4 Compound Operators

- We implemented + and - binary operators to **TimeOfDay** class

    - So we can do
      ```
      time3 = time1 + time2;
      ```

- If we want to add **time2** to **time1** and store the result in **time1**, we are sure that this works:
  ```
  time1 = time1 + time2;
  ```

- But how about this?
  ```
  time1 += time2;
  ```

    - This doesn't work without implementing += **operator**.

4.1 Overloading +=

- += could be declare this way for the **TimeOfDay** class
  ```
  friend TimeOfDay operator += (TimeOfDay& t1, const TimeOfDay& t2);
  // precondition : t1 and t2 have values.
  // comput t1 + t2 and store result to t1
  // returns t1
  ```

- += could be defined this way for the **TimeOfDay** class
  ```
  TimeOfDay operator += (TimeOfDay& t1, const TimeOfDay& t2)
  {
      t1.hours += t2.hours;
      t1.minutes += t2.minutes;
      t1.checktime();
      return t1;
  }
  ```

4.2 Overloading -=

- -= could be declare this way for the **TimeOfDay** class
  ```
  friend TimeOfDay operator -= (TimeOfDay& t1, const TimeOfDay& t2);
  // precondition : t1 and t2 have values.
  // comput t1 - t2 and store result to t1
  // returns t1
  ```

- -= could be defined this way for the **TimeOfDay** class
  ```
  TimeOfDay operator -= (TimeOfDay& t1, const TimeOfDay& t2)
  {
      t1.hours -= t2.hours;
      t1.minutes -= t2.minutes;
      t1.checktime();
      return t1;
  }
  ```

See **sample35.cpp**