Homework 2

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Problem 1:

a

There is a loop dependence because each iteration is dependent on the previous interation. This occurs in the following line of code:

$$a[i] = a[i-1] + i$$

b

It is very difficult to remove this loop dependence; however, since the first line in the loop is only taking the sum of the first i numbers, the loop can be rewritten as follows:

```
a[0] = 0;
b[0] = 0;
for (i = 0; i < 10; i++) {
    a[i] = i*(i+1)/2;
    b[i] = a[i];
}
```

This loop is parallelizable since the dependence has been removed.