



Last modification: January 20, 2020

WPI

RBE 1001: Introduction to Robotics C-Term 2019-20 HW 1.2: Programming Essentials – Functions

1 Introduction

Here, we cover the syntax of basic functions in C/C++.

2 Functions

In Nyhoff, Chp. 6, read/review how to use functions in C/C++. You are not responsible for each and every topic in this chapter, but you should understand them enough to do the assigned problems below. You can safely skip Section 6.5 on Numerical Methods (though it's good stuff if you're interested!).

Key terms:

- Chapter 6
 - Function declarations and definitions
 - Calling a function
 - Anatomy of a function: return type, arguments, body, returning a value
 - Scope (local, global)
 - C++ concepts: encapsulation, private and public members
 - abstraction
 - You should know what a library is and how to use the `#include` statement, but you may safely skip most of Section 6.4 on how to build a library.

2.1 Practice problems

Useful “Test Yourself” Problems from Nyhoff:

- Chp. 6
 - Section 6.3: 2-4, 6-13
 - Section 6.4: 8-9

3 Assigned problems

From Nyhoff,

1. Chp. 6, Section 6.3, Exercise 7 (page 192)
2. Chp. 6, Section 6.3, Exercise 15 (page 193)
3. Chp. 6, Section 6.3, Programming Problems 7 & 15 (page 195), but write one program that tests both functions, given an input (using `cin`).

For convenience, you need only submit one file, `problem3.cpp`, since the first two problems are incorporated into the last.