Jack Zemke
Professor Kuttivelil
CSE20-03
12/1/2021

10.1-README

Part 1: Class Documentation

Class Description

My class is pretty straightforward and easy to understand. The class is `Television`, and it involves methods that build the object (a television), change the states of the object, and return the states of the object. This class is useful for practicing building and editing classes, and also for practicing interacting with classes that build real world objects.

Variables

Class Variable

- __brand: Describes the brand of the television. For the purpose of this class, all of the televisions built within it are going to be built by Panasonic.

Data Variables

- __power: A boolean value that corresponds to the power state of the TV. If __power==True, the TV is on. If __power==False, the TV is off.
- __channel: An integer value that indicates what channel the TV is currently on. The TV must be on (__power==True) for this attribute to be accessed or edited.
- __volume: An integer value that indicates the volume of the TV at the current moment. The TV must be on (__power==True) for this attribute to be accessed or edited.

Methods

- __init__(pwr,chnl,vol)
  - Constructor, we all know and love it. Takes in a Boolean value for `pwr` which gets assigned to __power, an integer value for `chnl` which gets assigned to __channel, and an integer value for `vol` which gets assigned to __volume. If any inputs do not match the required type, the computer will raise a TypeError.

- channelup() *this is intended to be a non-get-set method.*
    - Increases the channel by 1. This method does not take in any inputs or return anything. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError.
- channeldown() *this is intended to be a non-get-set method.*
    - Decreases the channel by 1. This method does not take in any inputs or return anything. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError.
- setchannel(c)
    - Updates the channel of the TV to the input `c`. Differs from channelup or channeldown as the user can jump to a specific channel instead of iterating up or down by steps of 1. Input must be an integer. If the input is not an integer, the computer will raise a TypeError. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError. This method does not return anything.
- setpower(p)
    - Updates the power status of the TV to be on or off. If input `p` is not a Boolean value, the computer will raise a TypeError. This method does not return anything.
- volup() *this is intended to be a non-get-set method.*
    - Increases the volume by 1. This method does not take in any inputs or return anything. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError.
- voldown() *this is intended to be a non-get-set method*
    - Decreases the volume by 1. This method does not take in any inputs or return anything. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError.
- setvol(v)
    - Updates the volume of the TV to a specific integer value `v`. Differs from volup or voldown as the user can jump to a specific volume value instead of iterating up or down by steps of 1. If the input is not an integer, the computer will raise a TypeError. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError. This method does not return anything.
- getpower()
    - Returns whether the TV is on or off. This method does not take in any inputs.
- getvol()
    - Returns the current volume of the TV. This method does not take in any inputs. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError.
- getchannel()

    - Returns the current channel of the TV. This method does not take in any inputs. In order for this method to be executed, the TV must be on (__power==True). If not, the computer will raise a SyntaxError.
- getbrand()
    - Returns the brand of the TV. This method does not take in any inputs.

Part 2: Demo Program Documentation

About My Demo Program

My demo program is designed to showcase the different methods that my class contains, as well as to show what happens when a user may use an invalid input or situation. The program begins with calling the class and building the object. It sets the TV to be on, the channel to be 12, and the volume to be 16. Throughout the rest of the program we showcase various different methods that edit and print different states of the object. Refer to the comments in my code for a line by line breakdown.

My demo program can be run just like any other python program. Open your terminal, ensure you are in the same directory as the file, and type the command `python3 myclass.py`, then hit enter. The program will run in your terminal.