```cpp
/*******************************************************************************
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*
*******************************************************************************/
/// @file Main.cpp
/// @brief This source file contains a c program that reads raw analog data
/// out of the built in accelerometer in the FRDM-KL25Z board. Based on the
/// x, y, and z position the built in RGB LED will change color. This project
/// also utilizes the built in capacitive touch slider to control the RGB
///  LED dimmability.
///
/// @author David James & Ismail Yesildirek
/// @date September 27 2018
/// @version 1.0
///
/*******************************************************************************/
#include "mbed.h"
#include "MMA8451Q.h"
#include "tsi_sensor.h"


/**
 * @brief main()
 *  this function contains the setup and main loop
 */
int main(void)
{
    // instantiate accelerometer. SDA=PTE25, SCL=PTE24, i2c address=0x3A
    MMA8451Q acc(PTE25, PTE24, 0x3A);
    // instantiate touch slider (pins 9&10, adc range 0-40 --> 0.0f-1.0f)
    TSIAnalogSlider tsi(9, 10, 40);
    // set up PWM to LED pins
    PwmOut rled(LED1); //!< PWM output for RED LED
    PwmOut gled(LED2); //!< PWM output for GREEN LED
    PwmOut bled(LED3); //!< PWM output for BLUE LED

    float t; //!< Holds touch slider percentage
/* @brief Read touch slider and write to LED based on position */
    while (1)
    {
        // read touch slider percentage
        t = tsi.readPercentage();
        // generate RGB values from touch slider & accelerometer
        rled = t + abs(acc.getAccZ());
        gled = t + abs(acc.getAccY());
        bled = t + abs(acc.getAccX());
        // 10 Hz update rate
        wait(0.1f);
        i++;
    }
}

```