CISP1020 - Midterm Exam Review Questions

Spring 2020

1. What is a function?

2. How do you declare a function? What elements are needed?

3. What is a function prototype?

4. Be able to write code which defines a function and uses it to solve a problem.

5. What is a struct, and how do you declare one?

6. Be ale to define a struct and use it to solve a problem.

7. What is the main difference between structs in C and C++?

8. What is a C-String?

9. How do C-Strings differ from C++ strings?

10. How are new types created in C?

11. What is a pointer?

12. Are pointers and array names the same thing? How are they alike? How do they differ?

13. What is a header file? What sorts of things do you put in a header file?

14. How do you protect a header file so that its contents are only included one time?

15. What is a Makefile?

16. Be able to create a simple Makefile.

17. How are command line arguments retrieved inside a program?

18. What is recursion?

19. What two cases are needed in a recursive function?

20. Be able to write a recursive function to solve a problem.

21. How do you dynamically allocate variables in C++?

22. How do you dynamically allocate an array in C++?

23. How do you deallocate variables in C++?

24. How do you deallocate arrays in C++?

25. How do you dynamically allocate memory in C?

26. How do you deallocate memory in C?

27. Be able to write code which uses dynamic memory in both C and C++.

28. What is an enumerated type? How do you declare them?

29. What is a linked list?

30. What is a singly linked list?

31. What is a doubly linked list?

32. Be able to perform/code various linked-list operations such as insert, delete, and traversing the list.

33. What are the main advantages of a linked list over an array?

34. What is a stack?

35. How are stacks implemented using arrays?

36. What is a queue?

37. How are queues implemented using arrays?

38. How are queues implemented using linked lists?

39. What is an object?

40. What is a class, and how does it relate to objects?

41. What do the modifiers public, protected, and private do?

42. What is inheritance?

43. What is polymorphism?

44. Be able to write a class definition and use your class to solve a problem.

45. How are classes defined and implemented? (what goes in a .h and a .cpp file?)