Part 1:

Just set up

Part 2:

This is just playing with GDB. Check your happy stepping and setting breakpoints and examining memory and you'll be fine.

Part 3:

Have a look at the binary with `nm` to find functions, or stick a breakpoint on main in gdb. Interesting functions are:

`ask_name` which asks your name and calls `ask_info`

ask$_{\textbf{info}}$ which asks for your key... calls `compute` and then checks if that key is the same as the `compute` key... if yes you win!

compute which calculates the key

Compute essentially looks like:

```c
char *masked_key = "A4-RT-GH";

void compute(char *key) {
  size_t len;
  int n;

  for(n=0; n < strlen(masked_key); n += 1) {
    if (masked_key[n] == '-') key[n] = '-';
    else key[n] = masked_key[n] + '\x04';
  }
  key[n] = '\0';
  return;
}
```

So the key must be E8-VX-KL.

Alteratively stick a break point on the `strcmp` call in `ask_info` and dump the strings in the arguments to find the key:

- `b *ask_info`
- `disas`
- `b *ask_info+99`
- `x/s $rdi`
- `x/s $rsi`

`strings -n 8` is also a fun command to run to start thinking about format of key