

UMass Boston CS 240  
Final Exam

1. What is the correct syntax for declaring a function in C?

- ☒ A. void myFunction() { }      B. function myFunction() { }  
C. void myFunction { }      D. function void myFunction { }

2. What is the entry point of a program?

- A. Line 1 which has comments about the program  
B. A C preprocessor directive for instance #include<stdio.h>  
☒ C. The main function  
D. It cannot be stated.

3. What is the term used for calling a function inside the same function?

- ☒ A. Recursion      B. Subfunction      C. Inner call      D. Infinite loop

4. What standard data type provides the smallest storage size and can be used in computations?

- ☒ A. char      B. float      C. int      D. short

5. What is optional in a function declaration?

- A. Function name      B. Data type of parameters  
C. Return type of function      ☒ D. Parameters

6. What is the range of signed char?

- ☒ A. -128, 127      B. -120, 121      C. -100, 101      D. -125, 126

7. Memory allocation of double in bytes

- A. 2      B. 4      C. 6      ☒ D. 8

8. If  $A = 2 \ll 2$ , what is the value of A?

- ☒ A. 8      B. 12      C. 5      D. 7

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9. What function is used to deallocate memory?

- A. dealloc()      B. dalloc()      ☒ C. free()      D. release()

10. Choose the equivalent statement of 'if (expression != 0)'

- A. If (!expression)      ☒ B. If (expression)  
C. If (expression != FALSE)      D. If (expression == 0)

11. When is memory for a variable allocated?

- A. during the assignment of the variable      B. during the initialization of the variable  
☒ C. during the declaration of the variable      D. during the definition of the variable

12. A structure is

- A. A collection of one or more variables of the same data type.  
B. A collection of one or more variables of different data type.  
☒ C. Both A and B  
D. None of the above

13. Can you read and write to a file simultaneously in C?

- A. Yes, using the "rw" mode when opening the file  
B. No, it is not possible to read and write to a file simultaneously in C  
C. Yes, using the "a+" mode when opening the file  
☒ D. Yes, using the "w+" mode when opening the file

14. C uses the call by value method to pass arguments to functions. How can you invoke the call by reference method?

- ☒ A. by using pointers      B. by declaring functions separately from defining them  
C. by using recursive functions      D. by using global variables

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15. What is the difference between scanf() and sscanf() functions?

- ☒ A. The scanf() function reads input from stdin; The sscanf() function reads data from buffer into the locations given by argument list.
- B. The scanf() function reads input from stdin; The sscanf() function reads formatted input from a string.
- C. The scanf() function reads string data from the keyboard; The sscanf() function reads string data from a string.
- D. The scanf() function reads formatted data from a file; The sscanf() function reads data from buffer into the locations given by argument list.

16. What is the expression player->name equivalent to?

- A. player.name
- ☒ B. (\*player).name
- C. player.\*name
- D. None of the above

17. Which function is used to get the parent process id?

- A. getpid()
- B. getid()
- ☒ C. getppid()
- D. getparentid()

18. What does **fork()** do in the C program?

- A. fork() creates a new process by duplicating the calling process.
- B. The child process is an independent process with its own process ID, parent process ID, and process group ID.
- C. The calling process is unaffected by the call to fork(), and both processes continue to execute from the fork() call.
- ☒ D. All the above
- E. None of the above

19. Directives are translated by the

- ☒ A. Pre-processor
- B. Compiler
- C. Linker
- D. Editor

20. The unit which stores elements of different data types as a single entity has comparatively performed better when accessing elements.

- A. Array
- ☒ B. Structures
- C. Both A and B
- D. None of the above

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21. What is the correct syntax for opening a 'FILE' in C?

- ☒ A. fopen(filename, "r");                      B. open(filename, "r");  
C. file\_open(filename, "r");                      D. fopen\_file(filename, "r");

22. Which is not a correct way to declare a string variable?

- A. char \*string = "Hello World";  
☒ B. char string = "Hello World";  
C. char string[20] = {'H', 'e', 'l', 'l', 'o', ' ', 'W', 'o', 'r', 'l', 'd', ' '};  
D. char string[] = "Hello World";

23. Which operator is used to access the address of a variable?

- A. '%'                      B. '\*'                      ☒ C. '&'                      D. '\*\*'

24. Which of the following is **not** a logical operator?

- A. '&&'                      B. '!'                      C. '||'                      ☒ D. '|'

25. What does the strcmp(str1, str2); function return?

- ☒ A. 0 if str1 and str2 are the same, a negative number if str1 is less than str2, a positive number if str1 is greater than str2  
B. true (1) if str1 and str2 are the same, false (0) if str1 and str2 are not the same  
C. true (1) if str1 and str2 are the same, NULL if str1 and str2 are not the same  
D. 0 if str1 and str2 are the same, a negative number if str2 is less than str1, a positive number if str2 is greater than str1