# Assignment 2

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## Question 1

1. ***x + 5 -** adds value 5 to the value in the memory location x.
2. ***x ==0 -** is a Boolean expression which is true if the value in the memory location of x is 0.
3. ***x * 3 -** multiplies the value in the memory of x by 3.
4. ***x/ *y -** divides the value in the memory of x by the value in the memory of y.
5. ***pv++ -** is equivalent to *(pv++) because the postfix increment ++ have precedence over the dereferencing operator *. *pv++ is executed by first executing pv++ before dereferencing it making the expressions *pv++ and *(pv++) equivalent.

## Question 2

1. **5 + x[0]:** The x points to the array index 0 e.g. arr[0] which from arrPtr.cpp contains the value 0. The expressions adds 5 to the value in memory of the pointer x which is 0 and therefore, changes it's value to 5.
2. **0 == x[0]:** The expression above is a Boolean expression which compares the value of the pointer x that points to array index 0 with the value 0. The expression is true if the value in memory of the pointer x is zero (0) otherwise, it's false. We can say that the expression is true because the pointer is being directed to an array of index 0 which contains the value 0 according to the arrPtr.cpp file.
3. **++x[0]:** The expression above contains a pointer x which points to a memory location of the array index 0. The expression obtains the content of the pointer x and increases it by 1. From the arrPtr.cpp file, the pointer will be increased to 1 since the initial value pointer x points to is 0.
4. **x++[0]:** The pointer x from this expression is pointed to an incremented value of the array 0. The index 0 of the array is increased by 1 and the pointer is pointed unto it. From the arrPtr.cpp file, the value contained in array index 0 is 0 which is increased by 1 and then the pointer x is pointed to it. The value 1 is therefore assigned into the memory of the pointer x.
5. **X==&&x[0]:** The expression is Boolean due to the fact that it compares the pointer x to the memory address of the pointer x which points to the array index 0. The expression above is true if the pointer x &x[0] points to the same memory location.