

基本概念

首先**汇编码不是CPU的instruction**，它比instruction还要抽象一层，是Human readable的。compiler，是将high-level source code into a machine code disassembler，则是将CPU instruction转化成assembly language.

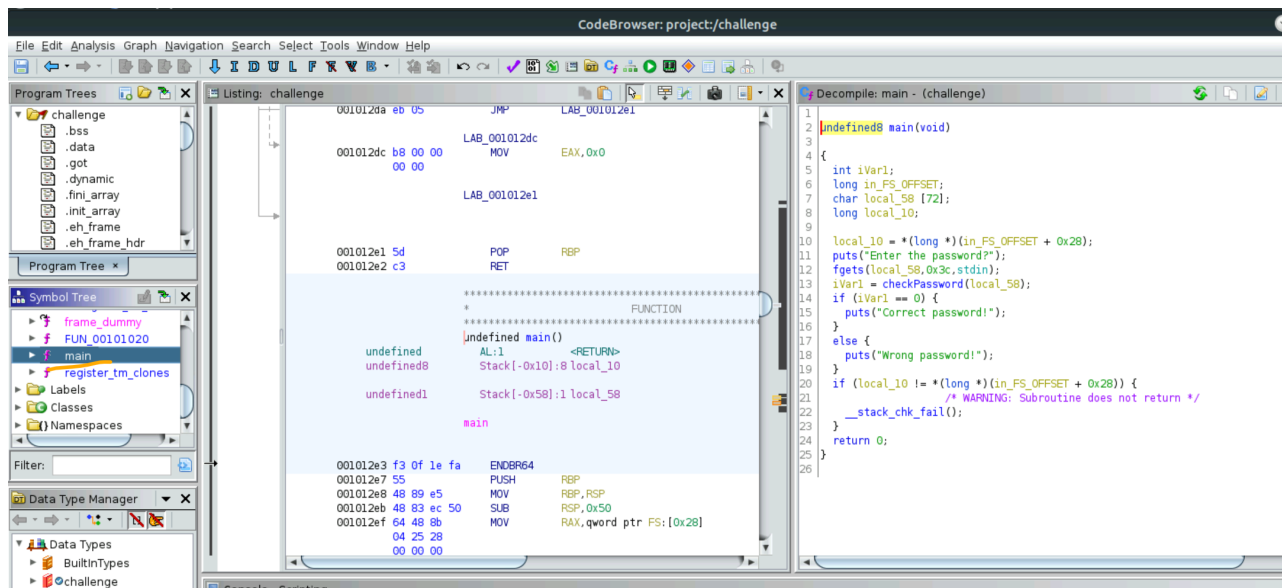
Decompilers and Disassemblers

As the terms **decompiler** and **disassembler** are sometimes mixed up, here are brief descriptions to help you differentiate between the two:

- A **decompiler** is the opposite of a **compiler** — a computer program that can create another computer program from source code. Therefore, a decompiler is a computer program that takes another computer program and provides an estimation of the source code that was used to compile it.
- A **disassembler** is a tool that takes the **instructions for the CPU** in a computer program and attempts to translate them into assembly language.

Disassembly is simpler to perform accurately compared to **decompilation**, however, assembly is generally harder to understand for humans as it is less structured and has many repetitions compared to higher-level languages.

Ghidra主页



Program Trees

- challenge
 - .bss
 - .data
 - .got
 - .dynamic
 - .fini_array
 - .init_array
 - .eh_frame
 - .eh_frame_hdr

Program Tree

- f _init
- f _ITM_deregisterTMClone
- f _ITM_registerTMClone
- f _start
- f checkPassword
 - l local_c
 - l local_10

Filter:

Data Type Manager

Data Types

Listing: challenge

```
*****
* FUNCTION
*****
undefined checkPassword()
AL:1
Stack[-0xc]:4 local_c
Stack[-0x10]:4 local_10
Stack[-0x14]:4 local_14
Stack[-0x18]:4 local_18
Stack[-0x1c]:4 local_1c
Stack[-0x20]:4 local_20
Stack[-0x24]:4 local_24
Stack[-0x28]:4 local_28
Stack[-0x2c]:4 local_2c
Stack[-0x40]:8 local_40
```

Decompile: checkPassword - (challenge)

```
1 undefined8 checkPassword(char *param_1)
2
3 {
4     undefined8 uVar1;
5
6     if (*param_1 == '9') {
7         if (param_1[1] == 'a') {
8             if (param_1[2] == '9') {
9                 if (param_1[3] == 'e') {
10                    if (param_1[4] == 'l') {
11                        if (param_1[5] == 'b') {
12                            if (param_1[6] == 'b') {
13                                if (param_1[7] == '4') {
14                                    uVar1 = 0;
15                                }
16                                else {
17                                    uVar1 = 1;
18                                }
19                            }
20                            else {
21                                uVar1 = 1;
22                            }
23                        }
24                        else {
25                            uVar1 = 1;
26                        }
27                    }
28                }
29                else {
30                    uVar1 = 1;
31                }
32            }
33        }
34    }
35}
```

Pass



What is the correct password for the program?

9a9e1bb4