
@coherent17 → OOP_HW7 ./HW7
Document 1: Hello world !
Total length of Document 1: 11
Document 2 (copy of Document 1): Hello world !
Total length of Document 2: 11
Document 2 after adding more strings: Hello world ! This is a test.
Total length of Document 2: 23
Document 3 created using chained addString method: Chained addString method test.
Total length of Document 3: 27
Document 4 with empty string:
Total length of Document 4: 0
@coherent17 → OOP_HW7
```

Please put all of your files (Document.*, Makefile and main.cpp)
inside the **StudentID.zip**, and submit to e3

For question: mn51817@gmail.com 何祁恩