Programming

New Austrian Coding School

week 8 - reflection

You are allowed to use internet resources but you're not allowed to see other participants' code.
The evaluation has a duration of 1 hour and it is ungraded.

Exercise

Hansel buys a dynamic thermostat bracelet. The instruction manual says that when you start it you can set up a trigger condition and also customize the display message. His idea is to use it to get warnings when he goes skiing and the weather is too cold, or when he goes to the sauna and it gets too hot.
Develop the following code:

- Create the *Thermostat* class.
- The *Thermostat* has a trigger *condition* and a *display* function. It receives them via constructor, so they can be customized every time a new one is created.
- The *Thermostat* has the *sense* method that receives the temperature in degrees Celsius as a Double and returns a String with a message. As long as the *condition* doesn't get triggered, the message provided by the *display* function is returned. If the *condition* gets triggered, then the message *"Warning!"* is returned.
- Create the *ThermostatTest class* to make sure the *Thermostat* works correctly in the scenarios provided by Hansel.

Scenarios provided by Hansel:

- Hansel goes skiing and creates his *Thermostat* to warn him when the temperature is under 0 degrees Celsius. The *display* message should show the temperature received by the *sense* method followed by the right temperature measurement kind, as in *"12.3 degrees Celsius"*.
  - ✓ He checks the *Thermostat* when the temperature is 2 degrees Celsius and the message says *"2.0 degrees Celsius"*.
  - ✓ He checks the *Thermostat* when the temperature is -1 degrees Celsius and the message says *"Warning!"*.
- Hansel goes to the sauna and creates his *Thermostat* to warn him when the temperature is at least 80 degrees Celsius. The *display* message should show the temperature received by the *sense* method transformed in degrees Kelvin followed by the right temperature measurement kind, as in *"352.15 degrees Kelvin"*.
  - ✓ He checks the *Thermostat* when the temperature is 79 degrees Celsius and the message says *"352.15 degrees Kelvin"*.
  - ✓ He checks the *Thermostat* when the temperature is 80 degrees Celsius and the message says *"Warning!"*.

Hints:

- ➢ *To transform degrees Celsius into degrees Kelvin, simply add 273.15*.
- ➢ *Don't create an Application class or any main method. You don't need it. All you need is to create the test class and make sure you test the scenarios provided by Hansel.*