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| |  | | --- | | Lab 11 – Debugging and GDB  CPSC 2311- Spring 2021 | |  |

# Introduction

The goal of the lab is to give you practice with debugging and GDB: The GNU Project Debugger. GDB is a powerful tool, understanding how to use it is a good skill to have. You should have learned about GDB in either CPSC 1010 or CPSC 1020 if not both. Just in case you did not …….

This lab uses a ppm file. Most of you should be familiar with PPM files. If you are not familiar with PPM, ask your TA’s. I am giving you the code it just happens to be buggy code.

**Due:** Monday, February 22, 2021, midnight.

# Lab Instructions

You will first watch a video that walks you through how to use GDB.

<https://www.youtube.com/watch?v=uhIt8YqtmuQ&feature=youtu.be>

**Part 1: 50% of grade**

I have provided you with a puppyP6.ppm, lab5.c, functions.c, and functions.h files. You should compile these files. You will find these files have multiple errors and warnings. These are compile time errors and warnings. Warnings are a unacceptable as errors. You **must** clear all errors and warnings.

**Part 2: 50% of grade**

Once you have cleared the warnings and error, compile the code using the flag -g, run it with the puppyP6.ppm file. You should get a segfault and other errors. These are runtime error. Set breakpoints to places the error could possibly be. Rerun using GDB to find the segfault. You **must post several screenshots** showing the use of GDB. Even if you figure out the error before using GDB, you **must** demonstrate the use of GDB to find the error or you will see a deduction of points. I purposely did not make the errors hard to find, but you must use GDB in this lab. So play around with it and post **several** screenshots of your use of GDB. Knowing how to use GDB will help you in future classes.

I did not provide you with a makefile for this lab. You are required create a makefile and submit it with the other files for this lab. Your make file should have a make and make run. The TA’s should be able to type make run and your files should compile and run. This is only possible if you submit the appropriate files. Make sure you read the submission instructions below.

You must add a header to all files similar to the following:

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

\*Your name \*

\*CPSC2310 Fall 2020 \*

\*UserName: \*

\*Instructor: Dr. Yvon Feaster \*

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

Submission Instructions

**tar zip all files naming the tarred file <username>lab5.tar.gz ; submit it to handin in the lab5 folder.** ([http://handin.cs.clemson.edu)](http://handin.cs.clemson.edu)/)

**You are required to tar the following files: lab5.c, functions.c, functions.h, a makefiled, and puppyP6.ppm. Do not tar a folder, only the files.**

**You must check your tarred files after submission to handin. If any of your files are corrupt or missing you will receive a 0 on this lab.**