Homework 4

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1) It is true. This is because the mathematical average is always between i and j(inclusive),
and the average is equal to i and j if both are equal. When they are not equal, the
average is always goes towards the larger of the two bounds, and since the bounds are
both integers, this would make the average an integer. In the most extreme cases, the
average is never over the maximum of the integer value or lower than the minimum
value of the integer value.

```
public static int average(int j, int k) {
    int result = j/2 + k/2;

    if(j%2 != 0 && k%2 != 0) {
        if(j<0 && k<0) {
            result -=1;
        }else if( j>0 && k>0) {
            result +=1;
        }
    }

    return result;
}
```
2)