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ELF Analysis

The Executable and Linkable Format (ELF) is the generic file format for executables in Linux based systems. It defines the structure for binaries, libraries, and core files. The three major components include the ELF header, sections, and segments. In our analysis, we created a simple program (elf\_example.cc) with the binary executable ./elf. This program simply prompts the user for the correct month (11) and day (22) of Thanksgiving and does some error checking. The code was broken up into several functions and made use of constants in order to better illustrate the ELF file’s sections and segments.

Sections contain the information needed for linking an object file to form an executable.

TEST\_NUMBER from the elf\_example.c program is stored in the .bss section. The variables input\_month, TURKEY\_MONTH, and TURKEY\_DAY from the elf\_example.cc program are stored in the .text section. The strings inside of the elf\_example.cc program are stored in the .rodata section. The compiler and operating system information are stored in the .comment section. The .data section is empty. During runtime, global variables will be retrieved from the .text section into .data section.









