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HOMEWORK 6

Problem 2

Our output reads **11411567666**, exploring the class construction we examine the reason for this output. In our main sequence, we call the function `heavyPrinting()` represented below:

```
void heavyPrinting(){
  MyClass object1;
  MyClass object2;
  object1=object2;
  MyClass object3;
  object3=myFunction();
  std::cout<<"7";
}
```

In our first line we create “object1” of type “MyClass” which calls the class constructor and outputs the number “**1**” to the screen. The class constructor is provided below:

```
MyClass::MyClass(){
   std::cout<<"1";
}
```

Thereafter, we create another object of type “MyClass” which we call “object2.” This will also call the constructor, and output the number “**1**” to the screen. We then follow, by assigning the value of “object1” to “object2” which calls the operator method in the class, and outputs the number “**4**” to the screen. The operator method is provided below.

```
void MyClass::operator=(const MyClass & copyFrom){
   std::cout<<"4";
}
```

We then create another object of type “MyClass” which we call “object3.” This will call the constructor and output the number “**1**” to the screen. We follow by calling the function `myFunction()`, which creates a temporary object of type “MyClass,” and outputs the number “**1**” to the screen after calling the constructor once again. The return of the function is then mapped to the move assignment output of “**5**” as we assign “object3” to `myFunction()`.

```
void MyClass::operator=(MyClass&& moveFrom){
   std::cout<<"5";
}
MyClass myFunction(){
   MyClass temp;
   return temp;
}
```

We then deconstruct our temporary variable, and output the number “**6**” to the screen, before reaching our final line of code in the `heavyPrinting()` function and simply output the number “**7**”. Finally, we must deconstruct all our classes and remove the unused memory; in doing so, the deconstructor is called three times to remove “object1”, “object2”, and “object3.,” which outputs the number “**6**” three times before terminating. The deconstructor is provided below:

```
MyClass::~MyClass(){
   std::cout<<"6";
}
```

As a result, out final output should be **1,1,4,1,1,5,6,7,6,6,6**