Rochester Institute of Technology
Department of Computer Science

Advanced C++ Programming and Design

Fall 2013

Travis E. Brown # Midterm

Score: ___KEY___ / 105

KEY

Long Answers Questions

Answer the questions in the spaces provided on the question sheets. If you run out of room for an answer, continue on the back page.

1. (8 points) Question 2

   Solution: Solution 2

2. (10 points) If you had to maintain an unsorted collection of data, and you had to insert and remove elements from the middle of the collection, what container would you chose, and why?

   Solution:
   A list would be the container of choice because it efficiently adds elements to the middle of the list. This works because a list actually implements a doubly linked list and no data has to be shifted in order to add elements to the middle

3. (10 points) What if there were no air?
   (a) (5 points) Describe the effect on the balloon industry

   Solution: It would be very bad

   (b) (5 points) Describe the effect on the aircraft industry

   Solution: We would all have to take trains

4. (10 points) Foooo

    Solution:
    bar

5. (14 points) Complete the following truth table

P	Q	P&&Q	P||Q	!P	!(P&&Q)	!P||!Q	!(P||Q)	!P&&Q
T	T							
T	F							
T	T							
F	F							

Solution:
6. (20 points) delete

Solution: do I have to

P	Q	P&&Q	P||Q	!P	!(P&&Q)	!P||!Q	!(P||Q)	!P&&Q
T	T	T	T	F	F	F	F	F
T	F	F	T	F	T	T	F	F
T	T	F	T	T	T	T	F	F
F	F	F	F	T	T	T	T	T

Short Answer Questions

Write the correct answer in the space provided next to the question. Answers that are not legible or not made in the space provided will result in a 0 for that question.

7. (2 points) When did the Cretaceous peroid end?

7. _____ 66 million years ago _____

8. (2 points) What is the answer to life, the universe, and everything?

8. _____ 42 _____

9. (2 points) In what year did Apollo 11 go to the moon?

9. _____ 1969 _____

10. (2 points) What... is the air-speed velocity of an unladen swallow?

10. What do you mean? An African or European swallow?

11. (2 points) How long does it take for light to travel from the Sun to the Earth?

11. _____ 8 minutes _____

12. (2 points) How old do you have to be to drink (legally) in the US? In Canada?

12. _____ 21 _____

12. _____ 18 _____

True/False Questions

Circle either 'True' or 'False' at the begging of the line. If you make an incorrect mark, erase your mark and clearly mark the correct answer. If the intended mark is not clear, you will receive a 0 for that question

13. (1 point) **[True / False]** Dogs are better than cats in every way.

14. (1 point) **[True / False]** The sun appears bigger in the sky because it is closer than the moon.

15. (1 point) **[True / False]** A woodchuck CAN chuck wood.

Matching Questions

Match the selection on the left with the best answer on the right. Answers that are not legible or not made in the space provided will result in a 0 for that question.

16. (8 points) Match the captical city to the state

    A. Harrisburg   __D__   New Jersey

    B. Albany   __C__   Massachusetts

    C. Boston   __B__   New York

    D. Trenton   __A__   Pennsylvania

Multiple Choice Questions

> Write the *best* answer in the space provided next to the question. Answer that are not legible or not made in the space provided will result in a 0 for that question.

17. (2 points) What class would you use to read data from stdin?

    A. istream

    B. ffstream

    C. ifstream

    D. ostream

    E. ofstream

17. _____A_____

18. (2 points) What class would you use to read data from a file?

    A. ofstream

    B. ifstream

    C. ostream

    D. ffstream

    E. istream

18. _____B_____

19. (2 points) When is it ok to use enemy functions in a class definition?

    A. always

    B. when you feel like it

    C. sometimes

    D. on occasion

    E. when the moon is full

19. _____A_____

20. (2 points) When is it ok to use friends functions in a class definition?

    A. not right

    B. Never

    C. other

    D. still wrong

    E. wrong

20. _____B_____

21. (2 points) What class would you use to write data from stdout?

    A. ostream

    B. ffstream

    C. ifstream

    D. istream

    E. ofstream

21.   A

Bonus Questions

22. (2 bonus points) The city of Tumbuktu is in what country?

    A. Mali

    B. There is no such city

    C. France

    D. Morocco

    E. Mauitania

22. _____A_____

23. (2 bonus points) A library gained fame by moving which celebrity's book from non-fiction to fiction in 2012?

    A. Lance Armstrong

    B. Beyonce

    C. Mitt Romney

    D. Crocodile Dundee

    E. Rupert Murdoch

23. _____A_____

24. (2 bonus points) What is the answer to life, the universe and everything?

24. _____42_____