

HW04 - Friend Functions & Operator Overloading [50 pts]

Using HW03 ...

1. Write and test a friend function that checks to see if the phone number of a `C1SCEmployee` object is equal to the phone number of a `Programmer` object. Test equal and not equal scenarios. (You will need to call your `ChangePhoneNumber` method)
2. Overload the equality operator to see if the phone number of two `C1SCEmployees` are the same. Test equal and not equal scenarios. (You will need to call your `ChangePhoneNumber` method)
3. Write an addition member function that adds an integer to a `CS1CEmployee`'s age (make sure the integer is a passed parameter). The output should state how many years were added to the age.
4. Overload the addition operator to add a constant to a `CS1CEmployee`'s age. For example: `StarC1SCEmployee = StarC1SCEmployee + 2`. The output should state how many years were added to the age.
5. Overload `<<` and `>>` operators to read in a `CS1CEmployee` object (e.g. `cin >> myEmployee` and `cout << myEmployee`)

Your output should be easy to follow and contain output only from hw04.

Extra Credit [+5 pts]

Overload the pre & post increment operators to increment an `CS1CEmployee`'s age. Test pre/post increment operations. Output

HW04 - Friend Functions & Operator Overloading [50 pts]

the values of `CS1CEmployee` objects before and after pre/post increment operations as well as after assignment takes place. Demonstrate how pre/post increment operators are different. Which overloaded operator incurs the most overhead?

Use the command script to capture your interaction compiling and running the program, including all operations, as shown below:

CS1C Summer 2019 MTWTH HW04 50pts Due: Th 6/20/2019

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ script hw04.scr
```

```
Script started, file is hw04.scr
```

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ date
```

```
...
```

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ ls -l
```

```
...
```

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ make all
```

```
...
```

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ ls -l
```

```
...
```

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ ./hw04
```

```
... // print out test results for the friend & member functions  
from steps 1, 3
```

```
... // print out test results for the overloaded operators from  
steps 2, 4, 5
```

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ exit
```

```
Script done, file is hw04.scr
```

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/04 $ make tar
```

```
...
```

Submit the tar package file `hw04.tar` by Thursday June 20, 2019.