Part 4–Answer these questions.

1)What are #include libraries ?

Libraries are pieces of code that someone has already written. For example the #iostream library lets you interact with a cli.

2)What commands are found in the #include <iostream>library that we will use ?

Cin and cout in the iostream library will let you print to the terminal and take inputs.

3)What is syntax ?

Syntax is the grammar of programming, or like order of operations. It tells the compiler how to run the code you write, and in what order

4)What does the computer do when it encounters a statement that Declares a variable ?

When you declare a variable the computer reserves memory to store that variable in.

5)What are the byte sizes for int, double and char data types ?

Int is 4. Double is 8 and char is 1

6)Why is an int variable only able to store a range of values from approx -2.1 billion to +2.1 billion ?

Because an int only reserves 4 bytes of binary memory, which is about +-2.1 billion.

7)What is PEMDAS ? How is it also important when doing math in a computer program ?

PEMDAS is order of operations. It’s important because a + b / c =/= (a+b) / c

8)Is the ‘=’ sign the same for math and programming ? Explain your answer.

Not quite - equals the operator in math means both sides have the same value, while in programming it can also check other things like strings.

9)What happens when you Assign a value to a variable ?How does it work ?

When i write, say int x = 20;, it stores the binary for 20 in 4 bytes of RAM.

10)What is variable Initialization, why is it necessary in C++ ?

Variable initialization is when the OS memory manager sets aside the amount of RAM a variable needs aside. For example, declaring and initializing an int variable will set aside and label 4 bytes of memory.

11)Have you looked at the syntax of the declaration and assignment statements ?

a.Is the order of their syntax fixed..?Give examples.

Yes. int x = 50; is not the same as int ( x = 50) - the second one errors - or even x int = 50;

b.Would the statements still work if you switch of order of the parts in the statements ?( READ the lecture explanations very very carefully

No - the type of variable must come first so the system knows if you are creating an int, float, double, or char variable.

12)Why use comments // ?

So that you can understand your code tomorrow morning :D

13)Code Reuse, Why reuse code ?

Because you or someone else has already done the work. Imagine if everyone had to derive everything in math - you would do the same work multiple times over and slow down the pace of progress and new discoveries.

14)What is the hardware that is behind a variable ?

The memory, or RAM

15)Why use variable naming conventions ? .. what would happen if you did not use them ?

If you didn’t use conventions your code gets confusing and you get confused. Snake or Camel case like this\_variable\_name or thisVariableName are popular

16)How many ‘keywords’ will you be learning in this class ?

Only a handful

17)When should you use the >> and << symbols ?

When using cin and cout statements, respectively

18)What part of the OS helps you declare variables ?

The OS memory manager does.

19)What is Camel case and why use it ?

Came close is a variable naming scheme, like thisVaribleNameFoo

20)List the statement types have you use so far ?

Only int so far