Midterm Problem 1: Power of a Multi-Precision Integer

We only consider the worst case, that is each recursive call have k odd.

Notice that in each recursion call with X and k,

* If k = 1, i.e. , then since directly return X.
* Otherwise

Where Y =.

Thus,

Consider the recursion tree, since only one recursion call occurs, each level of the tree only has one node.

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描述已自动生成

Also, note that the floor symbol is ignored.

We have the total running time , since

Thus,