H.W. #4

Question 2

The output of this code is 11411567666.

Step 1: In main the function heavyPrinting() is called

Step 2: In the function heavyPrinting(), the first line creates object1 invoking the default constructor which prints 1.

Step 3: The next line follows similar to the first line of the function heavyPrinting(), creating object2 which invokes the default constructor printing 1 to the screen.

Step 4: The third line sets object1 equal to object2, this invokes the copy assignment operator which copies the attributes of object1 to the object2 at a different memory location. When the copy assignment operator is called 4 is printed to the screen.

Step 5: In the fourth line of the function heavyPrinting(), a new object of type MyClass is declared which invokes the copy constructor again and prints 1 to the screen.

Step 6: In the fifth line of heavyPrinting(). MyFunction() is called,In line one of MyFunction() a new object of type MyClass with name temp is created which invokes the defualt constructor and prints 1 to the screen yet again. Then temp is returned, this invokes the move assignment operator which sends the contents of the address of temp to object3 where it was originally called and makes invokes the destructor as the function is exited deleting temp, or rather deallocating the memory used by temp. This prints out 6. At the end of the function heacyPrinting() 7 is printed to the screen.

Step 7: As the function heavyPrinting() reaches an end objects1,2 and 3 are all deleted their memory is deallocated invoking the destructor 3 times printing a sequence of 3 6’s as the end of the pringting.

Step 8: Back in main the program skips over a line and the program comes to an end