ASSIGNMENT2 QUESTION1



**Answer:** There is two way to do this.

1. For all n are positive integers we have.

0 is not positive integer. In order to archive , if n is even, we compute first then get the square. If n is odd, we compute first, then [multiply](javascript:;) [by](javascript:;) m. To get the , we will follow the similar rules, but make n = . We will do this recurrence until then we can get the in multiplications by many squares.

For example, let n = 12, 12 is even we will compute first, to get we will compute first, to get we will get first, to get .

1. Get
2. Get
3. Get
4. Get

And we will do 4 calculate to get .

In this way, we can get result using many multiplications.

2. We can write n in binary. Make ; Then So we can compute at most times to get all for all by square the .For example, let n = 15. 15 = ,then

In this way, we can get in multiplications.