**1)** (10pts) ANL (Algorithm Analysis)

Consider the recursive function `diminish` shown below:

```
double diminish(int m, int n){
    if (n == 0)
        return m;
    return  1.0/2*diminish(m,n-1)
}
```

(a) (3 pts) Let T(n) represent the run time of the function `diminish`. Write a recurrence relation that T(n) satisfies.

(b) (6 pts) Using the iteration method, determine a closed-form solution (Big-Oh bound) for T(n).

(c) (1 pt) In terms of the values of `m` and `n`, respectively, what does the function call `diminish(m,n)` return? (You may assume that `m` and `n` are both positive.)