Daniel Delgado Acosta
Professor Qingquan Sun
CSE 4560
September 1st, 2022

Lab 1: Filling the Gaps

```c
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int main()
5 {
6     printf("Hello world!\n");
7     return 0;
8 }
```

Clicker Questions – #1

Which lines the lines in this program that are
(a) processor instructions?
6   printf("Hello world!\n");
7   return 0;

(b) preprocessor directives?
1   #include <stdio.h>
2   #include <stdlib.h>

(c) function prototypes?
None of the lines are function prototypes

(d) part of a function definition?
4   int main()
5   {
6   printf("Hello world!\n");
7   return 0;
8   }

Clicker Questions – #2

1. How is 0b0110 written in
decimal?
(c) 6

2. How is 0b1110 written in hexadecimal?
(c) 0xE

3. How is 0xC written in binary?

(c) 0b1100

4. How is 0xD3 written in binary?

(d) 0b1101 0011

5. What is the output of the printf instruction (line 8)?

```
1  int main()
2  {
3      uint8_t counter = 10;
4      /*
5       * Some code...
6       */
7      reset(counter);
8      printf("%u", counter);
9
10     return 0;
11 }
12 void reset(uint8_t x)
13 {
14     x = 0;
15 }
```

(b) 10

6. What is the value of sizeof(int)?

(d) Impossible to know

7. What is the value of sizeof(uint16_t)?

(b) 2

8. Let us assume the following definition

```
1  uint16_t REG = 0xC3;
```

Which instructions lead to REG = 0b 1100 0001?

(b) REG = (REG | (0x01 >> 1))

9. Consider the following program and select all correct statements among the following.

```
1  int main()
2  {
3      uint8_t *ptr;
4      uint8_t x = 0;
5      ptr = &x;
6
7      printf("%u", *ptr);
8      printf("%u", &ptr);
9      printf("%u", &x);
10
11     return 0;
12 }
```

(b) Line 7 prints the value of x.
(g) Line 8 prints the address of ptr.
(i) Line 9 prints the address of x.
(l) Line 9 prints the value of ptr.