Cheatsheet

GDB

`help <command>` - manual

`start` – run program and break on main

`run` – run program

`info functions` – list all functions

`list <function_name>` - show source of function

`disass <function_name>` - show disassembly of a function

`disass /m <function_name>` - disass function interleaving it with relevant C code

`break *<address or name>` - set a breakpoint

`info breakpoints` – list breakpoints

manage breakpoints:

```
delete <bp_number>

disable <bp_number>

enable <bp_number>
```

explore registers:

```
info registers

$(gdb)> i r

Info registers <reg_name>
```

Examine/Print:

```
$(gdb)> p/F <address/symbol>
$(gdb)> x/NUF <address/symbol>
```

Where:

- N – number of units we want to examine
- U – units size, possible are:
  - b – byte
  - h – half word (2 bytes)
  - w – word
  - g - giant word (8 bytes)
- F – output data format:
  - x – hex
  - d – decimal
  - u – unsigned decimal
  - i – instruction
  - s – string
  - c – char

Examples:

`x/32b $rsp` - Get 32 bytes at address pointed by RSP:

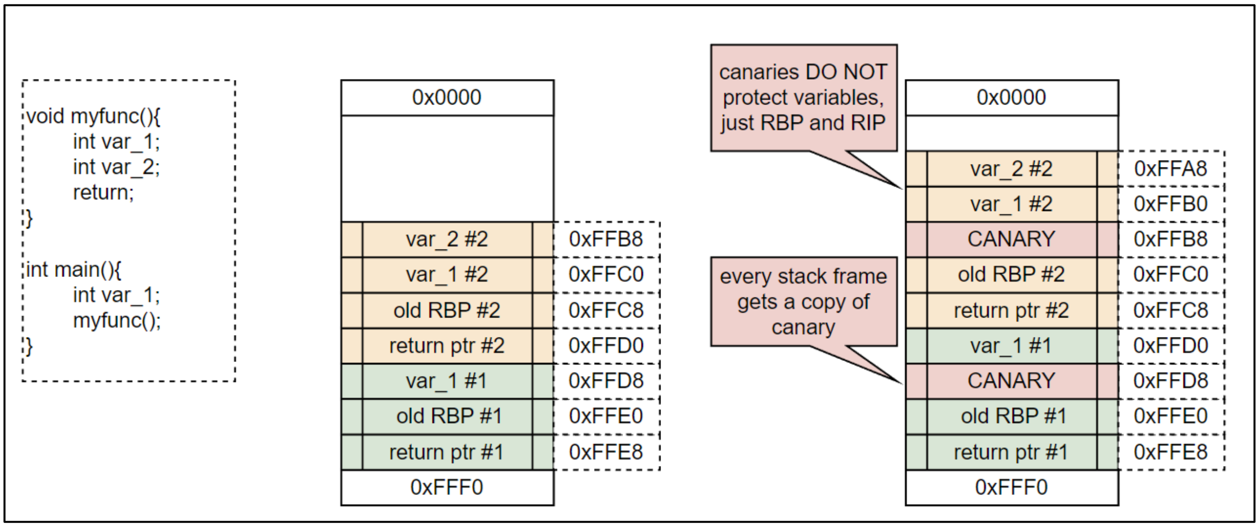
`x/4gx $rsi` - Get four 8-byte long values as hex at address from RSI

p/x $rsi - Print the value of RSI as hex

p/d 0x42424242 - Convert hex to decimal

Stack

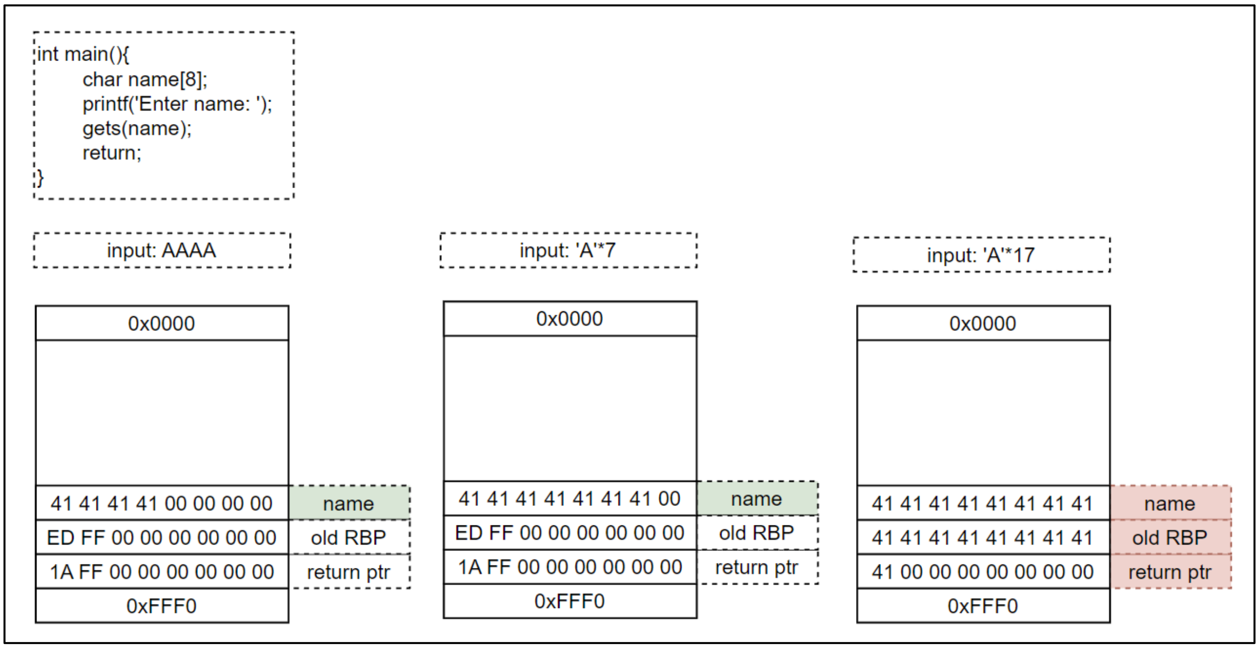
Stack frame layout with and without canary



```
void myfunc(){
        int var_1;
        int var_2;
        return;
}

int main(){
        int var_1;
        myfunc();
}
```

Basic overflow



```
int main(){
        char name[8];
        printf('Enter name: ');
        gets(name);
        return;
}
```