1. Write a class called Time, which models a specific instance of time with hour, minute and second values, as shown in the class diagram.

The class Time contains the following members:

- I. Three private data members: hour (0-23), minute (0-59) and second (0-59), with default values of 0.
- II. A public constructor Time(), which initializes the data members hour, minute and second with the values provided by the caller.
- III. public getters and setters for private data members: getHour(), getMinute(), getSecond(), setHour(), setMinute(), and setSecond().
- IV. A publicpubi
- V. A public member function print() to print this Time instance in the format "hh:mm:ss", zero-filled, e.g., 01:30:04.
- VI. A public member function nextSecond(), which increase this instance by one second. nextSecond() of 23:59:59 shall be 00:00:00.

```
Time
-hour:int
            = 0
-minute:int = 0
-second:int = 0
+Time(h:int, m:int, s:int)
+getHour():int
+getMinute():int
+getSecond():int
+setHour(h:int):void
+setMinute(m:int):void
+setSecond(s:int):void
+setTime(h:int, m:int, s:int)
                                   hh:mm:ss
+print():void -----
                                   (e.g., 00:01:59)
+nextSecond():void
```

2. Predict the output of the following code.

```
using namespace std; int main () { string \ str = "This*is^a.45min \ test."; \\ int \ i; \ for \ (i=0; \ i < str.length(\ ); \ i++) \\ \{ \ if \ (ispunct(str[i])) \ str[i] = ` \ '; // \ a \ blank \ str[i] = tolower \ (str[i]); \} \\ cout << str; \}
```

What is printed by the last line of the code?