

EE 480

HOMEWORK 5

Note: Homework assignments must be completed individually. Plagiarism will result in receiving no credit for the assignment. Thorough answers for each question (250 - 300 word answers) is expected. Due date for this homework can be found on the course website schedule. Use the upload form link on the course website schedule to submit this homework assignment.

Note: This homework assignment requires the following components (additional to the RPi) to complete: LEDs, resistors, jumper wires, breadboard, and transistors.

1. Complete the “Performance of languages on the RPi” tests explain in Chapter 5 for C/C++, Python, and Java. Copy the results of the test for your answer.
 2. Explain the differences in compiled, just in time compiled, and interpreted software languages and give examples of each one.
 3. Complete the “A First Circuit for Physical Computing” section in Chapter 5. Draw the wiring diagram of your completed circuit, give the commands used to control your LED, and insert two pictures (LED powered on and LED powered off by software control) into your answer.
 4. Give the program source code in Python, C, and C++ to blink the LED circuit in question 4 on/off in 0.5 second intervals.
 5. Describe three advantages and three disadvantages for each of the following programming languages when they’re used on the RPi: Python, C, and C++.
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