

CSCI140 Dr. Yessick Exam 1 Review

1. How would you write 3.58×10^{30} in C?
2. Is PI best represented as an int? Why or why not?
3. Explain why `(int) (1.2 * 100)` equals 119 rather than 120.
4. Write `int`, `char`, `double` (i, d, c is enough) by each constant expression of that type. Some of the constant expressions are invalid and some will be types other than `int`, `double`, and `char`. If you know the type you may indicate the correct type or you may leave it blank.

- | | | |
|----|---------|-------|
| a. | 'abc' | _____ |
| b. | "ABC" | _____ |
| c. | '\t' | _____ |
| d. | "\t" | _____ |
| e. | '\n' | _____ |
| f. | "\n" | _____ |
| g. | 1.234e5 | _____ |
| h. | -1.234 | _____ |
| i. | 987 | _____ |
| j. | 'true' | _____ |
| k. | 5,050 | _____ |
| l. | 6+7 | _____ |
| m. | 3+1.2 | _____ |
| n. | 5.5-3 | _____ |
| o. | 1.2*6 | _____ |
| p. | a<=b | _____ |
| q. | c=>5 | _____ |
| r. | d==3.8 | _____ |
| s. | e=='a' | _____ |

5. Show the output of the following program when the data entered are 3, 5, and 8. Also show memory before and after the code runs.

```
int a, b, c;
printf("Enter three numbers");
scanf("%d %d %d", &a, &b, &c);
c = c + 2;
b = b / 2 + c / 2;
a = a * 4;
printf("a=%d, b=%d, c=%d", a, b, c);
```

6. What does "%6d" do in the following format string?

```
printf("The number is %6d\n", num);
```

7. What does "\n" do in the following format string?

```
printf("The number is %6d\n", num);
```

8. What would you presume is the data type of num in the following statement?

```
printf("The number is %6d\n", num);
```

9. What does "%8.3f" do in the following format string?

```
printf("The number is %8.3f\n", num);
```

10. What would you presume is the data type of num in the following statement?

```
printf("The number is %8.3f\n", num);
```

Other interesting questions to review:

pg 83 #3 #4 #5

page 87 #1 #2 #3 and Programming #1

page 91 File IO

FILE * fp

fopen "r", "w"

fprintf

fscanf

fclose

page 102 Review Questions#1,2,3, 9

Is this exhaustive? NO. I expect that you have read the three chapters and I will feel free to select any material covered in those chapters. This material is a sampling of my current favorites but I have not yet created the exam. I would like to add more tracing and I am considering material from chapter 1, specifically targeting the review sections and the compile/ link/ load / run process.

I also think I'm light on questions covering the % operator, / operator, and type coercion. I also think this is short (except question 4, which is almost too long). Expect perhaps twice as many questions.