

CMSC 104 Section 02

Spring 2024

Answer key for practice quiz 2, with explanations

1. b. `stdio.h` is the file that contains all the drivers to interact with the monitor, keyboard, mouse and other input/output devices on whatever computer you are using.
2. a. True. `%f` for float; `%d` for (base-10) integer.
3. d. I told you this one would show up on the quiz. If you learn nothing else this semester, you need to make sure you learn this.
4. “Dividing 9 by 4.500 yields an answer of 2.0” (with a newline printed at the end)
5. (a) sequential; (b) selection or conditional; (c) repetition and iteration. For the last two I’d accept either answer, as long as you can get your point across.
6. b. False. Nothing will happen – no action will be taken, but there won’t be an error, either.
7. b. False. Go with the parentheses first, left-to-right: `(a || b)` is `(true || false)` which is true. `(c || 4)` is `{true || true}` which is true. That means we have `(false && true)` which is false. Remember that 4 in interpreted as true; only 0 is false.
8. b. -3. Remember that we’re doing integer division here. The expression becomes $4 * 2/3$ which is $8/3$ which is 2 when we use integer division. Then $2 - 5$ is -3.
9. a. `printf()`
10. b. False. `gl` runs Linux
11. When you are ensuring that the user enters valid input, like with our classwork 5 blackjack program. If the user enters a valid value the first time, an error-checking loop would never run. (I’d accept any other valid example – you don’t have to cite classwork.)
12. c. Pseudocode. “Comments” really don’t go into enough detail to describe what the program does, and neither C code nor machine code is really “natural language.”
13. Because the `scanf` statement should say `scanf(“%d”, &num)`. You need the `&` to store the value in the proper location in memory; not in the symbol table itself.
14. Something like this. You only have to provide comments in your code if you think it’s something the TF and I might not understand:

```
#include <stdio.h>
int main() {
    int first_num;
    int second_num;

    printf("Please enter your first integer");
    scanf("%d", &first_num);
```

```

printf("Please enter your second integer");
scanf("%d", &second_num);
printf ("The product of your two number is %d\n", first_num*second_num);

return 0

}

```

15. a. !=

16. a. True

17. Compiling a program translates it from a high level language such as C to machine code, so it can later be executed. Executing a program means running the machine code on the computer.

18. A data structure that contains all known identifiers – variables, constants, etc. – with the type of each and a pointer to (the address of) the location in memory where the value of that identifier can be found.

19. c., you get a C

20. Something like this: We know that this will run five times because it will run when x is 1,2,3,4, and 5 but not when x is 6.

```

x = 1;
while (x <= 5) {
    printf ("this is run number %d\n", x);
    x = x * 1;
}

```