**Purpose:** Provide a layer over the FTC motor library for our code to use. Part of the intent of this is to future-proof the code, so if any libraries change we only have to change the code once, in this class. Also useful for creating stub methods while the rest of the code is in development for testing purposes, and reduces setup required by classes like DriveSystem and Actions that use multiple motors.

|  |  |
| --- | --- |
| **Priority:** Very High | **Reason:** The robot probably isn’t going anywhere without drive motors. |

**Primary Programmers:**

* Adam

**Public Constants (public static final):**

* int MAX\_POWER = 100
  + Purpose: The maximum value for motor power. Useful for algorithms including motor power scaling and course correction. (MAX\_POWER \* -1 = max power in reverse)
* MODE\_NORMAL
  + Purpose: Indicate that the motor should behave normally (it’s type doesn’t matter much, but all ‘MODE\_’ constants need to be the same type to be passed in to setMode)
* MODE\_REVERSE
  + Purpose: Indicate that the motor power should be reversed

**Constructors (called when an object instance is created):**

* public Motor(1 argument)
* Must Initialize: Stuff needed to initialize a motor in the FTC libraries, and store info needed to access that motor in instance variables in the object (for example, storing the motor name in a variable). Should initialize the mode to NORMAL\_MODE.
* Arguments:
  + ?String? motorName
  + The name the motor was registered with in the robot configuration
* public Motor(2 arguments)
  + Same as the above constructor, except the mode must also be adjusted.
  + Arguments:
    - ?String? motorName
      * See description in above constructor
    - mode
      * One of the public constants starting with ‘MODE\_’, reccomended to just call ‘setMode(mode)’ to adjust the mode

**Interface Instance Methods (used on an instance of this class):**

* public synchronized void setPower(1 argument)
  + Purpose: Adjust the motor power, and start or stop it when necessary.
  + Priority: Very High (cannot move the motor without it)
  + Arguments:
    - int power
      * The power to set the motor to (see also: MAX\_POWER)
  + Returns: N/A
* public synchronized void setMode(1 arguments)
  + Purpose: Change how the motor is running (for example reverse it).
  + Priority: High (need to be able to reverse a drive motor that is rotating opposite what it needs to)
  + Arguments:
    - mode
      * One of the public constants which starts with ‘MODE\_’, adjusts anything that needs changed depending on what mode was specified
* public synchronized void stop(0 arguments)
  + Purpose: Stop the motor, syntactically equivalent to ‘setPower(0)’.
  + Priority: Medium (only a shortcut method, but all it needs to do is call setPower(0))
  + Arguments: N/A
  + Returns: N/A
* public synchronized int getPower(0 arguments)
  + Purpose: Get the current power level of the motor (with MAX\_POWER as the maximum).
  + Priority: Low (may not be highly used, but nice to have in case someone does need it)
  + Arguments: N/A
  + Returns: (int) the current motor power

\*Type depends on final decision(s) made as a group.