

Week 5 Exercises

Exercise 5.1: MyTime Class

Instruction: Name your class MyTime.

Consider that Time could be internally represented as 3 integers.

- hour (between 0 - 23)
- minute (between 0 - 59)
- second (between 0 - 59)

Time class consists of the following members:

- **Default constructor:** set the time to 00:00:00
- **Constructor taking 3 integers** i.e., hour, minute and second respectively. This constructor sets this object's Time based on the given parameters.
- **Constructor taking 2 integers** i.e., hour and minute respectively. This constructor sets this object's hour and minute based on the given parameters. Second will be 0 by default.
- **Constructor taking 1 integer** i.e., hour. This constructor sets this object's hour based on the given parameter. Minute and second will be 0 by default.
- **Accessors** (getter) for each field.
- **Mutators** (setter) for each field. Make sure that each field is set within its proper ranges.
- **to12HourFormat()** method
Returns the string representation of this Time object in 12-hour format.
For instance, if the time is 13:05:58 in 24-hour format, it returns "01:05:58 PM".
If the time is "12:05:14", it returns "12:05:14 PM".
If the time is "00:00:00", it returns "12:00:00 AM".
- **to24HourFormat ()** method
Returns the string representation of time in 24-hour format i.e., HH:MM:SS
For instance, 13:05:58