

Prefix and Postfix ++ Operators Solutions

- Explain the difference between the prefix and postfix ++ operators
 - The prefix ++ operator increments its argument and returns the new value
 - The postfix ++ operator increments its argument and returns the original value

- Describe how these operators can be used to iterate through the elements of an array
 - The prefix ++ operator can be used to move a pointer forward one element in the array
 - The resulting value will give the new position of the pointer in the array
 - We can dereference this to access the element at this position
 - If we start with the pointer at the first element and do this repeatedly, we can access all the elements in the array

- After executing the following code, what are the values of x and y? Explain your answer

```
int x{2};
```

```
int y = x++;
```

- x = 3 and y = 2
- The postfix operator increments x from 2 to 3, but returns the original value of 2
- y is then assigned using this value

- Implement prefix and postfix increment and decrement operators for the class below. The increment operator should increase `real` by 1 and leave `imag` unchanged (Hint: since the members are built-in types, you can rely on the default copy constructor to do the right thing)
- Write a program to exercise your operators

```
class Complex {  
    double real;  
    double imag;  
};
```